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COVER PAGE AND DECLARATION

	Practitioner Doctorate
Specialisation:	Doctor of Management (D.Men.) Business Continuity Management
Module Code & Module Title:	D99F990: Doctorate Thesis
Students' Full Name:	El-Sayed M. E. Salem
Word Count:	30547
Date of Submission:	21-02-2022

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Impact of COVID-19 Pandemic on
Business Continuity Planning Process (Workforce Continuity) for Oil and Gas
Sector in Qatar
(A Case Study on Oil and Gas Company)

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A Thesis Submitted to European International University (EIU) for
Fulfillment of the Requirements for the
Doctor of Management

January 2022

Word Count: 36547 (excludes the appendices)

DECLARATION

I hereby declare that the thesis submitted in the fulfillment of Doctor of Management degree is my own work and that all contributions from any other persons or sources are properly and duly cited.

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ACKNOWLEDGMENTS

First of all, I thank Almighty God for his gift, mercy and grace. This inspired me, and if it is good, it is from Allah, and if it is not, it is from me. And whatever of blessings and good things we have, it is from God.

During this journey of my DBA, my family had to move from Qatar to the UK, and I had to join them, as we were new people coming to the UK we had time to settle and manage our life, but in the same time I had to work and finalize my research. Unfortunately it was on the account of my time with my family.

This journey was not possible without the support, encouragement, and sacrifice of my unbelievably amazing wife, and the understanding and tolerance of my children. I am therefore so grateful to all of them, and thank them for their encouragement and loving support.

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ABSTRACT

Companies are increasingly affected by widely unexpected threats and crises, those threats and crises, if realized, may cause disruption to organizations' ability to continue their operations as normal, and could limit their performance in achieving their business objectives, or may cause full / part or temporary closure of the company's operation. However, COVID-19 is a different kind of crisis that has directly impacted people as well as companies. COVID-19 affected businesses but not equally. Some are deemed crucial and stayed operating, while others had to shut down. Some businesses shifted employees to work remotely, while others were not ready for the transition. According to the Guardian Newspaper more than 100,000 businesses have been closed during 2021 because of COVID-19. (Marks, 2021)

The way businesses are operated has been changed in many ways because of COVID-19, another challenge has been added to business continuity for many industries across the world, and impacted many organizations to close out / stop their operation either temporary or permanently. Business continuity looks after many aspects associated with the critical assets that companies employ, one of the major assets that business continuity looks after and requires companies to ensure their availability is the manpower.

This research is a case study that examined the relationship between COVID-19 and Business Continuity Planning Process and assessed its impact; in particular on the unavailability of workforce during the Pandemic. This case study is on a leading company within the oil and gas sector in a geographical area (State of Qatar). The research also produced a well developed and structured model that is cohesive and clear to be adopted by companies across the oil and gas sector to ensure their readiness in responding effectively and efficiently to a crisis like COVID-19 Pandemic or similar while preparing their business continuity plan.

This research had two objectives; first objective was to proof the hypotheses of a direct and positive relation between COVID-19 Pandemic and the process of Business Continuity Planning in the oil and gas sector. In this part, data analysis was performed using a questionnaire

circulated across the company, and the results confirmed the relationship the impact of COVID-19 Pandemic on the process of Business Continuity Planning.

Second objective was to develop a model for companies to adopt in order to have their readiness for such crisis and ensure that they have a set of processes planned in advance to continue their activities with minimum disruption at a different level of manpower during COVID-19 or any similar Pandemic in order to reduce the level of disruption during encountering the crisis. The model was developed through a series of interviews, meetings and workshops and adopted three different scenarios of availability of employees; each scenario had a separate response plan based on evaluation and analysis of each business process and its related activities. Moving from a scenario to another depends on the drop in the employees' level, and requires each department to adopt a different methodology.

The research concluded and confirmed the impact of COVID-19 Pandemic on the Business Continuity Planning Process in the oil and gas sector, and then generated business continuity model for a different levels of manpower availability. The model helped the case study company in addressing this issue, and ensured their readiness to response to COVID-19 Pandemic or similar crisis in a very structured way and planned manner.

Assessment of operational continuity is an integral part of this model. This part of the model is the major value addition that was not covered in any other business continuity models at the moment. This part has been created and developed by the author to help organizations assess their position and to plan for their operational continuity.

1. CHAPTER ONE – INTRODUCTION

1.1. Introduction

Organizations are increasingly affected by widely unexpected threats and crises, those threats and crises may adversely impact organizations' ability to continue their operations as normal, and could limit their ability to perform their business processes to achieve their business objectives. A crisis can come from anywhere; it could be natural like earthquake or a hurricane that floods or damages the organizations' facilities, a Pandemic (COVID-19 for example) that forces staff to work from afar or even causes death or critical illness of key employees, or the crisis can be an act of cyber attacks that leaves systems compromised, etc.

Business Continuity Planning has been always a challenge for companies to survive during a crisis. However, in my opinion, COVID-19 pandemic has added another level of challenge that companies were not be ready for.

The problem that I am focusing on here in this research is to study the impact of COVID-19 pandemic on the entire process of Business Continuity Planning that companies do in order to continue their operation during any crisis.

In order to study this impact, this research will study first the process of Business Continuity Planning in oil and gas sector, and then will move to study the impact and changes caused by COVID-19 that enforced the management to re-visit their Business Continuity Planning process to consider that impact.

Because COVID-19 is relatively new (appeared in late 2019), there are no much studies to link COVID-19 impact to the Business Continuity Planning process especially for oil and gas sector, hence, I found a gap that needs to be filled, and I am trying to fill this gap through this research.

COVID-19 pandemic in particular has changed our views in many ways and made many business owners and business managers re-look at the way they run their business. I personally believe that COVID-19 pandemic had an impact on the Business Continuity Planning processes in general and within oil and gas sector in particular. This research will try to answer this question whether or not COVID-19 pandemic had an impact on the process of Business

Continuity Planning and to what extent, and how companies could consider COVID-19 pandemic while preparing their Business Continuity Plan. I therefore anticipate that this research will be very useful in context of Business Continuity Planning in general and within oil and gas sector in particular.

This is a case study on a major oil and gas company in the Qatar (referred hereinafter as ABC Oil Company) which has an exclusive right from the government to operate and control the energy sector in the State of Qatar. ABC Oil Company owns and operates the entire oil and gas sector in the State of Qatar, it owns and operates more than 70 different entities in the energy sector in Qatar, and it owns interests in many international operations across the world. ABC Oil Company also applies consistent policies and procedures at the corporate level amongst all companies it owns and or operates. Therefore, I assume that this study would largely cover the entire oil and gas sector in the State of Qatar.

This region has been chosen because I have spent over 15 years of my career in the oil and gas sector in the State of Qatar and I have good exposure to that sector. Further I have a good access to many companies operating and working within oil and gas sector in the State of Qatar including the ABC Oil Company.

By having a deep view inside the State of Qatar's source of income, we can notice that the oil and gas sector is a significant income stream for the State of Qatar, and hence if this sector is interrupted due to any crisis situation, it could lead to a major disruption at the State level. Therefore, this research is highly important at both the ABC Oil Company level that I am using as a case study and at the State level as well.

Oil and gas sector constitutes the backbone of Qatar's Economy. The State of Qatar exerts efforts to diversify its sources to alleviate the country's dependence on the natural resources. However, about 70% of Qatar's total revenue comes from its oil and gas resources. (Oil and Gas Sector (www.mofa.gov.qa))

The oil and gas sector in Qatar is controlled by the government who owns the oil and gas fields, however, for the purpose of smooth operation, the State of Qatar has granted an exclusive right to ABC Oil Company to manage and operate the entire sector.

Common plans, policies and procedures are being adopted across the oil and gas sector and being developed and maintained by ABC Oil Company.

I also aim from this research to explain the process of Business Continuity Planning within oil and gas companies by applying the same to the case study ABC Oil Company. I will further assess the impact of COVID-19 pandemic on each and every process in Business Continuity Planning and how they have been impacted by COVID-19. Through this research I also aim to present a clear and comprehensive model to be used by business managers and business continuity specialists to help them in preparing a good business continuity plan during COVID-19 or any similar pandemic in the future. This model that I am generating is a business model and framework, not a software or system tool. The market has many system tools that can be used to help organizations build their business continuity plan, but without a business context and framework, using such tools could be a challenge.

Poor or lack of adequate Business Continuity Planning could lead to a major business disruption, so this research is justified to highlight the importance of Business Continuity Planning and it would add value to the entire oil and gas sector in the State of Qatar.

The majority of employees and operators in the oil and gas sector in Qatar are expat, and hence many of them became unavailable during the COVID-19 pandemic due to death, illness or travel restrictions.

This research study is aiming to assess the impact of COVID-19 on the Business Continuity Planning to ensure effective business continuity is in place with full consideration of the outcomes of COVID-19 pandemic.

1.2. Statement of the Problem

Good business continuity plans should cover the operational continuity in terms of: building & facilities, equipment continuity, technology continuity, human resources & workforce continuity,

and third party (supply chain continuity). COVID-19 has initially impacted one of these elements (workforce continuity) and then extended its impact to the operational continuity through the supply chain as well. The main focus of this research is on the COVID-19 impact on the business continuity planning process in terms of workforce continuity.

Since COVID-19 has started, the virus has spread to almost all countries across the world, infecting people in those countries. As the virus spreads, the economy and business are being impacted. Companies are having difficulties in running their businesses due to COVID-19. A recent Deloitte's survey (Deloitte, 2021) shows that the outbreak adversely impacted revenues and cash-flows as well as the ability to continue serving consumers and run the business. High risks also included ensuring the safety of employees returning from holidays and business trips, difficulties related to supply chain, lack of enablers for organizing remote work, etc. COVID-19 has impacted the businesses in many ways; however, the main impact was on the manpower availability which will be discussed in this research.

As known, one of the fundamental elements that any business needs to operate is the manpower. If the manpower is unavailable or having shortage, it will adversely impact the business continuity. Therefore, this research study is mainly focusing on the impact of COVID-19 pandemic on Business Continuity Planning within an oil and gas company in respect of unavailability of manpower as a result of COVID-19. The research also intends to answer how COVID-19 impacted the process of Business Continuity Planning in the case study (ABC Oil Company) in order to consider the unavailability of the manpower in different business processes across the company.

However, it is a must to go through the concept and the processes of Business Continuity Planning and explain how it is being applied, and hence identify the impact of COVID-19 pandemic on each step of the plan.

Therefore, the research will involve a case study on ABC Oil Company which is a national oil company owns and operates a number of subsidiaries and joint ventures in the State of Qatar. The concept and the processes of Business Continuity Planning will be explained, and hence the impact of COVID-19 pandemic on each step of the plan will be identified, furthermore, a clear

model will be introduced for adoption while preparing a Business Continuity Plan to consider the impact of COVID-19 on the manpower element.

In my opinion, organizations that have an effective Business Continuity Planning only survive during a crisis situation. Business Continuity Plan does not stop the crisis but minimizes the crisis impact and ensures that proper response strategies are in place and ready to be activated.

1.3. The Purpose of Research

The purpose of this research is to explore the importance of Business Continuity Planning to organizations, and the need for organizations to develop their Business Continuity Plan taking in consideration the impact of COVID-19 on the entire process of the Business Continuity Plan in order to have organizational resilience towards responding to a crisis situation with different levels of manpower availability.

In order to achieve this purpose, the research will explain the process of Business Continuity Planning in oil and gas sector focusing on ABC Oil Company in Qatar as a case study, and explore the impact of COVID-19 pandemic on the entire process of Business Continuity Planning, in addition, to providing a model to be used by oil and gas sector while preparing Business Continuity Plan based on the outcomes of the research with consideration of COVID-19 impact at the possible extent.

The research has two main objectives:

- To clearly assess the impact of COVID-19 pandemic on the process of Business Continuity Planning in ABC Oil Company based on meetings, interviews and interactions with the functions heads and response leads, and by walking through the process, and identifying what actions need to be taken in order to consider its impact on the different response strategies.
- To explain and present an effective Business Continuity Planning model for ABC Oil Company ensuring the ability to continue functioning during a crisis situation with minimum disruption at different levels of manpower availability due to COVID-19.

1.4. Justifications & Research Rational

The rationale for this study is to understand the impact of COVID-19 on the different discontinuity scenarios and response strategies for ABC Oil Company. As COVID-19 is a new pandemic, there is no much literatures assessing the impact of COVID-19 on the process or preparing the Business Continuity Plan in oil and gas sector, and hence I found a gap that my research can contribute to fill in this gap.

In order for ABC Oil Company to process its critical functions during crisis or emergency situations with minimum business disruption during COVID-19 or similar pandemic, it is essential to have a consistency across response plans to avoid confusion, conflicting priorities and over commitment of resources or facilities, also to provide a common understanding and agreement across the organization on the response strategies for a particular threat with a particular consideration of COVID-19 pandemic in every response strategy.

I assume that my research will help the oil and gas sector in Qatar in many ways to help consider the impact of COVID-19 in their Business Continuity Plan. Further, the conceptual model that will be generated out of this research can also be beneficial to other industries.

1.5. Organization of the Thesis

First Chapter of this thesis titled “Introduction” outlines the problem statement and research questions, purpose and objectives of the research, justifications & research rationale as to understand the impact of COVID-19 on the different discontinuity scenarios and response strategies.

Second Chapter, literature review, provides details of academic literatures that have been used in the thesis, to understand how far and how much, the relationship between COVID-19 and business continuity planning has been explored in the past and so to identify knowledge and research gaps of which the study will focus on. It is therefore structured in a way to have introduction which describes the purpose of the entire chapter, then a conceptual background of the study, and then the issues studied in the thesis which covers three main areas: first area is focuses on business continuity management and its requirements which are well covered in many literature, and second area provides information about oil and gas sector and its business processes, while third area is about the COVID-19 and its relationship with business continuity

planning process. Next part of this chapter outlines the methods and theories employed which focus on the methods used, theories adopted, logical frameworks and variables employed and techniques used in collecting and analyzing data. Last part of the chapter is the summary which concludes the entire chapter by giving a brief summary on (a) development of the understanding of the concept, (b) major issues addressed in past studies, and (c) methods employed in that research.

Third Chapter of the thesis explains the research method and design, the conceptual framework which discusses the logical relationships between the COVID-19 and business continuity planning processes and clearly stating and explaining the logical flow of the study and the basis of the hypothesis statement. Further, it discusses the hypothesis development through logical arguments justifying the research objectives. It also defines the participants of the study and describes the data collection framework in details.

Chapter four “Research Findings” deliberates in detail the main findings based on the data analysis performed and evidences obtained, it report on the analysis made of the data captured. This chapter also tries to provide answers to the research problem identified in the first chapter.

Last Chapter “Conclusions and Discussions” provides summary of conclusion of the research in answering the research questions and discusses the conclusion one by one in relations to the research objectives and the research framework adopted. Further, evaluation of strengths and limitation is added into this chapter to identify the implications for future research. In addition, this chapter also outlines the contribution made by the research to the industry and to the process of business continuity. And finally, it gives recommendations for improvement and recommendation for further studies.

2. CHAPTER TWO - LITERATURE REVIEW

2.1. Introduction

This chapter is adding more light on the subject of the thesis, which is the impact of COVID-19 pandemic on business continuity planning for oil and gas sector in the State of Qatar from different sources and academic journals. So, the main purpose of this chapter is outline what have been discussed in the past by other researchers in academic journals or discussion papers about the issue I am studying and to identify the knowledge and research gap that I am contributing to fill.

Therefore, the chapter has covered three main areas:

- Business Continuity Management and the requirements for effective business continuity planning. This area is well covered by many academic journals and published standards; however I am highlighting it in this chapter towards having good understanding of the main issue which is the relationship between COVID-19 and the business continuity planning process.
- Oil and gas sector and its related functions from business continuity perspective in order to explain the main functions and business processes within oil and gas industry that are subject to business continuity planning.
- Third area is focusing on the COVID-19 pandemic, and its impact on business continuity planning process. This area is not well covered in many literatures as a logical consequence as the COVID-19 is a recent decease that has affected many companies to stop operation.

2.2. Conceptual Background

In December 2019, the entire world was exposed to COVID-19 a disease caused by a new corona virus called SARS-CoV-2. World Health Organization (WHO) first learned of this new virus on 31 December 2019, following a report of a cluster of cases of ‘viral pneumonia’ in Wuhan, Republic of China. (Covid-19 (WHO)) This COVID-19 pandemic has been a huge challenge till date for individuals, businesses, governments, etc., and made many companies to re-visit their business continuity arrangements and response strategies to assess the effectiveness and readiness of those response strategies during the COVID-19 pandemic.

However, to understand the concept of business continuity and discontinuity scenarios within oil and gas industry, it is known that oil and gas sector is exposed to a unique set of other threats and challenges if occurs it may result in a business discontinuity or major business disruption. For example, in May 2009, Harrat Lunayyir an ancient dead lava field in Saudi Arabia (northwest) was activated and triggered 30,000 other earthquakes smaller-in-sizes, creating a spiky crack in the nearest area around five mile long which has disrupted the operation of Saudi Aramco, the largest oil and gas companies in the world by revenue. (Volcanoes of Saudi Arabia (www.volcanocafe.org), 2016)

The Deepwater Horizon oil spill which is the largest oil spill in the marine history is another example, caused by an explosion on the offshore oil platform on April 20, 2010 with 11 fatalities. 4.2 million barrels poured into the Gulf of Mexico (see FIGURE 1). 87 days spent to recover, and a complaint was filed by the United States in District Court against BP Exploration Company and many others that alleged to be accountable for the spill for settlement with BP Exploration & Production for an unusual penalty of \$5.5 billion in line with Clean Water Act, and up to \$8.8 billion for natural resource damages. (Deepwater Horizon – BP Gulf of Mexico Oil Spill (www.epa.gov))



(FIGURE 1: Explosion on the offshore oil platform, Gulf of Mexico)

In 2005, BP Texas City Refinery suffered one of the worst industrial disasters in recent US history. Explosion and fire resulted in 15 people killed and 170 injured, and approximately \$1.5 billion financial losses. (U.S. Chemical Safety and Hazard Investigation Board, INVESTIGATION REPORT, REFINERY EXPLOSION AND FIRE., 2007)

In March 2011, Kuwait Petroleum Corporation initiated a state of emergency, stopped all exporting and drilling operations due to bad weather (see FIGURE 2) to ensure workers' safety. Kuwait Petroleum Corporation announced that they are committed to serving its local and foreign customers. (Kuwait hit by Dust Storm tsunami (www.watchers.news), 2011)



(FIGURE 2: Bad weather in Kuwait, 2011)

From the above context, Business Continuity Plan is seeing as an important part of the Business Plan of any company and must be in place to avoid business disruption at any point of time due to any crisis situation.

2.3. Business Continuity Planning & Requirements

In my preparation phase, I performed a lot of academic research on the key writers on Business Continuity. I found many articles written about business continuity planning like NIST with Swanson et al. (2002), ISO/IEC 17799 (2005), the Swedish Emergency Management Agency's framework "Basic Level for Information Security" called BITS (2006), Lam (2002), Fallera (2004) partly, Roberts (2006), and Helms et al. (2006) on how to organize and develop business continuity planning and what to think about maintaining it, however most of writers views have combined in two main sources:

British Standard BS 25777 Information and communications technology continuity management — Code of practice and International Standard ISO 22301 Business continuity management systems – Requirements. Therefore, for the purpose of this section (Business Continuity Planning & Requirements) my main source of information will be those standards.

Business Continuity is defined by the Business Continuity Institute according to ISO 22301:2019 as “the capability of organizations to continue delivering their products or services at acceptable predefined levels following disruptive incident”. Therefore, Business Continuity is the capability to plan for and respond to incidents or business disruptions in order to continue operating at an acceptable level. It is therefore essential for companies to plan their business continuity in order to reduce the level of disruption during encountering any crisis. (ISO22301:2019)

Hence, Business Continuity Management is a comprehensive management process that looks after identifying potential threats to an organization and the impacts to company’s operations that those threats, if realized, may cause. It also helps in providing a generic framework for creating organizational resilience with the capability for an effective response in order to protect the interests of key stakeholders, people, reputation, name, brand and value creating activities of the organization. ((BCI), 2018 Light Edition). Moreover, Business Continuity Management is based on the principle that it is the key responsibility of the management to ensure the continuation of the company’s business operations at all times and during any crisis.

According to Business Continuity Institute, “Every five years, 20% of companies suffer a major disruption through storm, power failures, flood, terrorism, fire, and hardware & software failures. Of those companies which do not have a Business Continuity Plan, 80% fail within 13 months of such an incident. But, those who successfully restore their business have seen the company value rise.” (BCI). In addition to the natural crises that can affect the business continuity of an organization, business can also be affected by a cyber attack, malware or hacking viruses to IT systems resulting in loss of the IT infrastructure, hardware and software, as well as the data backup, these kinds of threats are very risky on companies’ ability to continue and survive.

So, what is a “Crisis”? Based on my literature review, I could not find a generally common accepted definition of a crisis. However, the origin of the word crisis came from the Greek language meaning the turning point in the development or a moment of decision. Though this definition was adopted by some authors, however many others still see the crisis as an incident with bad or undesirable consequences. According to (Shrivastava, 1993) “historical turning points where human choice could make fundamental difference to the future” is a form of crisis. Fink also defined crisis as “a situation that may, if left unattended, escalate in intensity, fall

under close media or government scrutiny, interfere with normal business operations, jeopardize the company's or officer's public image or damage the company's bottom line" (Fink, 1987).

In business context, according to ISO 22301:2019 (Security and Resilience - Business Continuity Management System), the word crisis was included in the definition of Incident where Incident was defined as an event that can be, or could lead to a disruption, loss, emergency or crisis, and disruption was defined by the same ISO 22301:2019 as incident, whether anticipated or unanticipated, that causes an unplanned, negative deviation from the expected delivery of products and services according to the organizations' objectives.

Based on this definition, and for the purpose of this research, I will always refer to a business crisis as an incident causing disruption to the business and resulting in a negative deviation from the expected delivery of products and services as defined under ISO 22301:2019. The business continuity incident is triggered by certain threats, and for the purpose of this research; I will adopt the threats categories as grouped by National Fire Protection Association as follows: (NFPA, 2019)

(1) Natural Hazards:

Geological Threats which includes: Tsunami, Volcano, Landslide, Earthquake and Mudslide.

Meteorological Threats which includes: Flood, Flash Flood, Drought, Fire (urban/ forest), Snow, Ice, Hail, Tropical, Hurricane, Dust / Sand Storm, Extreme temperatures (heat, cold), Cyclone, Windstorm and Lightning Strikes

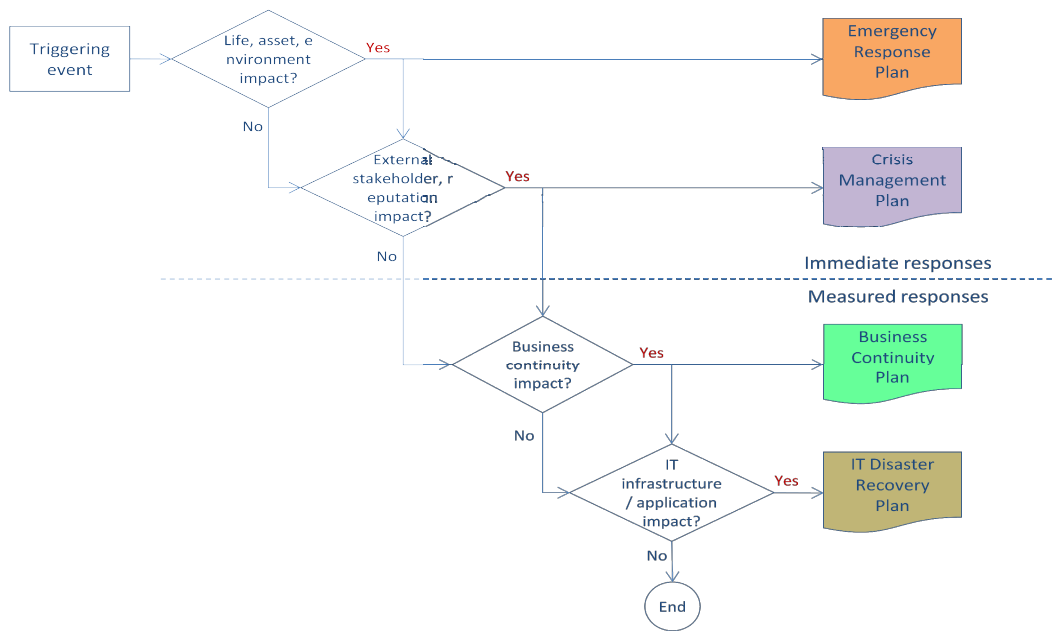
Biological Threats which includes: Diseases that impact humans and animals, epidemic (e.g. legionellosis), Animal or insect infestation, Pandemic

(2) Human-caused Threats:

Accidental: Hazardous material (chemical, radiological, biological) spill or release, Explosion/ fire, Transportation accident, Building/ structure collapse, Energy/ power/ utility failure (i.e. by digging, flooding, etc.), Fuel/ resource shortage, Air/ water pollution, contamination, Water control structure/ dam/ levee failure, Financial issues, economic depression, inflation, financial system collapse, Major communication systems interruptions (Telephone, LAN), Hardware, equipment failure, Information system failure, Staff attrition (loss of key staff), Supply Chain Interruption

Intentional: Terrorism, Sabotage, Civil disturbance, Enemy attack, Crime, fraud, Cyber attack, Information security incident.

An incident can trigger different responses from the organizations, either combined or separate as explained in the following diagram. Emergency Response Plan, Crisis Management Plan, Business Continuity Plan, and IT Disaster Recovery Plan are different responses based on the consequences of the incident. (FIGURE 3) illustrates these difference responses that may be triggered by an incident in which the Business Continuity Plan is one of them.



(FIGURE 3: An event may trigger different responses)

Business Continuity Planning is therefore “The process of developing upfront arrangements and response plans for organizations to respond to an incident or discontinuity scenario in such a manner that critical business functions can continue within planned levels of disruption. Business Continuity Plan (BCP) is therefore the main outcome of the planning process.” ((BCI), 2018 Light Edition)

And hence, Business Continuity Plan (BCP) can be defined as “a documented set of procedures and response strategies that is developed, compiled, tested and maintained in order to be used during an incident to enable an organization to continue deliver its critical activities at acceptable pre-defined level” ((BCI), 2018 Light Edition)

As a closer view on the latest incidents occurred in ABC Oil Company in the last 10 years, I found the following:

- 1) In 2010: vessel Eagle mooring brackets parted and loading hoses disconnected and caught fire at MMM Port resulted operation discontinuity (ABC, HSE report, 2010)
- 2) In 2011: vessel TTT Supreme capsized at PAA resulted big damage (ABC, HSE report, 2011)
- 3) In 2012: major fire at a major project resulted death of 4 people (ABC, HSE report, 2012)

Requirements of Business Continuity Plan:

Business Continuity Plan is a set of documented plans and information that is developed, compiled, tested and maintained for use in an incident to enable organization to continue to deliver its critical activities at an acceptable pre-defined level.

There are a number of functions to be covered by Business continuity plan, high level is listed below:

- 1) Review and refine list of credible threats.
- 2) Identify critical assets (high level) to be considered for business continuity purposes.
- 3) Identify critical processes that may be affected by unavailability of critical assets.
- 4) Determine whether the threats could impact the critical assets.
- 5) Determine the linkage between critical assets and critical processes.
- 6) Summarize for each critical asset the potential threats, the critical processes impacted and consider the best approach for business continuity plan.
- 7) Define the business discontinuity scenarios for development of business continuity plan response.
- 8) Develop business continuity plan response strategies.
- 9) Documentation of business continuity plan response strategy.
- 10) Testing, training and implementation.

The following table summarizes the entire cycle of business continuity plan

Business Impact Assessment	Response strategy	Document & Implement	Training, testing and maintenance
Identify business impact of potential disruptions to critical processes from the loss or unavailability of critical assets due to discontinuity threats	Identify appropriate strategies to address the discontinuity scenarios and ensure business continuity	Document and implement Continuity response actions, facilities, resources and plan	Ongoing testing of the plan, training of action parties and maintenance of the documentation to ensure continued viability of plan and organizational capability

(TABLE 1: Summary of Business Continuity Cycle)

2.4. Oil and Gas Sector and its Related Functions

Oil and gas industry generally consists of two principal sectors: upstream & downstream. Upstream includes the exploration & production of natural resources, while downstream deals with the transformation of these resources into petroleum products and their distribution to the final consumers.

However, some writers and analysts divide the oil and gas industry into three sectors, upstream, midstream and downstream. The upstream sector of the oil and gas industry includes all the steps involved from the preliminary exploration through the extraction of the resource. Upstream companies can be involved in all the steps of this phase of the life cycle of the oil and gas industry, or they may only be involved in part of the upstream sector. Midstream is a terminology describing part of the major stages of oil and gas industry operations. Midstream activities include the processing, storing, transporting, and marketing of oil, natural gas. Midstream companies focus on the storage and transportation of oil and natural gas through pipelines. Midstream companies deliver the reserves to companies involved in the final stage of production called downstream. Companies in the downstream sector are connected to and

providing products to everyday users. Downstream operations are the processes that convert oil and gas into the finished product.

Due to economies of scale, this industry encourages the concentration. In simple words, it fosters the emergence of vertically integrated companies – involved in the whole energy chain. These are some of the large companies in the world that are engaged in the integrated model. However, there are also many companies that focus only on one side of the business, whether upstream or downstream, these are called “independent companies”. (Energy-Intelligence). ABC Oil Company is one of the large integrated oil and gas companies in the world.

Oil and Gas companies like any other sector have their own business processes that if interpreted due to an incident without having an effective business continuity plan, it could lead to stopping the company’s operation for a period of time. Business Process is defined as the combination of a set of activities / functions within an organization with a structure describing their logical order and dependence whose objective is to produce a desired result (International-Journal-of-Production-Economics, 2004).

Business Processes in ABC Oil Company are divided into the following (ABC, Functional Manual, 2019):

- **Strategic Management Process:**

- 1) Strategy Development and Corporate Planning
- 2) Corporate Governance
- 3) Internal Audit

- **Core Business Processes:**

- 4) Exploration
- 5) Development & Production
- 6) Abandonment & Site Restoration
- 7) Acquisition
- 8) Divestiture
- 9) Marketing
- 10) Trading

- **Resource Management Processes:**

- 11) Research & Development
- 12) Information Technology
- 13) Legal
- 14) Finance
- 15) Human Resources
- 16) Procurement
- 17) Safety, Health & Environment
- 18) Public Relations

In my opinion and based on my wide experience as Chartered Accountant and Business Advisor for over 25 years, I see that each function should be considered as an integral part of the overall organization and not processed in isolation. Each and every function has its inputs, activities and outputs which in-turn is part of an end-to-end business process. In addition to the systems used to receive the inputs, perform the activities, and generate the outputs with clear cross-functions and interactions amongst other processes. This is what I call, a well defined business process that should be supported by written policies and procedures.

The business process model adopted by ABC Oil Company will be covered in details during the research study, business continuity plan for each business process will be explained to assess and identify COVID-19 impact on each.

2.5. The Relationship between COVID-19 and Business Continuity Planning

This section is the most important in the literature review because it outlines the main topic of my research about the impact of COVID-19 on Business Continuity Planning. Based on my deep research, I learned that many researchers (academic and professional) individuals and organizations have been talking about the COVID-19 impact on the business and how many companies had to stop their operation because of the pandemic. However, very few touched upon the impact of COVID-19 on Business Continuity Planning process and how companies address the COVID-19 while they are revising their business continuity plan in order to prepare themselves and not to enforce to any kind of closure. This exactly is my point I am addressing in this research.

First of all, let me give a background on the disease. COVID-19 Pandemic is a disease caused by a new corona virus called SARS-CoV-2 as defined by World Health Organization (WHO). As this disease is relatively new, there are no much academic researches on its relationship with Business Continuity Planning. However, there is a number of studies tried to link the COVID-19 with business failure especially small and medium sized companies.

For the purpose of this research, I will rely mostly on the information released by World Health Organization (WHO) with regards to COVID-19 pandemic, and then I will try to explain the relationship between COVID-19 and the Business Continuity Planning.

As per World Health Organization (WHO), most people infected with the COVID-19 virus will experience not serious respiratory illness and recover without requiring long medical treatment. However, other people will become seriously ill and require admission to hospitals and medical care. Older people and those with chronic medical conditions like diabetes, chronic respiratory, cardiovascular disease, or cancer are more likely to develop complicated health conditions. In addition, it is quite possible that people can get sick with COVID-19 and become seriously ill or die at any age. (Covid-19 (WHO))

WHO released a warning that the virus can spread from an infected person's mouth or nose in small liquid particles when they cough, sneeze, speak, sing or breathe. These particles range from larger respiratory droplets to smaller aerosols. It is important to practice respiratory etiquette, for example by coughing into a flexed elbow, and to stay home and self-isolate until full recovery if feeling unwell.

The number of infected cases is increasing day after day, the recent statistics released by WHO in December 2021 indicate that globally there is more than 281 million positive cases and near to 5.4 million death cases. (Covid-19 (WHO))



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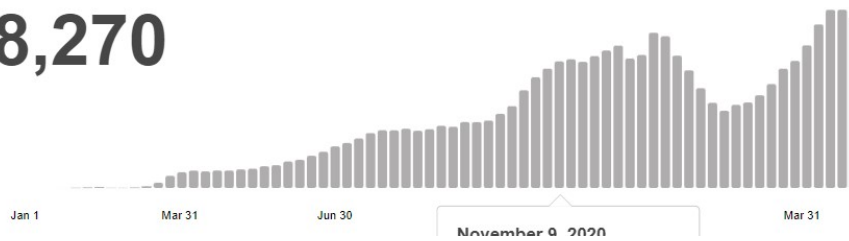
WHO Coronavirus (COVID-19) Dashboard

Globally, as of 4:14pm CET, 29 December 2021, there have been 281,808,270 confirmed cases and 5,411,759 deaths, reported to WHO. As of 28 December 2021, a total of 8,687,201, vaccine doses have been administered.

Global Situation

281,808,270

confirmed cases



Following is a screenshots of some news published on 29 December 2021 where a number of relevant updates on COVID-19 have been posted.

This kind of update is recurring almost every day which indicates how big the crisis is.

euronews.travel

NEWS

DESTINATIONS

EXPERIENCES

STAYS

As the world opens back up, travel restrictions continue to

By Euronews Travel • Updated: 29/12/2021

Most countries have travel restrictions in place in a bid to control the spread of COVID-19

The latest big changes include:

- The Netherlands has a strict lockdown in place until 14th January.
- Germany is banning UK tourists as of midnight on Sunday 19th December and residents and their families will be allowed in.
- Most UK travellers are banned from France.
- Austria's lockdown has ended so tourism has restarted, but there is a requirement for vaccinated travellers.

Home > Charts > Timeline of UK government coronavirus lockdowns and restrictions

Timeline of UK government coronavirus lockdowns and restrictions



A survey was conducted by Department of Economics, University of Illinois in 2020 (Department of Economics, University of Illinois, 2020). The survey was conducted to explore the impact of corona virus disease 2019 (COVID-19) on small and medium size businesses, the survey covered more than 5,800 entities between March 28 and April 4, 2020. According to the survey, several themes emerged. First, huge layoffs and shut downs had already occurred just a couple of months into the crisis. Second, the risk of closure was negatively associated with the expected length of the pandemic. Moreover, companies had widely different opinions about the likely duration of COVID-19 related disruptions. Third, a wide number of small businesses are financially weak: at the time of the survey the median business with more than \$10,000 in monthly expenses had cash balance enough only for a couple of weeks. Fourth, the majority of companies planned to request funding through the Coronavirus Aid, Relief, and Economic Security (CARES) Act in USA. However, many faced problems with the application process to the program, such as bureaucratic hassles and difficulties in checking eligibility. Using experimental variation, they also evaluate the rising rates and business resilience effects for loans relative to fund-grant programs.

The duration of the crisis plays a central role in the overall expected impact. For a crisis lasting 4 month instead of 1 month, only 47% of companies expected to survive compared to 72% under

the less duration. There is also considerable frequency in how sensitive businesses are to the crisis.

According to the same survey, the analysis also shows that the pandemic had already caused huge chaos among small businesses just a few weeks after its onset. Across the full sample, 43% of companies had temporarily stopped operation, and nearly all of these closures were due to COVID-19 and particularly due to unavailability of workforce. Respondents that had temporarily closed largely pointed to unavailability of employee because of their health conditions and reductions in demand and as the reasons for the shutdown, with disruptions in the supply chain being less of a factor. On average, the businesses reported having reduced their active employment by 39% during the pandemic.

The decline was particularly sharp in the Mid-Atlantic region (which includes New York City), where 54% of firms were closed and employment was down by 47%. Impacts also varied across industries, with retail, arts and entertainment, personal services, food services, and hospitality, and a major decline was in the oil and gas businesses as reported employment declines exceeding 50%. In contrast, finance, professional services, and real estate-related businesses experienced less disruption, as these industries were better able to move to remote production.

COVID-19 disruptions do not affect all businesses equally. Some are deemed essential and remained open, while others were required to close. Some businesses shifted employees to remote work, while others were ill equipped for the transition. However, those disparities will be larger if the pandemic ends up lasting for longer.

The Pandemic has impacted the businesses in the entire world, if we moved from USA to another area in the world; a research was performed by Faculty of Management Sciences, SZABIST, Islamabad, Pakistan and concluded that many companies in Pakistan have encountered adverse critical implications of COVID-19 resulted in insufficient goods, obstruction in transportation, decline in demand of products and services, drop in revenues and sales, limited operations, lockdown and employee's layoff. (Faculty of Management Sciences, SZABIST, 2021).

Many events across the history disrupted the normal operations of businesses through. The initial impact of uncertainties in any form is on economic conditions. Natural disasters are one form of disruption in the external environment leading to recessionary trends in economic indicators (Auzzir, Z., Haigh, R. and Amaratunga, D., 2018). Pandemics are another wave of uncertainty leading to failures of economies and businesses. Epidemics such as Severe Acute Respiratory Syndrome (SARS), Cholera and pandemics such as COVID-19 have also severe implications for economies and associated businesses.

According to SZABIST report, the lockdown has led to shutdown and stopping operations of small and medium scale businesses in the developing countries. Pakistan is a developing nation with a sudden surge of COVID-19 in its urbanized cities where thousands of medium sized entities are operating. The immediate lockdown led to a severe impact on the businesses in the urban areas. Recently, the spread of COVID-19 has marked its unfavorable implications on the global economies, large scale corporations and small & medium sized operations.

An interesting article published in the Guardian under title” Is COVID-19 to blame for business closures or is it helping new startups? The answer is both”. The report says more than 100,000 businesses have been closed this year, but new business applications are up by 19%. So for so many businesses failing, many others are starting. (Marks, Gene, 2021). No doubt that those businesses that have been closed if they had well developed and tested business continuity plan taking in consideration a pandemic like COVID-19, they would have responded differently to the pandemic.

The same conclusion has been reported by the Reserve Bank of Australia in their Financial Stability Review – October 2020. As per the report, business failure risk in the COVID-19 Pandemic has been increased. The pandemic has disrupted economic activity and sharply reduced the income of Australian businesses. The number of businesses that fail in this time will depend on a range of factors, including the size of how much cash surplus those companies have just prior to the pandemic, the drop in their income during the downturn, their capacity to optimize operating expenses, and the extent of support from both the Government and private lending institutions. (the Reserve Bank of Australia, 2020). Further, the report highlighted those businesses failures are a key risk to the financial system for a few reasons. First, a higher rate of

business failure means there will be larger losses of outstanding loans, since insolvent firms hold debt (by default). Second, an increase in the number of business failures can have indirect risks to the financial system if they lead to extensive job losses that put household financing at risk. Third, there can be adverse spillover effects if firms in financial trouble do not pay outstanding amounts to other businesses in their supply chain. Finally, widespread business closures can lead to an increase in property selling at distressed prices, with flow-on effects to the prices of commercial properties, which are used as collateral for many corporate loans.

According to European Management Journal, COVID-19 pandemic, with millions of cases and fatalities globally affecting countries across Americas, Eastern Mediterranean, Africa, Europe, South-East Asia, and Western Pacific, are multiple cases of foreclosures, high rate of unemployment, re-possession, and waves of business failures ranging from retailers, airlines, and health, fitness, & wellbeing centers, among several others (Amankwah-Amoah, 2021). In the UK, for instance, the pandemic has exponentially led to an increase in the number of financially distressed companies. It is estimated that around 500,000 companies are at risk of collapse (Barrett, 2020). This has caused extended economic suffering, with a likely long-term impact on the global economy.

For analytical clarity, business failure refers to a situation where the business is no longer able to continue operating as a sustainable business and is thus forced to stop operations and lay off any employees (Wright, Fleisher and S., 2010). This not only prompts the retreat and exit from domestic markets, but also globally. There are different types of business failure done which is largely sudden, unpredictable, and difficult to mitigate, and the other which is largely protracted and punctuated by multiple events, stories, false starts, and actions which ultimately lead to failure.

Business Continuity Plans are the ones that deal with such threats, and guide the companies how to continue operating while in a crisis situation. COVID-19 has a varied impact on businesses; one of them 'being studied in this research' is the impact on the employees. If an organization has shortage in its manpower needed to operate, it will definitely be in trouble and most likely stop its operation.

2.6. The Issue / Gap Identified

From Business Continuity perspective, COVID-19 pandemic has added another challenge on the business continuity of organizations; it caused a significant man-hour shortage for the following reasons:

- (1) Continuous sickness of the manpower by COVID-19 from persons to another,
- (2) Travel restrictions delayed the return of employees on vacations,
- (3) Death of key staff,
- (4) Different levels of lockdown from time to time in many countries.
- (5) Inability to recruit immediately because of travel restrictions, and
- (6) Working from home strategies.

The combination of the above reasons has caused a decline in the man-hours available to perform the normal activities within the organizations. And hence, a number of questions are added to the Business Continuity Planning as a direct consequence of COVID-19:

- What are the critical tasks required to complete the mandate of each function under COVID-19 situation?
- Who does perform those critical tasks in the normal operation of the function and in COVID-19 situation?
- What is the minimum number of resources required to complete the critical tasks?
- What are the measures taken in order to ensure continuing normal operations?
- What if the number of employees required to carry out the critical functions is not available at any point of time?
- What would be the different scenarios to be considered in case of unavailability of the minimum number of employees required to perform the main functions in order to mitigate the situation? For example: (a) continue operation/function, (b) continue operation in a degraded mode (reduced output), (c) stop the operation/function?, and at which point of time the company should move from one scenario to another?
- What are the relevant mitigating actions for each option, and how to assess the prioritization of the activities (dropped / postponed) to continue operation / management of the mandate, and what is the resourcing level that would trigger stopping the function completely?

Studying the required number of manpower to keep operating under the COVID-19 pandemic in a very structured and planned manner as part of business community planning process has not been well covered by other researchers. This is a gap that I am trying to fill.

Based on my literature review in this section, I found that there is gap in addressing the relationship and the impact of COVID-19 on Business Continuity Planning process in particular in addressing the impact on the availability of manpower required to operate as normal during COVID-19 or a similar pandemic. And hence I am trying to fill this gap throughout this research by addressing the above questions stated in Literature Review section with an application on ABC Oil Company as a case study.

The result of the research shall be relevant to COVID-19 pandemic; however, it could also be relevant to any similar pandemic. The aim is to encourage the organizations to use a systematic approach in any similar situation / pandemic.

2.7. Methods and Theories Employed

This chapter explains research philosophy, methodology and techniques that are related to research objectives. The term research philosophy refers to a set of beliefs and assumptions about the development of knowledge. Although this sounds rather deep, it is precisely what is being done when initiating and developing a research: developing knowledge in a particular field. This knowledge development may not be as dramatic as a new theory, but even answering a specific problem in a particular organization that has been used as case study, nonetheless, developing new knowledge. (Burrell and Morgan, 1979)

Research methodology is a way to systematically solve the research problems. It may be understood as a science of studying how research is done specifically (Kumar, 2008). Good research is based on previous theory that has been developed over time through the testing of hypotheses (Cottrell, R.R., & McKenzie, 2011).

I personally tend to use Critical Realism Philosophy in my life, which focuses on explaining what I see and experience, in terms of the surrounded circumstances of reality that formulate the observable situations. Critical Realism claims that there are two steps to understanding the

world. First, there are the situations and events we experience with our feelings and observations. Second, there is a mental processing and critical thinking that are performed during and after the experience, when we ‘reason backwards’ from our experiences to the underlying reality that might have caused them (this reasoning backwards is known as ‘retroduction’) (Reed M. , 2005). However, because this research has a different nature, that I will rely on facts, measures and numbers to direct my analysis for the impact of COVID-19 on Business Continuity Planning process in absence or unavailability of different number of employees, I will be adopting the Positivism Philosophy for this research to understand and quantify the observations and evaluate the result and findings concluded from the data and secondary data collection.

Under the research philosophy and in order to be more sensible about the qualitative and quantitative approaches it was necessary to introduce deductive and inductive approach to collect data thereby develop theory for data analysis (Saunders, M., P. Lewis, et al., 2007).

This in turn will lead me to be using Abductive approach which moves back and forth between theory and data. Abduction begins with the observation of a ‘surprising fact’; it then works out a plausible theory of how this could have occurred (Van Maanen J. S., 2007). It is a bit challenging and will require adding more insights from me; therefore, I will be adding my thoughts and ideas and incorporate the same into the context of the research.

A mixture of quantitative and qualitative data analysis will be used; quantitative analysis involves looking at the hard data, the actual numbers of different scenarios under different risk exposure and a number of critical processes, while qualitative analysis is less tangible, it concerns subjective characteristics and opinions that cannot be expressed as a number which will include the judgment on how specific functions could survive under different discontinuity scenarios.

2.8. Summary

In chapter two I covered the academic context and literatures on three main areas: (a) Business Continuity Management and the requirements, (b) Oil and Gas sector and its related functions, (c) Covid-19 and its relationship with Business Continuity Planning process. In addition, I have identified a research gap which is studying the required number of manpower in different

scenarios that allow the company keeps operating under the COVID-19 pandemic in a very structured and planned manner as part of business community planning process.

Research philosophy, method, and approach are also discussed under this chapter and explained briefly. Positivism Philosophy is adopted with Abduction approach, while a mixture of quantitative and qualitative data analysis will be used.

3. CHAPTER THREE - RESEARCH METHOD & DESIGN

3.1. Introduction

This chapter is to explain how the study was conducted in more details. It will start with Research Objectives by clearly stating the research aim and specific research objectives, and then will be moved to Operational Definitions in identifying the core concepts used in the research and provided specific definitions to each of them, in addition to highlighting that the concepts mean the same throughout the dissertation.

Conceptual Framework will also be discussed with the logical relationships in terms of diagrammatic presentations and theoretical model and clearly state and explain the logical flow of the study and the basis of the hypothesis statement.

Hypothesis development will be discussed thereafter via logical arguments to justify the research objectives. Then the chapter will move to Data Collection Framework by describing in detail the kinds of data collected, why and how those data are captured, processed and analyzed. Data Analysis will also be clearly described stating the population and samples of responses to the questionnaire and interviews and how the data is processed and analyzed.

3.2. Research Objectives

This is a hypotheses testing and model creation study where I assume that the COVID-19 has a significant impact on the Business Continuity Planning Process with a case study on oil and gas company, as well as assessing this relation and providing a model for adoption by companies to consider that impact if the relationship found positive.

This seems to be a Correlational Study where I am studying the independent variable which is COVID-19 and its impact on the dependant variable which is Business Continuity Planning Process.

This research has two main objectives:

Objective 1

First objective is to find the relationship between COVID-19 Pandemic and the process of Business Continuity Planning in ABC Oil Company and assess that impact. This will be based on meetings, interviews and interactions with many levels inside the organization with a particular focus on the functional heads and response leads and also collecting and presenting the detailed business processes being adopted in the organization and how each business process has been considered for business continuity planning. In addition to walking through the process, and identifying what actions have been / to be taken in order to consider COVID-19 Pandemic impact on the different the response strategies.

Objective 2

If the impact of COVID-19 Pandemic on Business Continuity Planning Process for ABC Oil Company found positive, the second objective of the study is to present an effective Business Continuity Planning model for ABC Oil Company to consider that impact, and to ensure the ability of the company to continue functioning during a crisis situation with minimum disruption at different levels of manpower availability due to COVID-19.

3.3. Operational Definitions & Measurement

Crisis

Amongst many definitions, and for the purpose of this research, I will always refer to a business crisis as an incident causing disruption to the business and resulting in a negative deviation from the expected delivery of products and services as defined under ISO 22301:2019.

Threat

The business continuity incident is triggered by certain threats, and for the purpose of this research; I will adopt the threats categories as grouped by National Fire Protection Association as follows: (NFPA, 2019)

Business Continuity Management

Business Continuity Management is a comprehensive and overall management process that identifies expected threats to an organization and the impacts to business operations that those threats, if occurred, may cause.

Dependent Variable (Business Continuity Planning Process)

Business Continuity Planning is the process of developing arrangements in advance and response plans that enable companies respond to a crisis situation in such a manner that critical business functions can continue within planned levels of disruption. It's being developed with adoption of the 'Plan-Do-Check-Act' (PDCA) Model (W. Edwards Deming, 1950) to planning, establishing, implementing, operating, monitoring, reviewing, maintaining and continually improving the effective of the Business Continuity Plan. **Plan** (Establish) Establish business continuity policy & procedures, objectives, targets, controls and processes relevant to improving business continuity in order to deliver results that align with the ABC's overall policies and objectives. **Do** (Implement and Operate) implement and operate the developed policies & Procedures of business continuity. **Check** (Monitor and review) review and assess the performance against business continuity policy and plans, report the performance measures to management for actions, and agree on corrective actions and or actions for improvement. **Act** (Maintain and improve) Maintain and improve the plan by taking corrective action, based on the outcomes of management review and re-assessing the scope of business continuity.

Independent Variable (COVID-19 Pandemic)

Independent variable in my research is COVID-19 Pandemic which is a disease caused by a new corona virus called SARS-CoV-2 as defined by World Health Organization (Covid-19 (WHO))

Operationalization and Measurement

The model I am adopting aims to measure the impact of COVID-19 Pandemic on the process of Business Continuity Planning in ABC Oil Company through the following dimensions and elements which will be applied for each and every business process in the organization:

To assess the relation between COVID-19 Pandemic and the process of Business Continuity Planning in ABC Oil Company, the measurement of the results will depend on using the Ratio Scale measuring the percentage of "Yes" answers to the "No" answers for each element question below. This again will apply to each and every business process in the organization:

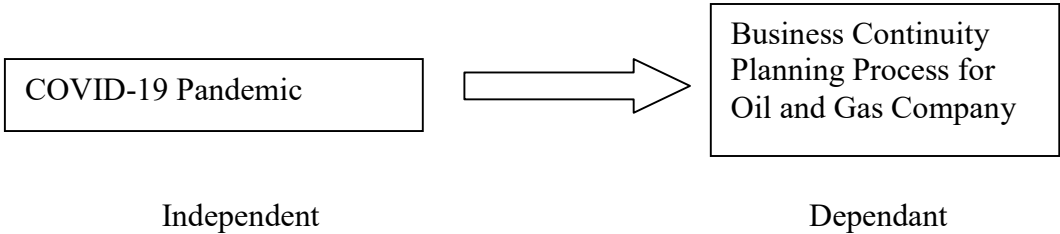
Dimension	Elements	Ratio Scaling
Identification of Threats	<ol style="list-style-type: none"> 1. Has the list of threats been revisited because of COVID-19 Pandemic 2. Has the Risk Assessment Matrix been revised because of COVID-19 Pandemic 	<p>This will be measured for each business process: If the “Yes” answers are more than 50%, the result will be considered positive. This means Covide-19 has impacted the process of Business Continuity Planning. If “No” answers are more than 50%, the result will be considered negative. This means Covide-19 has not impacted the process of Business Continuity Planning.</p>
Performing and revising Business Impact Analysis	<ol style="list-style-type: none"> 3. Has Business Impact Analysis been revised because of COVID-19 	<p>This will be measured for each business process: If the “Yes” answers are more than 50%, the result will be considered positive. This means Covide-19 has impacted the process of Business Continuity Planning. If “No” answers are more than 50%, the result will be considered negative. This means Covide-19 has not impacted the process of Business Continuity Planning.</p>
Identifying Critical Processes	<ol style="list-style-type: none"> 4. Have the critical processes been changed because of COVID-19 Pandemic 5. Has the Recovery Time Objective been changed because of COVID-19 Pandemic for the critical processes 6. Has the Recovery Level Objective been revised because of COVID-19 Pandemic 	<p>This will be measured for each business process: If the “Yes” answers are more than 50%, the result will be considered positive. This means Covide-19 has impacted the process of Business Continuity Planning. If “No” answers are more than 50%, the result will be considered negative. This means Covide-19 has not impacted the process of Business Continuity Planning.</p>
Preparation of Business Continuity Response Plans	<ol style="list-style-type: none"> 7. Have Business Continuity Response Plans been updated because of COVID-19 Pandemic 8. Have Business Continuity Response Plans been activated because of COVID-19 Pandemic 	<p>This will be measured for each business process: If the “Yes” answers are more than 50%, the result will be considered positive. This means Covide-19 has impacted the</p>

		<p>process of Business Continuity Planning. If “No” answers are more than 50%, the result will be considered negative. This means Covid-19 has not impacted the process of Business Continuity Planning.</p>
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(TABLE 2: Ratio Scale Measurement)

3.4. Conceptual Framework

The research model is about the relationship between COVID-19 Pandemic and the Business Continuity Planning process for ABC Oil Company, and it can be illustrated as follows.



(FIGURE 4: Conceptual Framework)

Dependant Variable is my primary interest of focus in order to understand and explain the variability of this variable and how it is impacted by COVID-19 which is the Independent Variable.

Therefore, Business Continuity Planning process for oil and gas company is my dependent variable that I will be studying in this research, and it is defined as the overall management process that meant to identify potential threats to an organization and the consequences to business operations that those threats, if occurred may cause. It is therefore, “the capability of the organization to continue delivery of products or services at acceptable predefined levels following disruptive incident”. (ISO22301:2019). Whereas the Independent variable in my research is COVID-19 Pandemic which is a disease caused by a new corona virus called SARS-CoV-2 as defined by World Health Organization (Covid-19 (WHO)). The specific element of

COVID-19 that has an impact on the Business Continuity Planning process that will be studying is the manpower.

My assumption is based on that COVID-19 Pandemic has positively impacted the process of business continuity planning in ABC Oil Company, and as a result the entire process has been revisited starting from identification of threats process, then performing Business Impact Analysis, and identifying Critical Processes and then preparation of Business Continuity Response Plans. My assumption was based on my expectation of the wide impact of COVID-19 Pandemic on many industries across the world as evident in the literature review section.

3.5. Hypothesis Development

My research hypothesis is explained as a directional relation between COVID-19 Pandemic and Business Continuity Planning Process for ABC Oil Company.

H1: I assume that there is a significant relationship between COVID-19 Pandemic and Business Continuity Planning process for oil and gas companies in the State of Qatar represented by ABC Oil Company. And I expect that the longer COVID-19 Pandemic stays, the more complex is the process of Business Continuity Planning for oil and gas companies in the State of Qatar. When I say more complex, I mean more effort, more revision, more updates, more activation of response strategies would be required.

The logic behind my hypothesis is driven by the literature review performed as the COVID-19 has a wide impact on many areas in the world. A recent research by Harvard Business School suggests that the pandemic had already caused massive dislocation among businesses in different industries. (Harvard Business School, 2021)

Another survey conducted by Booth School of Business, The University of Chicago with two baseline questions: first question asked owners, “is this business currently operational?” the survey allowed owners to respond that the business was operational, temporarily closed, or permanently closed. The Survey also allowed them to report whether the business was closed because of COVID-19 or another reason. Across the sample, 41% of businesses reported that they were temporarily closed because of COVID-19. A far smaller number 3% reported that they

were permanently closed because of the pandemic. By contrast, only 2% reported that they were temporarily closed for other reasons; 54% reported that they were still operational. The second question was to fill in a matrix that contained the number of full-time and part-time employees that were impacted by COVID-19 and became unavailable which had a major impact on the business to close either temporary or permanently. Over the entire sample, the number of full-time employees declined by 32% and part-time employees by 57% and both were a direct reason of the business closure. If we look only at businesses that remained operating, the survey finds that the number of total full-time employees declined by 17.3% (Booth School of Business, 2021)

3.6. Participants of the Study

ABC Oil Company is structured from 18 main different departments, each department is headed by a manager, and under each department there is a number of sections. For business continuity requirements, each department has one business continuity focal point who is responsible for ensuring that the department has an adequate business continuity plan.

For the purpose of this research, a questionnaire has been sent out to the departments’ managers and business community focal points across the organization, they are 36 in total. So they will be participating in the study through a questionnaire. In addition to that, interviews have been conducted with the business continuity focal points to discuss the outcomes of the questionnaire and to check the actions taken by them as a response to the COVID-19 impact and the proposed measures to ensure business operational continuity at different levels of workforce.

The 18 main departments under ABC Oil Company are tabulated below

Strategic Management Process	<ol style="list-style-type: none"> 1. Strategy Development and Corporate Planning 2. Corporate Governance 3. Internal Audit
Core Business Processes	<ol style="list-style-type: none"> 4. Exploration 5. Development & Production 6. Abandonment & Site Restoration 7. Acquisition 8. Divestiture 9. Marketing 10. Trading

Resource Management Processes	11. Research & Development 12. Information Technology 13. Legal 14. Finance 15. Human Resources 16. Procurement 17. Safety, Health & Environment 18. Public Relations
--------------------------------------	--

(TABLE 3: ABC Oil Company Structure)

So, the Unit of Analysis was the individuals inside the company as explained above, and the population was the entire functions and business processes within ABC Oil Company, and the individuals responsible for those functions, specifically the head of each function (department’s manager) and the Business Continuity team. The research was based on the entire population. The level of response initially was 88% however, after a follow up round, it reached 100%

3.7. Data Collection Method

Primary Data

Primary data has been collected through questionnaire that has been sent to all departments’ managers and all business continuity focal points, they are 46 all together. Before sending the questionnaire out, an explanatory email had been sent to all explaining the purpose of the questionnaire and requesting full cooperation and support to the study. This email had been sent from Finance Manager who was facilitating the study.

A questionnaire is a pre-formulated written set of questions to which respondents record their answers usually within rather closely defined alternatives. Questionnaires are efficient data collection methods as I know exactly what is required and how to measure the variables.

The questions in the questionnaire were focused, condensed and closed questions, and have been sent out via emails. The responses have also been collected through the same method. The responses have been analyzed using excel spreadsheet to present the ratio scaling of measuring the result. The questionnaire included the following 8 questions:

Area	Question	Answer	Further Comment
Identification of Threats	1. Has the list of threats been revisited because of COVID-19 Pandemic in your department? 2. Has the Risk Assessment Matrix been revised in your department because of COVID-19 Pandemic?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No	
Performing and revising Business Impact Analysis	3. Has Business Impact Analysis in your department been revised because of COVID-19?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Identifying Critical Processes	4. Have the critical processes been re-assessed in your department because of COVID-19 Pandemic? 5. Has the Recovery Time Objective been changed in your Business Continuity Plan because of COVID-19 Pandemic for the critical processes? 6. Has the Recovery Level Objective been revised in your Business Continuity Plan because of COVID-19 Pandemic?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No	
Preparation of Business Continuity Response Plans	7. Have Business Continuity Response Plans been updated in your department because of COVID-19 Pandemic? 8. Have Business Continuity Response Plans been activated in your department because of COVID-19 Pandemic?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No	

(TABLE 4: The questionnaire Template)

Primary data collection also included face to face / virtual interviews using Microsoft Teams with the Business Continuity team (Business Continuity focal points) of each function in ABC Oil Company.

The structure of the interviews included open questions with a space for the respondent to answer, as well as some close questions to acknowledge and confirm a specific answer. Interviews conducted as semi-structured interviews which were required to understand and confirm the understanding of the collected information. Starting point of the discussion during

the interviews was the outcomes of the questionnaire of each department, and then moved to perform further analysis. Each question has led to further study and deep analysis to go through the different response strategies in order to verify and validate the changes made and the impact of COVID-19 Pandemic.

As suggested by (Saunders, M., Lewis, P. and Thornhill, A., 2009) the semi-structured interviews whenever aiming to understand the relationship between variables, it encouraged two-way communication and used both to give and receive information to confirm what is already known from other interviews and from the secondary data analysis.

Some departments have been concluded in one interview, and other departments required more than one interview, so a number of workshops and focus group have been conducted following the interview because some departmental focal points preferred to invite subject matter experts from their departments to participate and hence focus groups have been arranged.

Therefore, workshops have been conducted with the departmental focal points and the nominated subject matter experts. Participative approach was used for collecting the primary data from focus groups which are used to gather opinions of a group of people who are involved in the common situation. (Collis, J. and Hussey, R., 2009)

Validation of data collected has been performed during the interviews and workshops and summarized in the result section.

Secondary Data

Secondary data included Business Response Strategies prepared by the Business Continuity team in the company, in addition to the supposing records like Business Impact Analysis, Business Process record, list of threats, and Risk Matrix, etc. this data have been collected from the company's records.

In addition to that, other secondary data collected for the purpose of this research depended on a desk research on data that already exist, which have already been collected or produced within the company for the same purpose or some other purposes, This secondary data was collected from a number of resources within the company like: annual report of ABC Company,

Directorate's and Department's mandates, ABC website, organizational structure, etc. However the secondary data collected from outside the company was collected through journal articles, published books, virtual libraries, user-generated web content, etc.

Ethics

Remenyi defined ethics as a sense or understanding of what is right or wrong. (Remenyi, D., Williams, B., Money, A. and Swartz, E., 1998). Further, in the context of a research, Saunders suggested that "ethics refers to the behavior appropriateness in relation to the rights of those who become the subject of work, or are affected by it." (Saunders, M., Lewis, P. and Thornhill, A., 2009).

Ethical practices have been maintained throughout this project process. Interview participants presented with the purpose of the interview and clear agenda / discussion points in advance and given the option to cancel the interview / workshop at any time. The research did not include any deception of participant, financial inducements, or possible psychological stress. Further, confidentiality of information collected and anonymity of interview information beyond this type strictly observed. The Author is aware that confidentiality and Sensitivity are two very important ethical aspects and therefore ensured that confidentiality was maintained at all times.

3.8. Summary

Research Objectives have been clearly stated as follows:

Objective 1

First objective is to find the relationship between COVID-19 Pandemic and the process of Business Continuity Planning in ABC Oil Company and assess that impact. This will be based on meetings, interviews and interactions with many levels inside the organization with a particular focus on the functional heads and response leads and also collecting and presenting the detailed business processes being adopted in the organization and how each business process has been considered for business continuity planning. In addition to walking through the process, and identifying what actions have been / to be taken in order to consider COVID-19 Pandemic impact on the different the response strategies.

Objective 2

If the impact of COVID-19 Pandemic on Business Continuity Planning Process for ABC Oil Company found positive, the second objective of the study is to present an effective Business Continuity Planning model for ABC Oil Company to consider that impact, and to ensure the ability of the company to continue functioning during a crisis situation with minimum disruption at different levels of manpower availability due to COVID-19.

Operational Definitions have covered the definition of main terminologies used in the research, and also the definition of dependant and independent variables, and the way how to measure them to assess the relation between COVID-19 Pandemic and the process of Business Continuity Planning in ABC Oil Company, the measurement of the results has also been explained as to depend on using the Ratio Scale measuring the percentage of “Yes” answers to the “No” answers for each element question. This again will apply to each and every business process in the organization.

The core concepts used in the research has been explained and provided specific definitions to each of them, in addition to highlighting that the concepts mean the same throughout the dissertation.

Conceptual Framework has also been discussed with the logical relationships in terms of diagrammatic presentations and theoretical model and clearly state and explain the logical flow of the study and the basis of the hypothesis statement.

Hypothesis development has been discussed thereafter via logical arguments to justify the research objectives. Then the chapter has moved to Data Collection Framework by describing in detail the kinds of data collected, why and how those data are captured, processed and analyzed. Primary data has been collected through questionnaire and interviews, while the secondary data is collected from different sources from inside and outside the organization. Data Analysis was also clearly described stating that the entire population has been targeted and the level of responses to the questionnaire and interviews was full.

4. CHAPTER FOUR - RESEARCH FINDINGS

4.1. Introduction

This chapter will present the results of the data collection stage as well as analyzing and interpreting the data. The methods used to obtain these results were discussed in detail in Chapter 3. The information detailed in this chapter will be used to make recommendations to ABC Company on the proposed model to be used. Below findings are based on five months of data collection and conducting interviews and workshops.

4.2. Data Analysis

(A) Questionnaire response analysis

The purpose of the questionnaire was to answer the first question of the research which is to find the relationship between COVID-19 Pandemic and the process of Business Continuity Planning in ABC Oil Company and assess that impact. The questionnaire stated in section 3.7 has been sent to 36 participants across the organization representing the entire population

The level of response was initially was 88% however, because it was planned to cover the entire population, I had to send reminders and follow ups until 100% reached.

Following is s summary of data analysis received from the participants:

First Question:

Has the list of threats been revisited because of COVID-19 Pandemic in your department?

Results

32 responded YES to the above question against 4 responded NO.

Yes answer represented 89% of total population. Two departments responded NO i.e. Acquisition department and Legal department.

Comments received from participants were mostly highlighting that they had to revisit the list of threats to include COVID-19 Pandemic into the list in order to evaluate the impact and revise the response plans if deemed necessary.

Second Question:

Has the Risk Assessment Matrix been revised in your department because of COVID-19 Pandemic?

Results

For second question, 30 responded YES to the question against 6 responded NO.

Yes answer represents 83% of total population. 3 departments responded NO i.e. Acquisition department and Legal department and Internal Audit.

Comments received from Internal Audit focal point was that, there re-visited the risk assessment matrix but nothing found to be changed.

Third Question:

Has Business Impact Analysis in your department been revised because of COVID-19?

Results

For third question, 30 responded YES to the question against 6 responded NO.

Yes answer represents 83% of total population. 3 departments responded NO i.e. Acquisition department and Legal department and Public Relation department.

Forth Question:

Have the critical processes been re-assessed in your department because of COVID-19 Pandemic?

Results

For forth question, 36 responded YES to the question against nil responded NO.

Yes answer represents 100% of total population. It was also understood that all departments had to re-assess their critical processes because of the shortage in their workforce especially when COVID-19 has started to assess if they will be able to perform their critical process during the pandemic or no.

Fifth Question:

Has the Recovery Time Objective been changed in your Business Continuity Plan because of COVID-19 Pandemic for the critical processes?

Results

For fifth question, 36 responded YES to the question against nil responded NO.

Yes answer represents 100% of total population. All departments had to revise the recovery time objectives during COVID-19 Pandemic based on the availability of their staff and the working condition from home.

Sixth Question:

Has the Recovery Level Objective been revised in your Business Continuity Plan because of COVID-19 Pandemic?

Results

For sixth question, 26 responded YES to the question against 10 responded NO.

Yes answer represents 72% of total population. Some departments decided not to change their recovery level objective as to ensure their service is being provided as normal either because it is a control function or a significant process.

Seventh Question:

Have Business Continuity Response Plans been updated in your department because of COVID-19 Pandemic?

Results

For seventh question, 36 responded YES to the question against nil responded NO.

Yes answer represents 100% of total population. This means that all departments have revised their business response plans during COVID-19 Pandemic.

Eighth Question:

Have Business Continuity Response Plans been activated in your department because of COVID-19 Pandemic?

For eighth question, 20 responded YES to the question against 16 responded NO.

Yes answer represents 56% of total population.

In summary, the responses with YES across the entire organization were 246 against 42 responded with NO. This means that 85% of total population agreed that COVID-19 has impacted the process of Business Continuity Planning Process and made them to revisit the

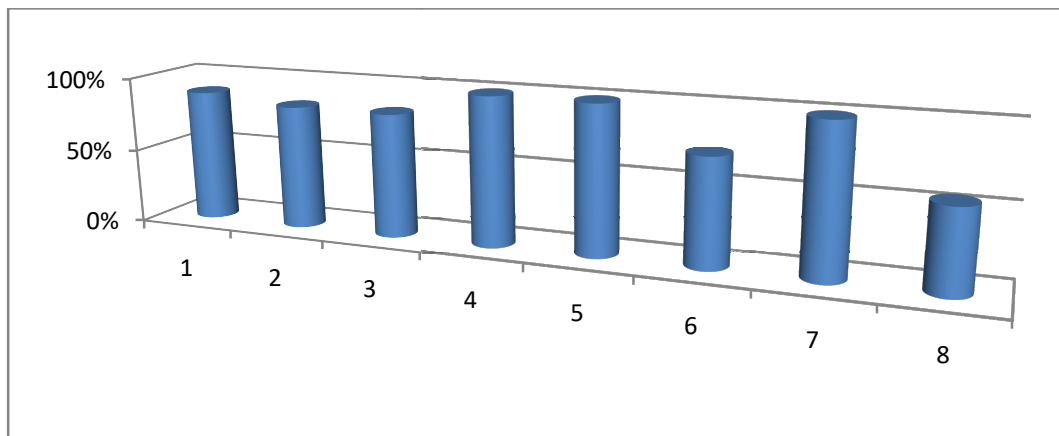
process and revise the applicable areas. All responses confirmed that unavailability of employees was the main reason behind revising their plans.

		YES	NO
Q1	Has the list of threats been revisited because of COVID-19 Pandemic in your department?	32	4
Q2	Has the Risk Assessment Matrix been revised in your department because of COVID-19 Pandemic?	30	6
Q3	Has Business Impact Analysis in your department been revised because of COVID-19?	30	6
Q4	Have the critical processes been re-assessed in your department because of COVID-19 Pandemic?	36	0
Q5	Has the Recovery Time Objective been changed in your Business Continuity Plan because of COVID-19 Pandemic for the critical processes?	36	0
Q6	Has the Recovery Level Objective been revised in your Business Continuity Plan because of COVID-19 Pandemic?	26	10
Q7	Have Business Continuity Response Plans been updated in your department because of COVID-19 Pandemic?	36	0
Q8	Have Business Continuity Response Plans been activated in your department because of COVID-19 Pandemic?	20	16

(TABLE 5: Summary of response analysis)

246	42
85%	

The below diagram shows the percentage of YES response for each question from 1 to 8



(FIGURE 5: Questionnaire Response Analysis)

(B) Interviews and workshops outcomes

Second phase of data collection was conducting interviews and workshops with business continuity focal points to go through the steps made to consider COVID-19 Pandemic towards revising the process of business continuity planning and to validate the responses received from them on the questionnaire.

The purpose of the interviews and workshops conducted was to validate the responses received from the questionnaire and to understand and present the effective Business Continuity Planning model for ABC Oil Company to consider that impact, and to ensure the ability of the company to continue functioning during a crisis situation with minimum disruption at different levels of manpower availability due to COVID-19.

Over five months, 21 interviews have been conducted and 22 workshops have been organized with the focal points of each department and their nominated subject matter experts as tabulated below.

	Department	Number of interviews	Number of workshops conducted
1	Strategy Development and Corporate Planning	1	1
2	Corporate Governance	1	1
3	Internal Audit	1	0
4	Exploration	2	3
5	Development & Production	2	2
6	Abandonment & Site Restoration	1	1
7	Acquisition	1	1
8	Divestiture	1	1
9	Marketing	1	2
10	Trading	1	1
11	Research & Development	1	1
12	Information Technology	2	2
13	Legal	1	1
14	Finance	1	1
15	Human Resources	1	1
16	Procurement	1	1

17	Safety, Health & Environment	1	1
18	Public Relations	1	1
		21	22

(TABLE 6: Interview and Workshops Schedule)

Internal audit department was excluded from the workshops as they declined the request to participate because their entire team was busy in conducting audit during the research time.

The interviews that followed by workshops have been focused on the following:

- Understanding of the departments mandate
- Discussing the main functions of the department
- Business Processes and activities within the department (business process is a structured set of activities within an entity that is designed to produce a specified output)
- Risks associated with each business process
- Business continuity planning for the critical assets and critical process which include threat assessment, business impact analysis, critical process evaluation and response strategies
- How COVID-19 impact has been considered for the shortage or unavailability of workforce for the purpose of business continuity analysis.

1- Strategy Development and Corporate Planning

Description

Strategic Development and Corporate Planning - is the process of

- defining the vision of the company (who we are and what we want to do),
- formalizing it into a mission statement (how we will get there)
- converting the statement into objectives that identify market niches, and products and services to be offered
- defining an overall implementation plan to fulfill the vision
- reviewing progress and taking corrective actions

Missions may be singular or multiple. Markets served may be local, regional, national or international, and may be different for each objective.

Activities included in strategic management are

- internal assessment and evaluation of core competencies
- external assessment and competitor/market/customer analysis
- performance measurement
- development of policies
- development of controls & reporting systems
- risk assessment
- review of the current mission statement and strategic plan.

The strategic plan is co-ordinated with shorter-term business plans (operating budgets, capital budgets, etc.) and the current operating environment (legal, regulatory, technical, & human resource constraints etc.).

The economy, cost and availability of capital, risk/ reward characteristics of investment alternatives, desired or required levels of capital, resource capability, and growth expectations will all play an integral role in strategic management.

Process Objectives

1. Determine strategic objectives (e.g., market growth/ profitability)
2. Provide clear strategic direction to the business
3. Identify & allocate resources necessary to execute business strategy
4. Promote a culture of continuous improvement
5. Measure business performance against strategic objectives
6. Position organization to create value for shareholders

Critical Success Factors (CSF's) linked to the process objectives

- A. Vision that is well articulated & broadly communicated [2,3,6]
- B. Business strategy that can be easily modified depending on the situation & is useable & flexible enough that it can be applied to many situations (mergers & acquisitions, etc.) throughout the organisation [4,6]
- C. Implementation activities chosen are consistent with the strategic plan [2,3,6]
- D. Methodology in place to receive feedback from throughout organisation regarding acceptance of vision & strategies [1,3,4,6]

- E. Ensure that organisation has appropriate resources to implement strategic plan [3,6]
- F. Good quality data & assumptions feeding strategic plan [1,3,6]
- G. Timely strategy development & implementation [6]
- H. Employee/customer satisfaction [4,6]
- I. Performance measurement process [3,4,5,6]

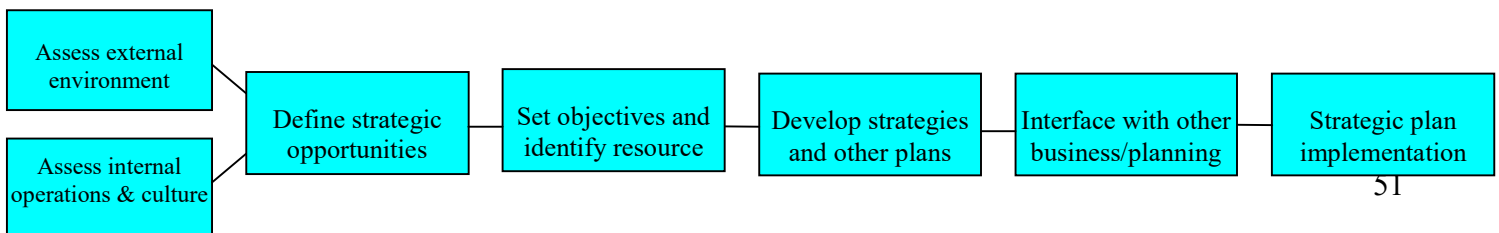
KPI's linked to CSF's

- ⇒ Evidence that vision & strategic plan are communicated to employees [A,H]
- ⇒ Sustained revenue growth [A,B,C,E,F,G]
- ⇒ Economical reserve replacement and reserve growth [A,B,C,E,F,G]
- ⇒ Cash flow and net income per share [A,B,C,E,F,G]
- ⇒ Economic profit (EP) [A,B,C,E,F,G]
- ⇒ Share price + dividends [A,B,C,E,F,G]
- ⇒ Environmental, Health & Safety incidents [A,B,C,E,F,G]
- ⇒ Implementation milestones in tune with strategy [A,C,E,F,G]
- ⇒ Employee/customer satisfaction survey [D,H]
- ⇒ Balanced scorecard [I]

Inputs

- Shareholder/stakeholder expectations
- Economic factors/analysis
- Technology
- Competitor activity/analysis
- Market opportunities
- Political factors/analysis
- Regulatory environment
- Commodity price forecasts
- Substitutes
- Customer needs
- Financial/Operational performance
- Prior strategic plans
- Management/staff competencies
- Suppliers
- Risk assessments

Activities



Outputs

- Vision/mission statement
- Performance targets
- Resource requirements
- Allocation of responsibilities & accountabilities
- Strategic plan
- Performance measures
- Key management succession plan
- Organizational structure
- Alliances & Joint Ventures
- Communication strategy
- Technology strategy
- Business strategy
- HR strategy
- Approved implementation proposals

Systems

- Budget/forecasting
- Competitor/Industry database/surveys
- Market databases
- Executive information
- Project Management
- HR Management
- Accounting system

Risks Which Threaten Objectives

- A. Strategic aims are sub-optimal for the company &/or shareholders [3,5,6]
- B. Poor communication of strategy to management/staff & ineffective implementation [2,3,5,6]
- C. Loss of focus or commitment to strategy implementation [5,6]
- D. Inadequate supervision & control [2,4,5,6]
- E. Poor operating capabilities or lack of appropriate resources [3,6]
- F. Missed opportunities or unforeseen threats (e.g. market changes, political environment changes) [3,6]
- G. Decision making based on incomplete or inaccurate data [1,3,4,5,6]

Management Responses Linked to Risks

⇒ Adequate number of appropriately qualified, experienced, & independent directors on the board [A,F,G]

- ⇒ Rigorous & regularly applied strategic planning process [E,F,G]
- ⇒ Formal board approval of strategy, & establishment of targets & objectives throughout the organization to support its delivery [A,C]
- ⇒ Regular monitoring of strategy implementation through balanced scorecard [A,B,D,E,G]
- ⇒ Clear definition of responsibilities & accountabilities [B,C,D,E]
- ⇒ Performance review & appraisal processes linked to strategic objectives [B,C,D,E]
- ⇒ Integrated strategic planning, strategy implementation, & resource planning [A,B,E,F,G]
- ⇒ Constant monitoring & response to external forces, a scenario-based management program [A,B,E,F,G]
- ⇒ Capable, competent executive management [A,B,C,D,E,F,G]
- ⇒ Treasury risk management process [A,E,F,G]

Threats from Business Continuity perspective

	Threats	Risk (H/M/L)
1	2Aii - Explosion/ fire	H
2	2Aiv - Building/ structure collapse	H
3	2Bi - Terrorism (conventional, chemical, radiological, biological, cyber)	H
4	2Bii - Sabotage	H
5	2Aiii - Transportation accident	H
6	2Av - Energy/ power/ utility failure (i.e. by digging, flooding, etc.)	M
7	2Aix - Financial issues, economic depression, inflation, financial system collapse	M
8	2Axii - Information system failure (ERP, data repository, optical archive)	M
9	2Biii - Civil disturbance, public unrest, mass hysteria, riot	M
10	2Biv - Enemy attack, war	M
11	3Ai - Nuclear War/ Holocaust	M
12	1Ai - Earthquake	M
13	2Bv - Crime, fraud, illegal activity	M
14	2Bvii - Computer virus, cyber terrorism	M
15	2Ax - Major communication systems interruptions (Telephone, LAN)	M
16	2Axv - Critical contractor / vendor failure (i.e. bankruptcy, industry action, weather, etc.)	M
17	1Bv - Windstorm, tropical cyclone, hurricane, dust/ sand storm	M
18	1Ci - Diseases that impact humans and animals, epidemic (e.g. legionellosis)	M

19	1Ciii - Pandemic	H
20	2Avii - Air/ water pollution, contamination	M
21	2Axiii - Staff attrition (loss of key staff)	M
22	2Axiv - Non availability of senior management	M
23	1Bvi - Extreme temperatures (heat, cold)	M
24	2Bvi - Deliberate information security incident	M
25	1Bvii - Lightning strikes	M
26	2Axi - Hardware, equipment failure	M
27	1Aii - Tsunami	L

(TABLE 7: List of Threats)

Pandemic has been re-assessed as High threat, while it was Moderate before COVID-19

The threats are assessed based on 4 dimensions:

- Consequences on People
- Impact on Assets
- Impact on Environment
- Consequences on Reputation

Risk Assessment Matrix

The probability of the identified hazards (to business continuity) occurring should be considered more on a geographical basis, hence A becomes "Has occurred outside the Middle East", B becomes "Has occurred in Middle East" and C considers the State of Qatar and the company as one given the spread of the company in the country.

For business continuity purposes, consider all major hazards with potential severity 3 and above, hence the area of focus is within the green dashed border and contains some Low and Medium, and all High Risk areas.

					INCREASING PROBABILITY →				
Potential Severity	CONSEQUENCES				A	B	C	D	E
	People	Asset / Production	Environment	Reputation	Has Occurred outside the Middle East	Has Occurred in the Middle East	Has Occurred in Qatar / Company	Occurs several times a year in Company	Occurs several times a year at a site
INCREASING SEVERITY	0	No injury	No damage	No Effect	No Impact	No Risk			
	1	Slight injury or health affects	Slight damage. No disruption to operation	Slight Effect	Slight Impact		Low Risk		
	2	Minor injury or health affects	Minor damage (<QR 350,000)	Minor Effect	Limited Impact				
	3	Major injury or health affects	Local damage (<QR 3,500,000)	Localised Effect	National Impact			Medium Risk	
	4	Single fatality or permanent total disability	Major damage (<QR 35,000,000)	Major Effect	Regional Impact				High Risk
	5	Multiple fatalities	Extensive damage (>QR 35,000,000)	Massive Effect	International Impact				

(TABLE 8: Risk Assessment Matrix)

Business Impact Assessment (BIA)

The Business Impact Assessment (BIA) has been done with the departments' focal points and key users through which the following points have been achieved:

- Understand the business
- Assess credible threats
- Assess assets & processes criticality
- Assess threats-assets-processes inter-relationships
- Identify possible discontinuity scenarios and analyze business impact.

The above points have been achieved using standard templates have been developed internally for consistent evaluation workshops with BCP focal points and departments' key users, and validated by line management. The standard templates used were mainly MS-Excel macro enabled worksheet, with separate tabs for each of the BIA steps plus tab with detailed instructions. Worksheets were also protected, allowing for input of data but no accidental changes to structure and standing data or formulae. The macro buttons was used to make it easier to filter, copy/paste and sort data.

Consideration of COVID-19 on the business continuity plan

The following have been considered while addressing the impact of COVID-19 on the function:

A) Determine for each function:

- What are the critical tasks required to complete mandate of the asset / function
- Who is performing those critical tasks for the normal operation of the function
- What is the minimum number of resources required to complete the critical tasks
- What are the measures taken in order to ensure continuing normal operations

B) Plan for scenarios with different thresholds

- What are the options available to mitigate the situation
 - > Continue operation/function
 - > Continue operation in degraded mode (reduce output)
 - > Stop the operation/function
- What are the relevant mitigating actions for each option
- What is the prioritization of the activities (dropped/postponed) to continue operation/management of the mandate
- What is the resourcing level that triggers a stop of the function

C) Identify the interdependencies of each asset/function in case of reduction of available resources

Role criticality and unavailability definitions

Critical task: In the context of a crisis, a task required to enable the activities of ABC Oil Company's asset / function to continue operating safely

	Critical	Non-Critical
HSE events occurrence	High likelihood due to the position being vacant	Low likelihood due to the position being vacant
Negative impact on production / sales levels	High likelihood due to the position being vacant	Low likelihood due to the position being vacant
Disruption to other processes in ABC Oil Company	High likelihood due to the position being vacant	Low likelihood due to the position being vacant
Uniqueness of activities performed	Majority of activities performed unique to the company and/or the product	None of the activities performed unique to the company and/or the product

Role unavailability definition: Role unavailability is defined as a loss of at least 35% of resources during a period of 2 months or more

– 2 months defined as four cycles of the quarantine period of 14 days (incorporating estimated recovery time)

– Unavailability of resources can be due to any of the following

> Resource under quarantine and can not perform his /her activity

> Resource unable to attend to duties (due to sickness)

> Fatality

Methodology / template design

Three level or three scenarios have been considered to deal with the COVID-19 Pandemic in regard to its impact on the workforce:

First: Continue normal operations with reduced resources

Operations without significant changes in critical activities, but with possible dropping / postponement of non-critical activities, that would not increase risks (HSEQ, fault, etc.) and would not inhibit meeting the planned level of output. Department to assess the level of people in this mode.

Second: Operations in degraded mode

Dropping / postponement of certain critical / non-critical activities that potentially can lead to partial reduction in the level of output and increase risks (HSEQ, fault, etc.). Department to assess the level of people in this mode.

Third: Shutdown of operations and interruption of output due to unavailability to continue operations with the available number of resources. Department to assess the level of people in this mode.

In order to consider the COVID-19 impact to have a well prepared and adequate business continuity plan, the following template has been developed to gather the required data:

Introduction part and baseline:

E	F	G	H	I
<div style="border: 1px solid red; padding: 5px;"> Critical task: In the context of a crisis, a task required to enable the activities of asset/ function to continue operating safely </div>		Baseline FTE		
Is the role/task critical for				

- In the column “F” of the template define whether the role is critical to continue operations in normal mode
- In the columns “H” and “I” fill in the number of outsourced contractors and number of service contractor resources respectively
- In the column “J” provide 2 key critical for operations activities performed by a specific role.

Normal operations (reduced resources):

K	L	M	
Continue operations (reduced resources)			
	Measures taken to continue	Risks related to running	

- In the column “K” for each role provide the minimum number of employees that are critical to continue normal operations
- In the column “L” list all activities that are already implemented to continue normal operations, e.g. restrictions on travelling, providing protection equipment, etc.
- In the column “M” list all risks related to running operations with reduced resources, e.g. risk of injury, fault, etc.
- In the column “N” list all actions to reduce impact of lower resources, e.g. overtime, cancellation of leaves, training, etc.
- In the column “O” define potential impact on assets / functions

Degraded mode:

P	Q	R	
---	---	---	--

Degraded mode			
Minimum number of		Risks related to running	

- In the column “P” provide the minimum number of employees that are critical to continue operations in degraded mode
- In the column “Q” list all activities that need to be done to operate in degraded mode
- In the column “R” list all risks related to running operations with reduced resources in degraded mode, e.g. risk of injury, fault, etc.
- In the column “S” list all activities to reduce impact of lower number of resources, e.g. increase overtime, conduct trainings, etc.
- In the column “T” define potential impact on assets / functions

Stop operations:

U	V	W
Stop operations		
Critical number of	What impact on a	Impact on other assets /

- In the column “U” provide the minimum level of employees below which it is not possible to continue operations
- In the column “V” provide details on what impact on a function the interruption of the operation / activity will have?
- In the column “W” define potential impact on assets / functions
- In the column “X” provide details on strategy to be adopted in the case of asset / function shutdown

After applying this model to Strategic Planning department, the result was as follows:

Preventive actions to prevent deviation from current mode	Normal operations with reduced resources	Degraded mode	Stop operations mode
<p>Maximize remote work with access to the company tools when possible</p> <p>Identify and ensure availability of back-up staff</p> <p>Prepare delegation of activities for those who could be on leave/ inaccessible/ quarantined</p> <p>Ensure Standard operating procedures awareness by all employees</p>	<p>Postpone or hold non-critical activities and projects</p> <p>Adopt staff rotation around the week to ensure paper workflows uninterrupted</p> <p>Redistribute activities to the available manpower</p> <p>Increase overtime use to compensate for reduced resource</p> <p>Impose restrictions on travel/leaves for the existing staff wherever necessary</p>	<p>Perform critical tasks only (e.g. responding to requests from CEO/ EVP, budget management, cost control related activities, etc)</p> <p>Postpone issuance of non-critical reports and management information</p> <p>Impose restrictions on the number of activities conducted</p> <p>Ensure maximum number of employees available by cancellation of non-urgent leaves</p> <p>Perform only most critical tasks and controls activities if staff is available</p> <p>Ensure appropriate reallocation and delegation of tasks/ activities</p>	<p>Postpone all planning activities (no significant impact on operations)</p> <p>Stop ERM activities, issuance of reports and budgeting processes</p> <p>Remove budget check from system and ensure availability of signatory authority for budgeting deviation requests</p> <p>Full shutdown of the department for a short period of time is possible since there is no significant impact on operations</p>
Baseline FTE	Normal operations with reduced resources	Degraded Mode	Stop Operations
25 employees	12 employees	6 employees	2 employees

The Strategic Planning department assessed that if the number of Full Time Employees (FTE) reduced from 25 to 12, they would move from the normal operation to reduced outputs. If the

number of Full Time Employees (FTE) has further reduced to 6, they would be moving to the degraded mode. And they could stop operation if the number of Full Time Employees (FTE) is declined to only 2 employees.

This assessment helped the department to plan their resources and the process outputs effectively and efficiently during the Pandemic.

2- Internal Audit

Internal audit department was excluded from the workshops as they declined the request to participate because their entire team was busy in conducting audit during the research time.

3- Corporate Governance Department

Description

Corporate governance constitutes the processes and structures which ensures for the shareholder and other stakeholders, proper management of the corporation.

Corporate governance defines the rules within which the Board or Directors must operate, and the management and internal control frameworks which seek to ensure that the company is soundly operated.

Process Objectives

1. Ensure that appropriate systems of management & internal control & a sound control environment exist
2. Ensure effective management of the business
3. Ensure strategy implementation
4. Ensure compliance with regulatory requirements
5. Establish the appropriate organisational structure to meet business objectives
6. Report to shareholders & other internal & external stakeholders
7. Protecting the corporate image

Critical Success Factors (CSF's) linked to the process objectives

A. Positive investor reaction & opinion [2,3,4,6,7]

- B. Smooth integration of new acquisitions [1,2,3,4,5]
- C. Asset disposals with minimum residual liability [1,2,3,4,5]
- D. Compliance with laws & regulations [1,2,4,5,7]
- E. Protection of Board members (i.e. Director's liability) [1,2,3,4,5,6,7]
- F. Ensuring the achievement of the entity's strategic objectives (i.e. year-on-year growth of net asset value) [1,2,3,4,5,6,7]

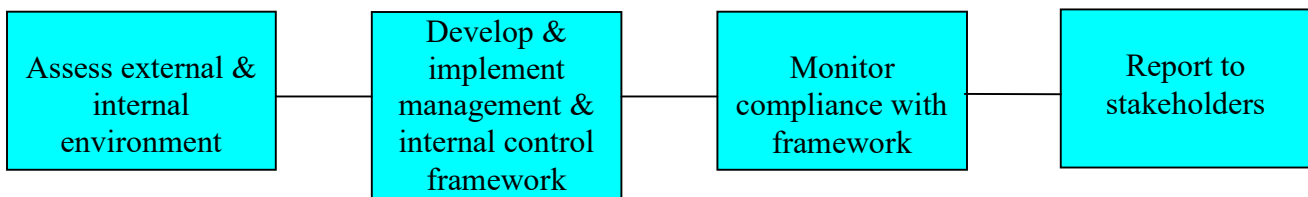
KPI's linked to CSF's

- ⇒ Share price; analyst ratings; earnings per share; cash flow per share [A,B,C,D,F]
- ⇒ Return on assets; return on equity [A,B,C,D,F]
- ⇒ H,S&E statistics, major incident rates & prosecutions [D]
- ⇒ Improvements in Key Performance Indicators (KPI's) of acquired entities [B]
- ⇒ Exposures [B,C,D]
- ⇒ Results of opinion surveys amongst public & stakeholders [A]
- ⇒ Director's liability insurance [E]
- ⇒ Directors as shareholders [A,B,C,D,F]

Inputs

- Strategic plan
- Shareholder/Other stakeholder needs
- Legislation
- Budgets
- Financial market expectations
- Financial projections
- Regulations
- Economic & political factors
- Capital requirements
- Historical performance
- Current performance
- Internal & external audit reports

Activities



Outputs

- Organizational structure & allocation of responsibilities & accountabilities
- System of management & internal controls
- Senior Executive succession plan
- Communication program
- Accounting policy
- Financial & non-financial targets
- Policies to safeguard & control capital & cash
- Performance stewardship
- Exception reporting
- Ethics policy
- Security policies for assets, data & people

Systems

- Management information systems
- Internal control systems

Risks Which Threaten Objectives

- A. Undue influence by management over financial reporting, in order to achieve specified financial reporting objectives [1,2,6,7]
- B. Management & internal control framework not developed or not implemented [1,2,4,6,7]
- C. Ineffective board [1,2,3,4,5,6,7]
- D. Conflicts of interest [1,2,6,7]
- E. Major crises [2,3,4,7]

Management Responses Linked to Risks

- ⇒ Appoint experienced, independent, & competent non-executive directors [A,C]
- ⇒ Establish independent & active Audit Committee [A,B]
- ⇒ Proactive reporting & investor relationship management [C]
- ⇒ Annual Letter of Assurance of Compliance from operating units [D]
- ⇒ Establish/outsourced to competent, independent, internal audit group [A,B]
- ⇒ Risk assessment process [B,E]
- ⇒ Policies and procedures [A,B,D,E]

Pandemic has been re-assessed as High threat, while it was Moderate before COVID-19

The threats are assessed based on 4 dimensions:

- Consequences on People
- Impact on Assets
- Impact on Environment
- Consequences on Reputation

Risk Assessment Matrix

The probability of the identified hazards (to business continuity) occurring should be considered more on a geographical basis, hence A becomes "Has occurred outside the Middle East", B becomes "Has occurred in Middle East" and C considers the State of Qatar and the company as one given the spread of the company in the country.

For business continuity purposes, consider all major hazards with potential severity 3 and above, hence the area of focus is within the green dashed border and contains some Low and Medium, and all High Risk areas.

Business Impact Assessment (BIA)

The Business Impact Assessment (BIA) has been done with the departments' focal points and key users through which the following points have been achieved:

- Understand the business
- Assess credible threats
- Assess assets & processes criticality
- Assess threats-assets-processes inter-relationships
- Identify possible discontinuity scenarios and analyze business impact.

The above points have been achieved using standard templates have been developed internally for consistent evaluation workshops with BCP focal points and departments' key users, and validated by line management. The standard templates used were mainly MS-Excel macro enabled worksheet, with separate tabs for each of the BIA steps plus tab with detailed instructions. Worksheets were also protected, allowing for input of data but no accidental

changes to structure and standing data or formulae. The macro buttons was used to make it easier to filter, copy/paste and sort data.

Consideration of COVID-19 on the business continuity plan

The following have been considered while addressing the impact of COVID-19 on the function:

A) Determine for each function:

- What are the critical tasks required to complete mandate of the asset / function
- Who is performing those critical tasks for the normal operation of the function
- What is the minimum number of resources required to complete the critical tasks
- What are the measures taken in order to ensure continuing normal operations

B) Plan for scenarios with different thresholds

- What are the options available to mitigate the situation
 - > Continue operation/function
 - > Continue operation in degraded mode (reduce output)
 - > Stop the operation/function
- What are the relevant mitigating actions for each option
- What is the prioritization of the activities (dropped/postponed) to continue operation/management of the mandate
- What is the resourcing level that triggers a stop of the function

C) Identify the interdependencies of each asset/function in case of reduction of available resources

Role criticality and unavailability definitions

Critical task: In the context of a crisis, a task required to enable the activities of ABC Oil Company's asset / function to continue operating safely

	Critical	Non-Critical
HSE events occurrence	High likelihood due to the position being vacant	Low likelihood due to the position being vacant
Negative impact on production / sales levels	High likelihood due to the position being vacant	Low likelihood due to the position being vacant
Disruption to other processes in ABC Oil Company	High likelihood due to the position being vacant	Low likelihood due to the position being vacant

Uniqueness of activities performed	Majority of activities performed unique to the company and/or the product	None of the activities performed unique to the company and/or the product
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Role unavailability definition: Role unavailability is defined as a loss of at least 35% of resources during a period of 2 months or more

– 2 months defined as four cycles of the quarantine period of 14 days (incorporating estimated recovery time)

– Unavailability of resources can be due to any of the following

> Resource under quarantine and can not perform his /her activity

> Resource unable to attend to duties (due to sickness)

> Fatality

Methodology / template design

Three level or three scenarios have been considered to deal with the COVID-19 Pandemic in regard to its impact on the workforce:

First: Continue normal operations with reduced resources

Operations without significant changes in critical activities, but with possible dropping / postponement of non-critical activities, that would not increase risks (HSEQ, fault, etc.) and would not inhibit meeting the planned level of output. Department to assess the level of people in this mode.

Second: Operations in degraded mode

Dropping / postponement of certain critical / non-critical activities that potentially can lead to partial reduction in the level of output and increase risks (HSEQ, fault, etc.). Department to assess the level of people in this mode.

Third: Shutdown of operations and interruption of output due to unavailability to continue operations with the available number of resources. Department to assess the level of people in this mode.

Outcomes of the workshop with Corporate Governance department are summarized below

Preventive actions to prevent deviation from current mode	Normal operations with reduced resources	Degraded mode	Stop operations mode
<p>Maximize remote work with access to the company tools when possible</p> <p>Identify and ensure availability of back-up staff</p> <p>Prepare delegation of activities for those who could be on leave/ inaccessible/ quarantined</p> <p>Ensure Standard operating procedures awareness by all employees</p>	<p>Postpone or hold non-critical activities and projects</p> <p>Adopt staff rotation around the week to ensure paper workflows uninterrupted</p> <p>Redistribute activities to the available manpower</p> <p>Increase overtime use to compensate for reduced resource</p> <p>Impose restrictions on travel/leaves for the existing staff wherever necessary</p>	<p>Perform critical tasks only (e.g. responding to requests from CEO/ EVP, budget management, cost control related activities, etc)</p> <p>Postpone issuance of non-critical reports and management information</p> <p>Impose restrictions on the number of activities conducted</p> <p>Ensure maximum number of employees available by cancellation of non-urgent leaves</p> <p>Perform only most critical tasks and controls activities if staff is available</p> <p>Ensure appropriate reallocation and delegation of tasks/ activities</p>	<p>Postpone all planning activities (no significant impact on operations)</p> <p>Stop ERM activities, issuance of reports and budgeting processes</p> <p>Remove budget check from system and ensure availability of signatory authority for budgeting deviation requests</p> <p>Full shutdown of the department for a short period of time is possible since there is no significant impact on operations</p>
<p>Baseline FTE</p> <p>15 employees</p>	<p>Normal operations with reduced resources</p> <p>9 employees</p>	<p>Degraded Mode</p> <p>4 employees</p>	<p>Stop Operations</p> <p>2 employees</p>

The Corporate Governance department assessed that if the number of Full Time Employees (FTE) reduced from 15 to 9, they would move from the normal operation to reduced outputs. If

the number of Full Time Employees (FTE) has further reduced to 4, they would be moving to the degraded mode. And they could stop operation if the number of Full Time Employees (FTE) is declined to only 2 employees.

This assessment helped the department to plan their resources and the process outputs effectively and efficiently during the Pandemic.

4- Exploration

Description

This core business process describes the key elements of identifying exploration opportunities, deal assembly/land acquisition, and exploration drilling and evaluation. The business process objective is to find economically recoverable reserves.

Sub-Process Components

Identifying Exploration Opportunities	Deal Assembly/Land Acquisition	Exploration Drilling and Evaluation
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Identifying Exploration Opportunities

Description

This process describes the key elements of identifying exploration opportunities, which includes the initial gathering and analysis of technical information through to the decision on whether to pursue an opportunity (a commitment of funds). The success of an exploration programme is dependent upon the correct evaluation of opportunities.

Process Objectives

1. Identify exploration opportunities (region, basin, play, prospect)
2. Identify economic exploration opportunities
3. Develop prospect inventory
4. Manage regional/political/commodity risks in terms of business strategy, which fits the

corporate growth risk profile

5. Select best prospects for the corporate strategy

Critical Success Factors (CSF's) linked to process objectives

- A. Selected opportunities must meet corporate objectives [5]
- B. Rigorous scientific and economic analysis [1,2,3,4,5]
- C. Correct evaluation of available information [1,2,3,4,5]
- D. Experienced exploration staff [1,2,3]
- E. Balance of skills in exploration department between technical and business and risk [1,2,3,4,5]
- F. Positive relations with host government agencies [4,5]
- G. Need to understand markets (gas opportunities) [4,5]

KPI's linked to CSF's

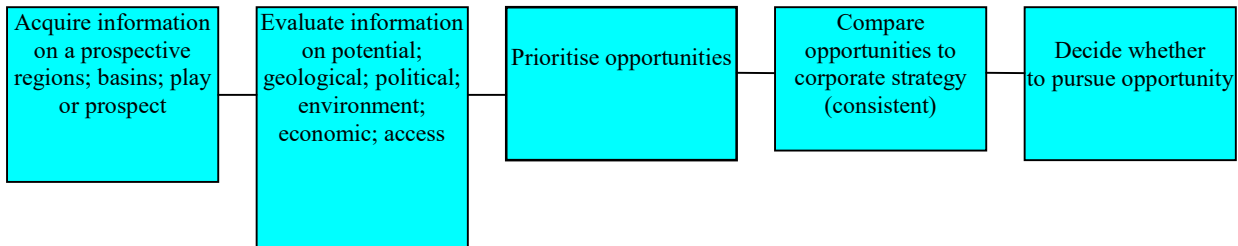
- ⇒ Achieving business plan [A,C]
- ⇒ Reserve expectations and replacement [A,B,C,D,E]
- ⇒ Exploration drilling success rate [B,C,D]
- ⇒ Finding costs [D,E]
- ⇒ Size of field [A,C,D]
- ⇒ Core competencies meet requirement [A,C,D,E,G]
- ⇒ Disputes [F]
- ⇒ New commercial gas contracts [C,G]
- ⇒ Risk Reserve ENPV [B,C,D,E]
- ⇒ Number of government reprimands/application denials [F]

Inputs

- Available seismic, well, or other relevant geoscience data
- Costs
- Political risk information
- Regulatory information
- Fiscal regime
- Available technology

- Previous exploration results
- Product prices and economic issues
- Strategic plans

Activities



Outputs

- Exploration programme including reserve potential and risk profile
- Prioritised list of prospective opportunities
- Exploration capital expenditure plan
- Reserve and value expectation (including exposure and chance of success)

Systems

- Geological and geophysical data bases (and interpretation systems) and other geotechnical systems
- Economic modeling packages
- Exploration risk assessment
- Capital approval system

Risks Which Threaten Objectives

- A. Strategic focus is wrong [4,5]
- B. Not having complete or accurate information available [1,2,3,4,5]
- C. Incorrect or biased evaluation of information available [1,2,3,4,5]

- D. Management not fully understanding/complying with business strategy which leads to poor decisions [4,5]
- E. Financial costs of implementing programme/technology not fully understood [2,4,5]
- F. Poor timing of evaluation or decision making leading to missed opportunities [5]
- G. Inexperienced staff/consultants [1,2,3,4,5]

Management Responses Linked to Risks

- ⇒ Corporate review (independent of operations) [A,D,E]
- ⇒ Due diligence [B,C,E,G]
- ⇒ Appropriate technical expertise and resources [B,C,E,G]
- ⇒ Data quality controls [B,E]
- ⇒ Effective technical review process [B,C,E,F,G]
- ⇒ Multidisciplinary team [B,C,E]
- ⇒ Capital Approval Process [C,D,E]
- ⇒ Effective and standard evaluation criteria [C,E,F,G]
- ⇒ Appropriate resources allocated to support strategic plan [C,E,F,G]
- ⇒ Core competency development plan [C,E,G]

Deal Assembly / Land Acquisition

Description

This process describes the legal and contractual activities required to enable an exploration opportunity to be converted to a seismic or drilling project or programme.

Process Objectives

1. Obtain or acquire access ownership to mineral rights
2. Evaluate and assemble joint venture partners
3. Obtain a joint venture contract
4. Negotiate the best possible deal

Critical Success Factors (CSF's) linked to process objectives

- A. Understanding the legal, regulatory, and commercial issues [1,2,3,4]
- B. Win at the “right” price [1,2,3,4]
- C. Ability to negotiate appropriate and timely contracts [1,2,3,4]
- D. Relationship with government or potential industry partners [1,2,3,4]

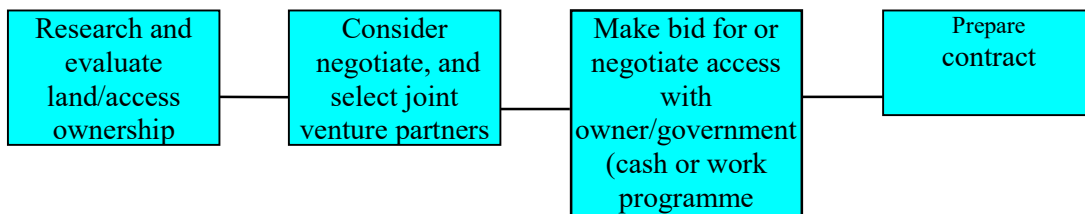
KPI's linked to CSF's

- ⇒ Number of disputes [D]
- ⇒ Quality/quantity of prospects secured for company [B,C]
- ⇒ Closing sufficient deals to meet corporate objectives [A,B,C,D]
- ⇒ Success rate for deal closure [A,B,C,D]
- ⇒ Cost per lease, license, or work agreement [B]
- ⇒ Obtaining deals within pre determined levels of commitment [A,B,C,D]

Inputs

- Exploration programme and evaluation
- Land ownership/access systems
- Economic assumptions
- List of potential joint venture
- Strategic plan
- Legislation requirements
- Reserve estimates

Activities



Outputs

- Joint venture agreement
- Agreement/commitment with
- Operatorship

- Permit or license award government/owner
- Working interest participation

Systems

- Systems would be largely written and oral communication/ presentations
- Land management
- Capital approval system
- Fixed asset register
- Regulatory

Risks Which Threaten Objectives

- A. Pay too much or over committing on work programme for permit/lease [1,4]
- B. Unsuccessful in obtaining exploration rights [1]
- C. Poor due diligence [2,4]
- D. Inability to complete transactions in a timely manner [1,2,3,4]
- E. Selecting inappropriate partnerships [2,3,4]
- F. Poor Government/owner relationships [1,2,3,4]

Management Responses Linked to Risks

- ⇒ Review performance against exploration plan [A]
- ⇒ Maintain lease files [A,C,F]
- ⇒ Effective due diligence process [B,C,E]
- ⇒ Effective & efficient internal evaluation & approval process [B,D]
- ⇒ Ongoing public relations, timely communication & reporting [F]
- ⇒ Dedicated Joint Venture group [F]

Exploration Drilling and Evaluation

Description

This process describes the key elements of determining where you will drill a well through to actually drilling a well and analyzing the results. This process verifies whether your evaluation of opportunities was correct.

Process Objectives

1. Validate exploration drilling plays or prospects
2. Drill successful exploration wells (economically recoverable reserves)
3. Incur costs within budget
4. Maximise economic risked recoverable reserves
5. Build up knowledge on exploration play and prospects
6. Complete operation in a safe, hazard-free manner

Critical Success Factors (CSF's) linked to process objectives

- A. Prospect evaluation and ranking process [1,2,4]
- B. Project planning and management process [1,2,3,6]
- C. Effective management of drilling [1,2,3,4,6]
- D. Selecting quality drilling contractor and service companies [1,2,3,4,5,6]
- E. Safety & environmental programs [6]
- F. Relationship with government/owner [1,2,3,4,5,6]
- G. Application of appropriate technology [1,2,3,4,5,6]

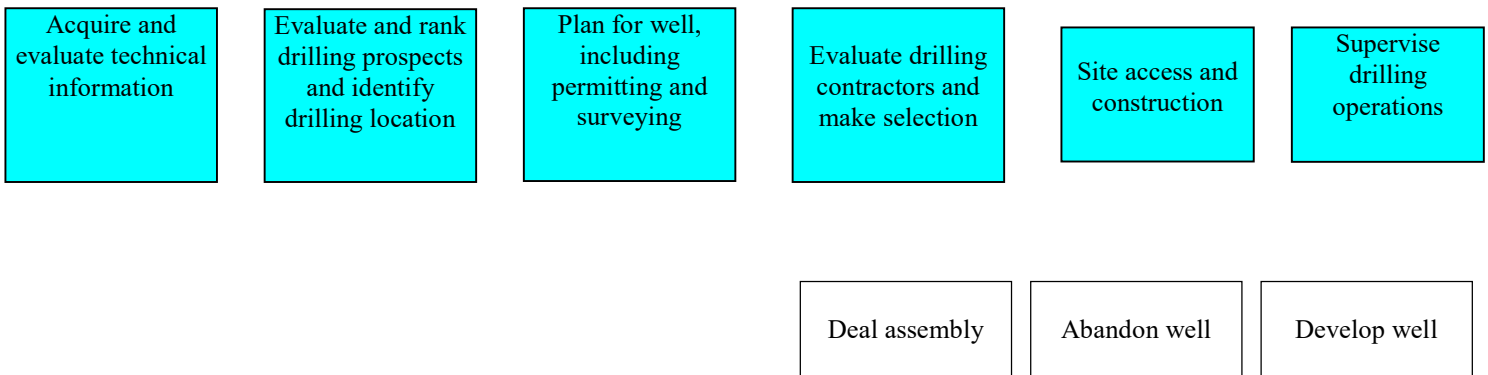
KPI's linked to CSF's

- ⇒ Reserves found against expectations [A,G]
- ⇒ Finding costs per BOE [A,C,G]
- ⇒ Cost and time relative to budget [B,C]
- ⇒ Internal rate of return [A,B,C,D,G]
- ⇒ Number of violations, injuries and near misses [E]
- ⇒ Number of disputes [F]
- ⇒ Well productivity [A,C,G]
- ⇒ ROI, NPV, Payback [A,C,G]

Inputs

- Prospect evaluation
- Available seismic and technical data
- Service providers
- Leases/ownership
- Contractual obligations
- Drilling licences
- Economic evaluation
- Exploration programme
- Drilling campaign plan
- Budget
- Drilling and service contracts

Activities



Outputs

- Ranking of exploration prospects risk analysis
- Exploratory follow-up plan
- Abandonment plan
- Drilling reports and well data
- Well results
- Discovered reserves
- New technical information

Systems

- Risk analysis
- Technical
- Approval system
- Capital expenditure control
- Production history
- Drilling (technical information, lease construct
- Project management
- Marketing
- Reserves valuation
- Material management

Risks Which Threaten Objectives

- A. Poor evaluation of technical data [1,2,3,4,5,6]
- B. A number of technical or unforeseen drilling risks [2,3,4,6]
- C. Cost “blowouts” (overruns) [2,3,4,6]
- D. Delays/Supplier availability [3,4,5]
- E. Safety and environmental hazards [3,4,6]
- F. Lack of agreement with joint venture partners [1,2,3,4,5,6]
- G. Falling commodity prices [2,3,4,5]
- H. Equipment failure [1,2,3,4,5,6]

Management Responses Linked to Risks

- ⇒ Effective technical review process [A,B,C,E,F]
- ⇒ Real time monitoring of costs [C,F]
- ⇒ Effective planning, scheduling, & project management process [C,D,F,G]
- ⇒ Corporate policy for Environment, Health & Safety standards [C,E,F,H]
- ⇒ Policy for supplier standards (e.g.. ISO 9000/9001 Y2K compliant etc.) [C,E,F,H]
- ⇒ Dedicated Joint Ventures group [C,E,F]
- ⇒ Cost control process/policy (monitoring procedure, authorization limits, clear roles, responsibilities, & accountabilities, capitalizing internal costs & interest, etc.) [C,F]

Threats from Business Continuity perspective and Risk Assessment Matrix are the same as used in the previous process

Consideration of COVID-19 on the business continuity is assessed using the same template as in the previous processes.

Outcomes of the workshop with Exploration department are summarized below

Preventive actions to prevent deviation from current mode	Normal operations with reduced resources	Degraded mode	Stop operations mode
Maximize remote	Postpone or hold non-	Perform critical tasks	Postpone all planning

<p>work with access to the company tools when possible</p> <p>Identify and ensure availability of back-up staff</p> <p>Prepare delegation of activities for those who could be on leave/ inaccessible/ quarantined</p> <p>Ensure Standard operating procedures awareness by all employees</p>	<p>critical activities and projects</p> <p>Adopt staff rotation around the week to ensure paper workflows uninterrupted</p> <p>Redistribute activities to the available manpower</p> <p>Increase overtime use to compensate for reduced resource</p> <p>Impose restrictions on travel/leaves for the existing staff wherever necessary</p>	<p>only (e.g. responding to requests from CEO/ EVP, budget management, cost control related activities, etc)</p> <p>Postpone issuance of non-critical reports and management information</p> <p>Impose restrictions on the number of activities conducted</p> <p>Ensure maximum number of employees available by cancellation of non-urgent leaves</p> <p>Perform only most critical tasks and controls activities if staff is available</p> <p>Ensure appropriate reallocation and delegation of tasks/ activities</p>	<p>activities (no significant impact on operations)</p> <p>Stop ERM activities, issuance of reports and budgeting processes</p> <p>Remove budget check from system and ensure availability of signatory authority for budgeting deviation requests</p> <p>Full shutdown of the department is not an option as it has significant impact on operations</p>
<p>Baseline FTE</p> <p>247 employees</p>	<p>Normal operations with reduced resources</p> <p>190 employees</p>	<p>Degraded Mode</p> <p>88 employees</p>	<p>Stop Operations</p> <p>NA</p>

The Exploration department assessed that if the number of Full Time Employees (FTE) reduced from 247 to 190, they would move from the normal operation to reduced outputs. If the number of Full Time Employees (FTE) has further reduced to 88, they would be moving to the degraded mode. Stopping the operation is not an option for them as they have a significant impact on the operation. Therefore, they mitigate the situation by engaging with external providers and outsourced agencies to remain operating if the number of employees dropped below 88

employees. This assessment helped the department to plan their resources and the process outputs effectively and efficiently during the Pandemic.

5- Development & Production

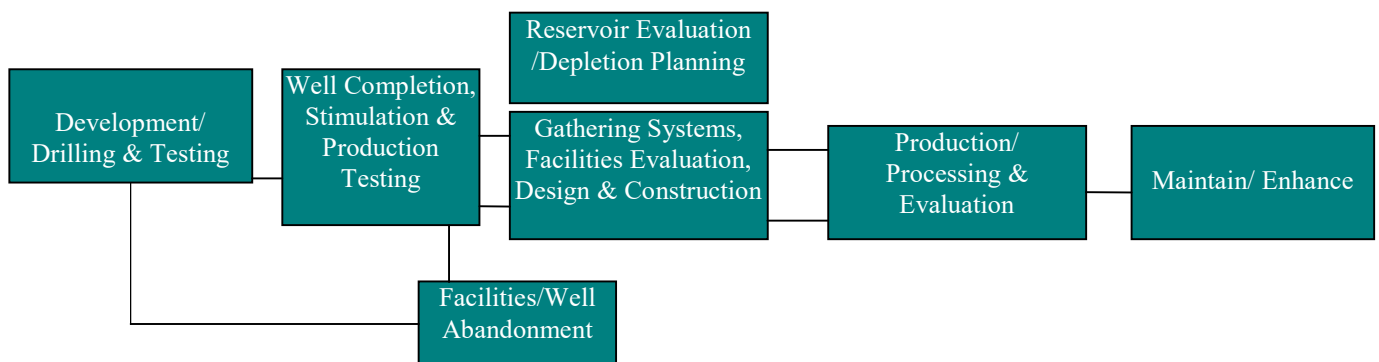
Description

Production is the process where incremental value is added to an oil and gas company. Development and production can be broken down into:

- The early phase of exploitation/ development; delineation drilling of a hydrocarbon discovery [exploitation/development]; and
- Value extraction taking place as produced hydrocarbons are sold.

Development and production involve a significant amount of analysis and interpretation of geological, geophysical, and engineering data to determine the most efficient and effective mechanism for producing, maintaining & enhancing hydrocarbon reservoir performance. Exploitation/Development links to production in that the combination of these two phases provides the primary means of value extraction within the oil & gas industry.

Sub Process Components



Development Drilling & Testing

Description

This process describes how incremental value is added to an exploration discovery or an existing field or pool.

Process Objectives

1. To delineate an exploratory discovery or in-fill an existing field or pool
2. To determine the commercial viability of a well/pool/field (Proven reserve adds)
3. To gather drilling, geological, geophysical, & testing data for further analysis
4. To complete operations in a safe, hazard-free manner

Critical Success Factors (CSF's) linked to process objectives

- A. Accurate prospect generation & well prognosis [1,2,4]
- B. Supplier selection [1,2,3,4]
- C. Well planning process [1,2,4]
- D. Timely permit/license/access approvals [1,2,3]
- E. Quick tie-in of production (hook-up) [2,3]
- F. Safety & environmental programs [4]
- G. Relationship with governments / owners [1,2,3,4]
- H. Application of appropriate technology [1,2,3,4]

KPI's linked to CSF's

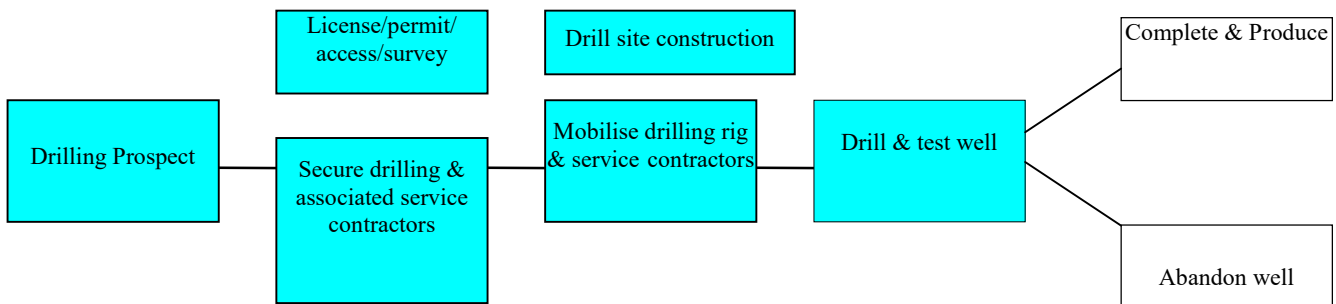
- ⇒ Drilling success rate [A,H]
- ⇒ Finding & development costs (F&D/BOE) [A,C,H]
- ⇒ Supplier integration [B,C,E,H]
- ⇒ Proven reserve adds [A,H]
- ⇒ Economic profit (EP) [A,H]
- ⇒ Permit/license/access acceptance time [D]

- ⇒ Number of violations, injuries, near misses [F]
- ⇒ Number of disputes [G]
- ⇒ Well productivity [A,C,H]
- ⇒ ROI, NPV, Payback [A,C,H]
- ⇒ Drilling time & cost measurement [C]
- ⇒ Time to well tie-in [E]

Inputs

- Drilling prospect/location (geological/geophysical)
- Drilling license/permit (Government)
- Exploratory follow-on plan
- Surface access [onshore]
- Drilling contractor
- Discovery well data
- Authorisation for expenditure
- Service providers (testing, mud logging, wireline, supply boats, helicopter, etc.)
- Project economics

Activities



Outputs

- Well test data (e.g. DST, RFT, etc.)
- Geological & Geophysical data (e.g. core, wirelines, chip samples, VSP., etc.)
- Risk reassessment
- Project economics
- Hydrocarbon production (potential)

Systems

- Capital expenditure control
- Project management
- Marketing
- Drilling (technical, information, lease construction)
- Reserves valuation
- Production history
- Materials management
- Accounts payable

Risks Which Threaten Objectives

- A. Delays in permitting, licensing, access approvals [1,2]
- B. Inclement weather conditions [1,2,3,4]
- C. Safety & environmental hazards [2,4]
- D. Unexpected downhole drilling conditions (e.g. over-pressure, sloughing shale, etc.) [2,3,4]
- E. Unavailability of service providers (shortage of equipment/staff) [1,2,3,4]
- F. Inexperienced staff/contractors/suppliers [2,3,4]
- G. Falling commodity price [1,2,3,4]
- H. Cost overruns [2]
- I. Equipment failure [1,2,3,4]
- J. Lack of agreement with joint venture partners [1,2,3,4]

Management Responses Linked to Risks

- ⇒ Effective planning, scheduling, & project management process [A,B,E,F,G,H,J]
- ⇒ Policy for Supplier standards (e.g. ISO9000/9001, Y2K compliant, etc.) [C,F,H,,JI]
- ⇒ Corporate policy for environment, health, & safety standards [C,F,H,I,J]
- ⇒ Timely, accurate drilling reports for review by management [H,J]
- ⇒ Effective technical review process (pre & post drilling) [C,D,F,J]
- ⇒ Core competency development plan [F]
- ⇒ Cost control process/policy (monitoring procedure, authorisation limits, clear roles, responsibilities, & accountabilities, capitalising internal costs & interest, etc.) [H,J]
- ⇒ Dedicated Joint Ventures Group [C,H,J]

Well Completions, Stimulation & Production Testing

Description

This process describes the key elements of completing and stimulating a well to enable production to commence.

Process Objectives

1. To ensure wellbore is production-ready
2. To enhance a hydrocarbon reservoir's near-wellbore conditions for maximum productivity
3. To evaluate well productivity & reservoir performance
4. To conduct operations in a safe, hazard-free manner

Critical Success Factors (CSF's) linked to process objectives

- A. Application of appropriate technology [1,2,3,4]
- B. No E,H, &S incidents [1,2,3,4]
- C. Supplier selection process [1,2,3,4]
- D. Meet or exceed risked economic criteria [2]

KPI's linked to CSF's

- ⇒ Well productivity [A,D]
- ⇒ ROI, NPV, Payback [A,D]
- ⇒ Number of violations, injuries, near misses [B,C]
- ⇒ Cost of time relative budget [A,C]
- ⇒ Well "up time" [A,D]

Inputs

- Production history (offset wells)
- Well accessibility/surface
- Reservoir data/conditions (e.g. reservoir pressure, temperature, nature of the
- Authorisation for expenditure
- Service providers/Suppliers
- Well completion/stimulation

- | | | |
|-------------------------|------------------------------|------------------------|
| access | hydrocarbons & associated | design |
| • Project economics | by-products, DST data, water | • Materials management |
| • Well test data | production, etc.) | • Regulatory approval |
| • Reservoir description | | |

Activities



Outputs

- | | | |
|---|--------------------------------------|---|
| • Well productivity (production pressures, production decline data, etc.) | • Facilities capability requirements | • Fluid ratios (e.g. oil:water; gas:oil; gas:liquids; etc.) |
| | • Reservoir quality assessment | • Abandonment plan |
| | • H,S&E reporting | |

Systems

- | | | |
|-------------------------------|-----------------------|------------------------|
| • Capital expenditure control | • Reserves valuation | • Supplier bid process |
| • Project management | • E, H, &S compliance | • Materials management |
| • Marketing | | • Accounts payable |

Risks Which Threaten Objectives

- A. Equipment failure [1,2,3,4]
- B. Unexpected borehole/reservoir conditions [1,2,3,4]
- C. Inclement weather [1,2,3,4]
- D. Safety & environmental hazards [1,2,3,4]
- E. Inappropriate technology selection [1,2,3,4]
- F. Inexperienced staff/contractor/supplier [1,2,3,4]

- G. Poor or incomplete input data [1,2,3,4]
- H. Poor systems/procedures [1,2,3,4]
- I. Cost overruns [1,2]
- J. Poor relationship with government / ownership [1,2,3,4]

Management Responses Linked to Risks

- ⇒ Policy for supplier standards [A,F,J]
- ⇒ Corporate policy for environment, health, & safety standards [A,D,F,I,J]
- ⇒ Effective technical review process (pre & post completion) [A,B,E]
- ⇒ Core competency development plan [A,F]
- ⇒ Timely, accurate completion reports for review by management [G,I,J]
- ⇒ Effective planning, scheduling, & project management process [C,D,H,I]
- ⇒ Cost control process/policy (monitoring procedure, authorization limits, clear roles, responsibilities, & accountabilities, capitalizing internal costs & interest, etc.) [H,I]
- ⇒ Best practices (benchmark data) [A,D,E,F,G,H,I,J]
- ⇒ Maintenance policy & procedures in place & practised [A,D,H]
- ⇒ Timely, accurate communication with Government & Owners [J]

Reservoir Evaluation / Depletion Planning

Description

This process describes the key elements of evaluating the extent and quality of reserves, and planning future production.

Process Objectives

1. To maximize economic hydrocarbon recovery
2. To maximize net cash flow
3. To provide a production forecast
4. To provide a plan for reservoir management

Critical Success Factors (CSF's) linked to process objectives

- A. Accurate reservoir model [1,2]

- B. Competent, qualified technical staff [1,2,3,4]
- C. Selection of appropriate technology [1,2]
- D. Cost estimation capability [1,2,3,4]
- E. Accurate price forecasts [1,2]

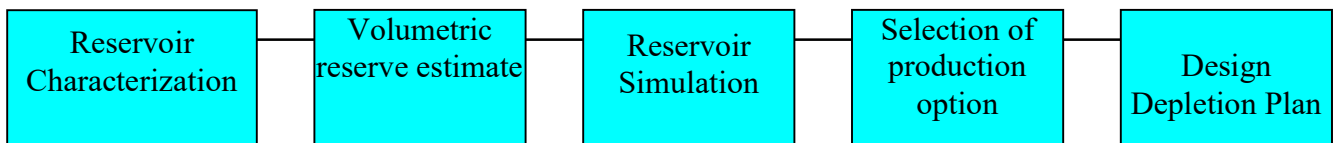
KPI's linked to CSF's

- ⇒ Development drilling plan on technical prognosis [A,B,C]
- ⇒ Production meets or exceeds plan [A,B,C]
- ⇒ Historical performance & years experience of staff [B,D]
- ⇒ Cost consistent with projections [D]
- ⇒ Net profits [E]

Inputs

- | | | |
|-------------------------|-----------------------|--|
| • Well test data | • Price forecasts | • Environmental & regulatory constraints |
| • Reservoir description | • Economics/cost data | • Corporate objectives |
| • Capital requirements | • Technology options | |

Activities



Outputs

- | | | |
|--------------------------------|-------------------------------|------------------------------|
| • Unitization parameters | • Facility requirements | • Reserve valuation |
| • Project economics | • Capital budget requirements | • Production forecast / plan |
| • Development drilling program | • Depletion plan | |

Systems

- Project management
- Reserves valuation
- Gas sales nominations
- Reservoir modelling

Risks Which Threaten Objectives

- A. Poor/incomplete data [1,2,3,4]
- B. Inexperienced staff/contractors/suppliers [1,2,3,4]
- C. Falling commodity prices [1,2]
- D. High costs [1,2]
- E. Inappropriate technology selection [1,2]
- F. Inappropriate royalty & tax structure [1,2]
- G. Poor technical standards & procedures [1,2,3,4]

Management Responses Linked to Risks

- ⇒ Effective planning, scheduling, & project management process [C,D,G]
- ⇒ Data quality controls [A,G]
- ⇒ Core competency development plan [B,E]
- ⇒ Treasury risk management [A,C,D,F]
- ⇒ Economic modeling [C,D,F]
- ⇒ Effective technical review process [A,B,E]

Gathering and Facility Evaluation, Design, and Construction

Description

This process describes the activities to enable the necessary infrastructure to be built through to actually building the infrastructure.

Process Objectives

1. To maximize net revenue stream
2. To develop infrastructure to meet future needs
3. To provide physical systems for hydrocarbon production, processing, & delivery

4. To meet customer requirements (e.g. delivery issues, quality of product, etc.)
5. To minimize environment, health, & safety issues

Critical Success Factors (CSF's) linked to process objectives

- A. Accurate depletion plan [1,2,4]
- B. Accurate cost estimation [1,2,3,4]
- C. Project management (e.g. on time, on budget, acceptable quality etc.) [1,2,3,4]
- D. Accurate competitor/market assessment [1,2,4]
- E. Consistent with corporate objectives [2,4]
- F. Regulatory approval [1,2,3,4]
- G. No E,H,&S incidents [5]

KPI's linked to CSF's

- ⇒ Economic profit (EP) [A,B]
- ⇒ Operating cost/BOE [A,B]
- ⇒ On target with project management plan [B,C,E,G]
- ⇒ Permit/license/access acceptance time [F]
- ⇒ Benchmark data [A,B,C,D,F,G]
- ⇒ Alignment with asset portfolio mix [E]
- ⇒ Number of violations, injuries, near misses [G]

Inputs

- Depletion plan
- Regulatory requirements
- Joint venture agreements
- Engineering standards & specifications
- Incremental opportunities
- Corporate business plan
- Authorisation for expenditure
- Downstream transportation & market availability
- Stakeholder needs
- Available technology
- Competitor benchmarking
- Customer needs

Activities



Outputs

- Physical system for hydrocarbon production, processing, & delivery
- Operating cost projections
- Schedule for fees/payments (e.g. 3rd party processing)
- Abandonment plan
- Facilities & operations plan
- Maintenance program/schedule
- Environment, Health, & Safety report
- Capital cost
- Operations' plan

Systems

- Capital expenditure control
- Project management
- Marketing
- Supplier bid process
- Facilities (technical, information, construction)
- E, H, & S compliance
- Measurement & operating
- Operation procedures
- Materials management
- Accounts payable
- Production accounting

Risks Which Threaten Objectives

- A. Delays due to weather, approvals, suppliers [1,2,3,4]
- B. Safety & environmental hazards [1,2,3,4,5]
- C. Unavailability of service providers/suppliers [1,2,3,4]
- D. Inexperienced staff/contractors/suppliers [1,2,3,4,5]
- E. Falling commodity price [1,2,3,4,5]
- F. Equipment failure [1,2,3,4,5]
- G. Poor or incomplete depletion plan [1,4]
- H. Inappropriate technology [1,2,3,4,5]

- I. Competitor activity [1,2,3,4]
- J. Poor systems & procedures [1,2,4,5]
- K. Uncooperative partners [1,2,3,4]
- L. Poor contracts [1,2,3,4]
- M. Cost “blow-up” [1,2,3,4]

Management Responses Linked to Risks

- ⇒ Effective planning, scheduling, & project management process [A,B,C,E,J,M]
- ⇒ Economic modeling [E,M]
- ⇒ Corporate policy for environment, health, & safety standards [B,D,J]
- ⇒ Core competency development plan [D,F,G,H,J]
- ⇒ Policy for supplier standards (e.g. ISO9000/9001, Y2K compliant, etc.) [B,D,F,H,J,M]
- ⇒ Effective technical review process [D,F,G,H,J,K,M]
- ⇒ Ongoing competitor/market assessment [C,E,I]
- ⇒ Cost control process/policy (monitoring procedure, authorization limits, clear roles, responsibilities, & accountabilities, capitalizing internal costs & interest, etc.) [J,K,M]
- ⇒ Dedicated Joint Ventures Group [B,G,H,I,K,L,M]
- ⇒ Quality control program [B,F,J]
- ⇒ Data quality controls [F,G,H,J,M]
- ⇒ Timely, accurate reporting [A,K,J]

Production / Processing / Evaluation

Description

This process describes the production and transportation of product to the plant gate.

Process Objectives

- | | |
|---|--|
| 1. To maximize net cash flow | 5. To minimize E,H,&S incidents |
| 2. To minimize operating & capital costs | 6. To ensure reliable & predictable hydrocarbon production |
| 3. To physically produce & deliver hydrocarbons | |

4. To meet contractual obligations (e.g. sales gas, etc.)
7. To ensure maximum economic hydrocarbon recovery

Critical Success Factors (CSF's) linked to process objectives

- A. Accurate depletion plan [1,2,4,6,7]
- B. Meet or exceed cost targets [1,2,7]
- C. Project Management (e.g. on time, on budget, acceptable quality etc.) [1,2,3,4,5,6,7]
- D. Accurate competitor/market assessment [3,4,7]
- E. Attractive hydrocarbon sales environment [1,3,4,7]
- F. Consistent with Corporate objectives [1,2,3,4,5,6,7]
- G. Positive regulatory regime & approvals [1,2,3,4,5,6,7]
- H. Regulatory compliance [1,2,3,4,5,6,7]
- I. Meet or exceed hydrocarbon production volume targets [1,3,4,6,7]
- J. Maintain reservoir integrity [1,2,3,4,5,6,7]
- K. Facilities reliability [1,2,3,4,5,6,7]
- L. Minimal H,S&E incidents [1,2,3,4,5,6,7]
- M. Quick tie-in of production (hook-up) [1,4,7]

KPI's linked to CSF's

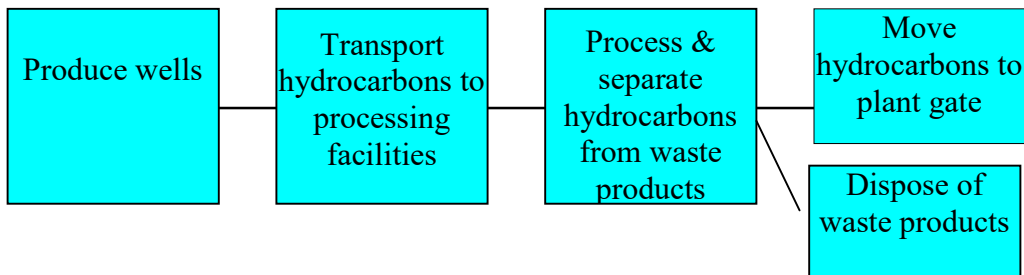
- ⇒ On target with project management plan [B,C,F,H,L]
- ⇒ Finding & development cost /BOE (F&D/BOE) [A,B,F]
- ⇒ Operating cost/BOE [B,F,I,J,K]
- ⇒ Benchmark data [A,B,C,D,E,G,J,K,M]
- ⇒ Sales market assessment [D,E]
- ⇒ Alignment with asset portfolio mix [F]
- ⇒ Permit/license/access acceptance time [G,H]
- ⇒ Number of violations, injuries, near misses [L]
- ⇒ Production volumes meet or exceed performance targets [A,I]
- ⇒ Good production practice (G.P.P.) [H,J,K]
- ⇒ Engineering standards & specifications in-place [B,C,F,H,K,L]

⇒ Time from well completion to CF [M]

Inputs

- Depletion plan
- Facilities & operation plan
- Physical well, pool, field
- Regulatory requirements/approvals
- Operating budgets
- Service providers/suppliers
- Project economics
- Price forecasts
- Sales contracts/customer requirements

Activities



Outputs

- Produced hydrocarbons
- Operating cost per BOE
- Well/pool/field productivity
- Waste products (e.g. brine, sand, etc.)
- Revised depletion plan (reservoir performance)
- Royalty report
- Actual vs. Budget
- Joint venture report (e.g. production accounting, etc.)
- H,S&E reporting
- Accounts payable

Systems

- Production accounting
- Budget
- Production sales volumes/Marketing
- Royalty reporting
- Project management
- Measurement & operating (SCADA)
- Regulatory reporting
- H,S&E compliance
- Materials management

Risks Which Threaten Objectives

- A. Poor reservoir performance [1,2,3,4,6,7]
- B. High operating costs [1,2,3,4,7]
- C. Equipment failure [1,2,3,4,5,6,7]
- D. Inexperienced staff/contractors/suppliers [1,2,3,4,5,6,7]
- E. Falling commodity price [1,3,4,5,7]
- F. Delays in regulatory approval [3,4]
- G. Safety & environmental hazards [1,2,3,4,5,6,7]
- H. Marketing (e.g. lack of sales contracts or pipeline capacity) [1,3,4,6,7]
- I. Facility access limited & appropriateness [1,2,3,4,6,7]
- J. Political instability [1,2,3,4,5,6,7]
- K. Changes in regulations or tax structure (e.g. royalty regime) [1,2,3,4,6,7]
- L. Inappropriate hedging strategy and/or inability to implement the strategy and effectively monitor the hedging contracts
- M. Inappropriate hedging strategy and/or inability to implement the strategy and effectively monitor the hedging contracts

Management Responses Linked to Risks

- ⇒ Effective planning, scheduling, & project management process [B,E,F,H,I,L]
- ⇒ Effective technical review process [A,B,C,D,G]
- ⇒ Data quality controls [A,B,C]
- ⇒ Cost control process/policy (monitoring procedure, authorisation limits, clear roles, responsibilities, & accountabilities, capitalising internal costs & interest, etc.) [B]
- ⇒ Timely, accurate reporting [B,H,I]
- ⇒ Quality control program [C,G]
- ⇒ Policy for supplier standards (e.g. ISO9000/9001, Y2K compliant, etc.) [B,C,D,G]
- ⇒ Core competency development plan [C,D,L]
- ⇒ Corporate policy for H,S&E standards [C,G]
- ⇒ Ongoing competitor/market assessment [E,H,I,J,K,L]
- ⇒ Economic modeling (e.g. changes in tax, royalty regime, well performance) [E,H,I,J,K,L]
- ⇒ Development of hedging plan which incorporates monitoring the hedge contracts

Maintain / Enhance Production

Description

This process describes the key activities to maximize production.

Process Objectives

1. To maintain or improve well productivity & facilities
2. To increase recoverable reserves
3. To meet new regulatory requirements
4. To minimise operating & capital costs
5. To minimise E,H,&S incidents
6. To maximise net cash flow

Critical Success Factors (CSF's) linked to process objectives

- A. Accurate depletion plan [1,4,6]
- B. Meeting cost targets [4,6]
- C. Project Management (e.g. on time, on budget, acceptable quality etc.) [1,3,4,5,6]
- D. Accurate competitor/market assessment [3,4,6]
- E. Attractive hydrocarbons sales environment [6]
- F. Consistent with Corporate objectives [1,2,3,4,5,6]
- G. Positive regulatory regime & approvals [1,2,3,4,5,6]
- H. Regulatory compliance [1,2,3,4,5,6]
- I. Hydrocarbon production volume targets met [1,4,6]
- J. Increased economic hydrocarbon recovery [1,2,6]
- K. Maintain reservoir integrity [1,2,3,4,5,6]
- L. Facilities reliability [1,2,3,4,5,6]
- M. Minimal H,S&E incidents [1,2,3,4,5,6]

KPI's linked to CSF's

- ⇒ Operating cost/BOE [B,F,I,K,L]
- ⇒ Finding & development cost/BOE (F&D/BOE) [A,B,F]
- ⇒ Economic project [A,B,C,D,E,F,G,H,I,J,K,L,M]

- ⇒ On target with project management plan [B,C,F,H,M]
- ⇒ Benchmark data [A,B,C,D,E,G,J,K,L]
- ⇒ Sales market assessment [D,E]
- ⇒ Alignment with asset portfolio mix [F]
- ⇒ Permit/license/access acceptance time [G,H]
- ⇒ Number of violations, injuries, near misses [M]
- ⇒ Production volumes meet or exceed performance targets [A,I]
- ⇒ Good production practice (G.P.P.) [H,K,L]
- ⇒ Engineering standards and specifications [B,C,F,H,L,M]

Inputs

- Maintenance schedules
- Depletion plan
- Technology options
- Benchmark (Best practices)
- Commodity price forecast
- Facilities operations plan
- Operations & facilities plan (Reservoir performance)
- Regulatory compliance
- Incremental opportunities (e.g. up-hole)
- Budgets/Business plan
- Economics
- Service providers/suppliers
- Competitor activity
- Markets (Supply/Demand)

Activities



Outputs

- Revised depletion/facilities plan
- Increased projected production volumes &/or reduced costs
- Improved quality of hydrocarbon product
- Budget vs. actual
- Operating cost/BOE
- H,S&E reporting
- Project economics

Systems

- Capital expenditure control
- Project management
- Marketing
- Supplier bid process
- Facilities (technical, information, construction)
- H,S&E compliance
- Measurement & operating (e.g. SCADA)
- Operation procedures
- Materials management
- Accounts payable
- Production accounting
- Regulatory compliance

Risks Which Threaten Objectives

- A. Delays due to weather, approvals, suppliers [1,2,3,4,6]
- B. Safety & environmental hazards [1,2,4,5,6]
- C. Unavailability of service providers/suppliers [1,2,3,4,6]
- D. Inexperienced staff/contractors/suppliers [1,2,3,4,5,6]
- E. Falling commodity price [1,2,3,4,5,6]
- F. Equipment failure [1,2,3,4,5,6]
- G. Poor or incomplete depletion plan [1,2,4,6]
- H. Inappropriate technology [1,2,4,5,6]
- I. Competitor activity [4,6]
- J. Poor systems & procedures [1,2,3,4,5,6]
- K. Uncooperative partners [1,2,3,4,5,6]
- L. Poor contracts [1,2,3,4,6]
- M. Cost “blow up” [1,2,3,4,5,6]

Management Responses Linked to Risks

- ⇒ Effective planning, scheduling, & project management process [A,B,C,E,J,M]
- ⇒ Corporate policy for environment, health, & safety standards [B,D,J]
- ⇒ Core competency development plan [D,F,G,H,J]
- ⇒ Quality control program [B,F,J]
- ⇒ Timely, accurate reporting [A,J,K]
- ⇒ Data quality controls [F,G,H,J,M]
- ⇒ Effective technical review process [B,D,F,G,H,J,K,M]

- ⇒ Engineering standards & specifications in-place [B,D,F,H,J]
- ⇒ Economic modeling [E,M]
- ⇒ Good production practice (G.P.P.) employed [B,D,J]
- ⇒ Ongoing competitor/market assessment [C,E,I]

Threats from Business Continuity perspective and Risk Assessment Matrix are the same as used in the previous process

Consideration of COVID-19 on the business continuity is assessed using the same template as in the previous processes.

Outcomes of the workshop with Development & Production department are summarized below

Preventive actions to prevent deviation from current mode	Normal operations with reduced resources	Degraded mode	Stop operations mode
<p>Maximize remote work with access to the company tools when possible</p> <p>Identify and ensure availability of back-up staff</p> <p>Prepare delegation of activities for those who could be on leave/ inaccessible/ quarantined</p> <p>Ensure Standard operating procedures awareness by all employees</p>	<p>Postpone or hold non-critical activities and projects</p> <p>Adopt staff rotation around the week to ensure paper workflows uninterrupted</p> <p>Redistribute activities to the available manpower</p> <p>Increase overtime use to compensate for reduced resource</p> <p>Impose restrictions on travel/leaves for the existing staff wherever necessary</p>	<p>Perform critical tasks only (e.g. responding to requests from CEO/ EVP, budget management, cost control related activities, etc)</p> <p>Postpone issuance of non-critical reports and management information</p> <p>Impose restrictions on the number of activities conducted</p> <p>Ensure maximum number of employees available by cancellation of non-urgent leaves</p> <p>Perform only most critical tasks and controls activities if staff is available</p> <p>Ensure appropriate</p>	<p>Full shutdown of the department is not an option as it has significant impact on operations</p>

		reallocation and delegation of tasks/ activities	
Baseline FTE	Normal operations with reduced resources	Degraded Mode	Stop Operations
605 employees	412 employees	230 employees	NA

The Development & Production department assessed that if the number of Full Time Employees (FTE) reduced from 605 to 412, they would move from the normal operation to reduced outputs. If the number of Full Time Employees (FTE) has further reduced to 230, they would be moving to the degraded mode. Stopping the operation is not an option for them as they have a significant impact on the operation. Therefore, they mitigate the situation by engaging with external providers and outsourced agencies to remain operating if the number of employees dropped below 230 employees. This assessment helped the department to plan their resources and the process outputs effectively and efficiently during the Pandemic.

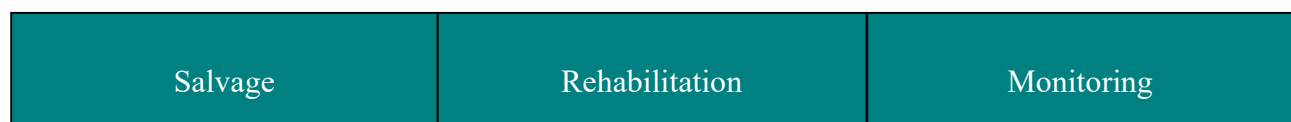
6- Abandonment and site Restoration

Description

This core business process describes the key elements of abandoning a well or closing facilities and site restoration, including:

- establishing care and maintenance programmes
- salvaging recoverable assets
- executing reclamation plans
- establishing and maintaining monitoring systems and programmes, and
- ultimately procuring release from obligations and liabilities

Sub Process components



Salvage / Shut in/down

Description

This process describes the key elements of deciding when to shut in/down a well, through to completion of the shut-in and salvage plan.

Process Objectives

1. Maximize recovery of reusable saleable assets for use/disposal
2. Secure safe and environmentally aware abandonment, removal, and site restoration
3. Maximize the proceeds received from assets and/or alternative uses of assets
4. To meet stakeholder needs (e.g. surface land reclamation)
5. To meet regulatory requirements
6. Cost effectively dispose of unusable/unsalable assets and/or waste

Critical Success Factors (CSF's) linked to process objectives

- A. Maintain optimal condition of assets [1,2,3,4,5,6]
- B. No latent or future liabilities [2,3,4,5,6]
- C. Minimise time and cost of salvage operations [1,2,3,4,5,6]
- D. Regulatory compliance & approvals [1,2,3,4,5,6]
- E. Effective Project Management (e.g. on time, on budget, acceptable quality etc.) [1,2,3,4,5,6]
- F. Attractive equipment/facilities sales environment [1,3,6]
- G. Minimal H,S,&E incidents [1,2,3,4,5,6]

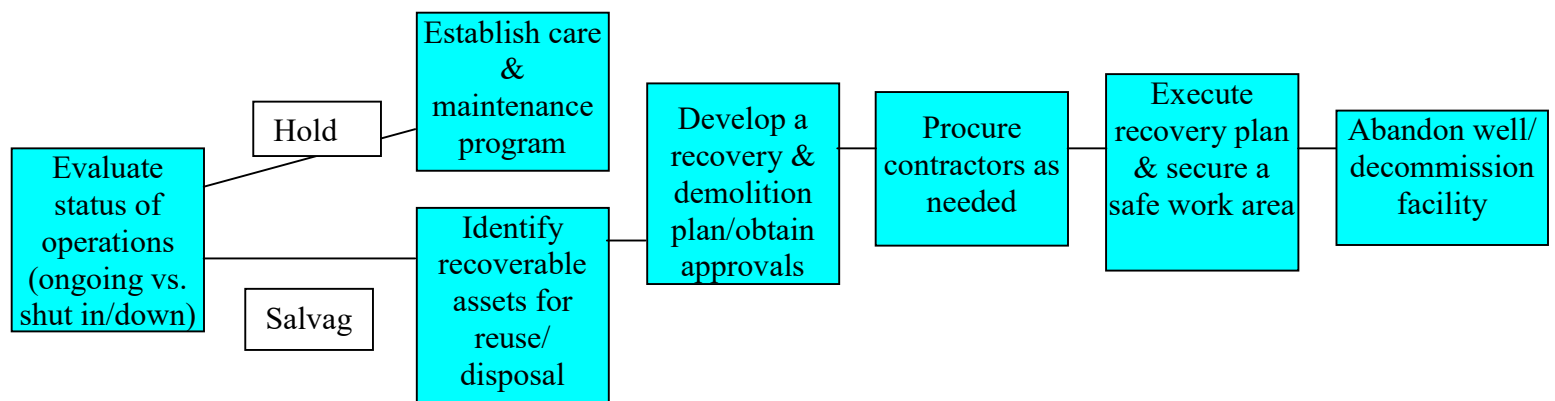
KPI's linked to CSF's

- ⇒ Actual sales compared to estimated value [A,F]
- ⇒ Percentage value of credits passed, or claims settled, or restorations approved [B,D,E]
- ⇒ Ratio of cost to revenue from salvage operations, comparison to industry norms and budget [A,C,E,F]
- ⇒ Number of violations, injuries, near misses [G]
- ⇒ Regulatory reclamation certificate/approval [B,D]
- ⇒ Sales market assessment completed [F]

Inputs

- Company environmental and operating policy
- Economic analysis / cash flow projections
- Shut down and salvage workforce or contractors
- Asset inventory
- Equipment re-allocation plan
- Area to store and display salvaged assets
- Depletion plan
- Regulatory requirements
- Competitor activity
- Asset register
- Detailed descriptions and advertisement material
- Time constraint information
- Equipment/facilities sales market
- Budgets/Business Plan

Activities



Outputs

- Revised asset register
- Cash flow
- Regulatory reports
- Facilities/equipment/land reclamation
- Disposal plan
- List of buyers/users
- Invoices

Systems

- Capital expenditure control
- H,S&E compliance
- Operations' procedures

- Project management
- Supplier bid process
- Asset descriptions,
information and histories
- Regulatory compliance
- Surplus asset tracking system
- Materials management
- Accounts payable

Risks Which Threaten Objectives

- A. High cost of recovery [1,3,6]
- B. Damage during recovery [1,2,3,4,6]
- C. Poor market for used assets [3]
- D. Unauthorized disposal [2,4,5,6]
- E. Safety & environmental hazards [1,2,3,4,5,6]
- F. Inexperienced staff/contractors/suppliers [1,2,3,4,5,6]
- G. Poor or incomplete technical assessment [1,2,3,4,5,6]
- H. Negative public and workforce perception [3,4,6]
- I. Delays due to weather, approvals, suppliers [1,2,3,4,5,6]
- J. Difficult regulatory regime [4,5,6]
- K. Political instability [1,2,3,4,5,6]
- L. Poor systems & procedures [1,2,3,4,5,6]

Management Responses Linked to Risks

- ⇒ Independent evaluation of salvage costs and time [A,E,G]
- ⇒ Cost control process/policy (monitoring procedure, authorization limits, clear roles, responsibilities, & accountabilities, capitalizing internal costs & interest, etc.) [A,L]
- ⇒ Supervision of recovery activities [A,B,D,E,F]
- ⇒ Sales market assessment completed [C,L]
- ⇒ Security systems and authorization procedures [B,D,F,K]
- ⇒ Health, Safety and Environment review of assets [B,D,E,L]
- ⇒ Monitor safety performance internally and for contractors [A,B,E,F,L]
- ⇒ Monitor against environmental legislation and permits, environmental policy [C,D,J]
- ⇒ Core competency assessment & competency development plan [F,G]

- ⇒ Engineering Standards & Specifications in-place [E,F,G,H,L]
- ⇒ Effective technical review process [A,E,F,G,L]
- ⇒ Human resource and public relations policies [H,L]
- ⇒ Quality control program [A,E,F,H,L]
- ⇒ Data quality controls [A,B,C,D,E,G,L]

Rehabilitation

Description

This process describes the key elements of the site rehabilitation plan and execution of that plan.

Process Objectives

1. Restore areas affected by operations in accordance with relevant laws and permits
2. Minimize long-term liabilities, maintenance and monitoring costs and responsibilities
3. Create a positive public perception
4. Maximize refund of reclamation bond, if any
5. Minimize cost of reclamation

Critical Success Factors (CSF's) linked to process objectives

- A. Cost of reclamation [2,4,5]
- B. Duration of reclamation process [3,4,5]
- C. Positive or neutral public perception [3]
- D. Receipt of reclamation approval/certification [1,3]
- E. Regulatory compliance (incl. E,H, & S) [1,3]

KPI's linked to CSF's

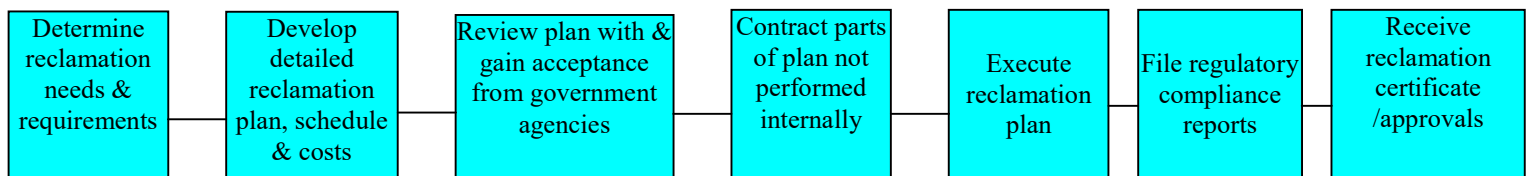
- ⇒ Cost per unit of area rehabilitated [A]
- ⇒ Duration per unit of area rehabilitated [B]
- ⇒ Awards and/or recognition; negative press [C]
- ⇒ Regulatory approval; environmental monitoring [D]

⇒ Number of violations, injuries, near misses [E]

Inputs

- Company environmental and operating policy
- Reclamation workforce and/or contractors
- Equipment and supplies
- Regulatory requirements
- Reclamation plan (per permits)

Activities



Outputs

- Reclaimed and restored property
- Approved monitoring program
- Partial release of reclamation bond or approval from authorities
- Closing reclamation plan
- Site environmental /reclamation status report

Systems

- Project planning, scheduling and monitoring systems
- Environmental management system

Risks Which Threaten Objectives

- A. Excessive cost of reclamation [2,5]
- B. Public or government agency objections [1,2,3,4,5]
- C. Natural catastrophes (i.e., weather, etc.) [1,2,4,5]
- D. Unresponsiveness of flora and fauna to reclamation efforts [1,2,3,4,5]

- E. Regulatory changes [1,2,4,5]
- F. Poor or incomplete technical assessment [1,2,3,4,5]
- G. Safety & environmental hazards [1,2,3,4,5]
- H. Inexperienced staff/contractors/suppliers [1,2,4,5]
- I. Poor systems & procedures [1,2,4,5]

Management Responses Linked to Risks

- ⇒ Monitor actual rehabilitation costs to budget [A,H]
- ⇒ Constant communication and public relations [B,E]
- ⇒ Contingency plans [A,B,C,D,E,F,G,H,I]
- ⇒ Prior testing and monitoring [A,D,F,G]
- ⇒ Regular testing and monitoring [A,D,F,G]
- ⇒ Effective technical review process [A,D,F,G,H,I]
- ⇒ Quality control program (e.g. ISO 14000) [B,D,F,G,H,I]
- ⇒ Core competency assessment & competency development plan [F,H]
- ⇒ Cost control process/policy (monitoring procedure, authorization limits, clear roles, responsibilities, & accountabilities, capitalizing internal costs & interest, etc.) [A,I]
- ⇒ Effective planning, scheduling, & project management process [B,E,G,I]

Monitoring

Description

This process describes the key elements of maintaining the site abandonment and restoration plan.

Process Objectives

- | | |
|---|--|
| 1. Establish intended land use for reclaimed land | 4. Minimize potential future liabilities |
| 2. Release of final reclamation bond deposit of company, if any | 5. Maintain a positive public perception |
| 3. Obtain final regulatory approval | 6. Obtain technical data for reporting/analyses purposes |

Critical Success Factors (CSF's) linked to process objectives

- A. Time and cost of monitoring activities [4]
- B. Positive or neutral public perception [5]
- C. Subsequent productivity of land [1,2,3,4,5]
- D. Regulatory compliance (incl. E,H, & S) [1,2,3,4,5,6]
- E. Accuracy of measured data and interpretation [1,2,3,4,5,6]

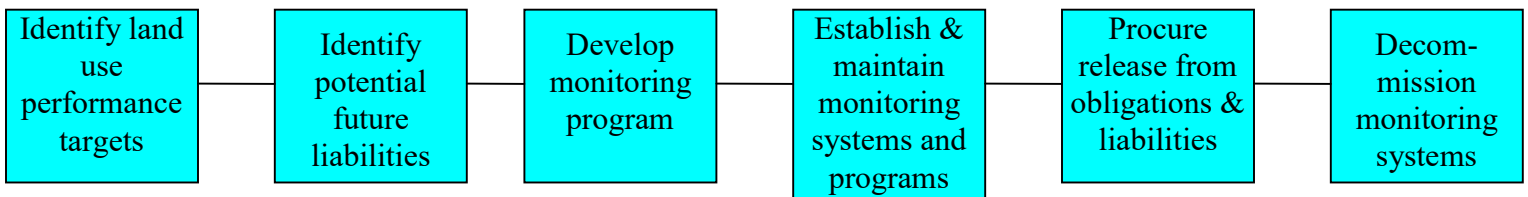
KPI's linked to CSF's

- ⇒ Actual time and cost of monitoring per unit of area monitored [A]
- ⇒ Awards and recognition; negative press [B]
- ⇒ Percentage productivity compared to adjacent land [C]
- ⇒ Number of violations, injuries, near misses [D]
- ⇒ Measured data and analyses in line with benchmark data [E]

Inputs

- Reclaimed site
- Monitoring devices
- Compliance requirements
- Employees or contractors
- Company environmental and operating policy
- Reclamation plan
- Regulatory approvals

Activities



Outputs

- Monitoring program
- Documents relinquishing
- Refund of bond deposit

- Monitoring data supporting objectives
- Summary monitoring report
- Reclamation obligations
- Regulatory approvals
- Restored property
- Communication plan

Systems

- Database for monitoring results
- Environmental management system
- H, S & E compliance
- Regulatory compliance

Risks Which Threaten Objectives

- Natural catastrophes prior to completion [1,2,3,4,5]
- Changed public or governmental perceptions and requirements [1,2,3,5]
- Unanticipated reclamation results [1,2,3,4,5]
- Poor or incomplete technical assessment [1,2,3,4,5,6]
- Safety & environmental hazards [1,2,3,4,5,6]
- Inexperienced staff/contractors/suppliers [1,2,3,4,5,6]
- Poor systems & procedures [1,2,3,4,6]
- Cost “blow up” [5,6]

Management Responses Linked to Risks

- ⇒ Contingency plans [A,B,C,E,G]
- ⇒ Communication and monitoring [B,C,F]
- ⇒ Regular testing and monitoring [C,D,E]
- ⇒ Effective technical review process [C,D,E,F,G]
- ⇒ Quality control program (e.g. ISO 14000) [C,D,E,F,G]
- ⇒ Core competency assessment & competency development plan [D,E,F]
- ⇒ Cost control process/policy (monitoring procedure, authorisation limits, clear roles, responsibilities, & accountabilities, capitalising internal costs & interest, etc.) [H,G]
- ⇒ Effective planning, scheduling, & project management process [B,E,F,G,H]
- ⇒ Benchmark data (e.g. analogue data from similar sites) [C,E,H]

Threats from Business Continuity perspective and Risk Assessment Matrix are the same as used in the previous process

Consideration of COVID-19 on the business continuity is assessed using the same template as in the previous processes.

Outcomes of the workshop with Abandonment & Site Restoration department are summarized below

Preventive actions to prevent deviation from current mode	Normal operations with reduced resources	Degraded mode	Stop operations mode
<p>Maximize remote work with access to the company tools when possible</p> <p>Identify and ensure availability of back-up staff</p> <p>Prepare delegation of activities for those who could be on leave/ inaccessible/ quarantined</p> <p>Ensure Standard operating procedures awareness by all employees</p>	<p>Postpone or hold non-critical activities and projects</p> <p>Adopt staff rotation around the week to ensure paper workflows uninterrupted</p> <p>Redistribute activities to the available manpower</p> <p>Increase overtime use to compensate for reduced resource</p> <p>Impose restrictions on travel/leaves for the existing staff wherever necessary</p>	<p>Perform critical tasks only (e.g. responding to requests from CEO/ EVP, budget management, cost control related activities, etc)</p> <p>Postpone issuance of non-critical reports and management information</p> <p>Impose restrictions on the number of activities conducted</p> <p>Ensure maximum number of employees available by cancellation of non-urgent leaves</p> <p>Perform only most critical tasks and controls activities if staff is available</p> <p>Ensure appropriate reallocation and delegation of tasks/ activities</p>	<p>Full shutdown of the department for a short period of time is possible since there is no significant impact on core operations</p>
Baseline FTE	Normal operations	Degraded Mode	Stop Operations

	with reduced resources		
123 employees	66 employees	40 employees	10

The Abandonment & Site Restoration department assessed that if the number of Full Time Employees (FTE) reduced from 123 to 66, they would move from the normal operation to reduced outputs. If the number of Full Time Employees (FTE) has further reduced to 40, they would be moving to the degraded mode. Stopping the operation will be triggered at level of 10 Full Time Employees.

7- Acquisition

Description

This process describes the management of decisions to acquire assets (including legal entities) from third parties.

Process Objectives

1. Increase production
2. Create exploration potential
3. Improve strategic asset position
4. Economic growth
5. Increase value

Critical Success Factors (CSF's)

- A. Correct evaluation of reserve and production & potential [1,2,3,4,5]
- B. Ability to add value to purchased assets [2,3,4,5]
- C. Identify viable targets [1,2,3,4,5]
- D. Understanding of corporate goals/strategies [3]
- E. Correct evaluation of future market conditions [4]

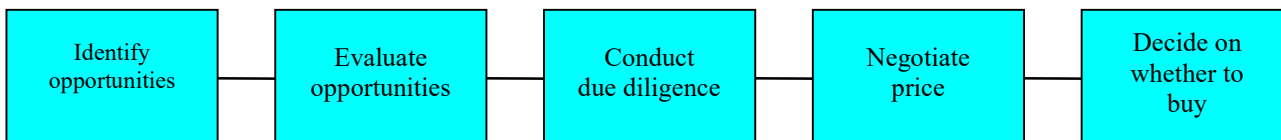
KPI's linked to CSF's

- ⇒ Acquisition cost per BOE equivalent [A]
- ⇒ Cash flow per unit of cost [A]
- ⇒ Finding costs [B]
- ⇒ Economic profit (increased production and reserves) [A,B,E]
- ⇒ Commercial success rate [A,B,C]
- ⇒ Meet performance targets [A,B,C,D]
- ⇒ Earnings per share [A,B,D,E]

Inputs

- Reserve data
- Production profiles
- Strategic plan
- Contracts
- Cash flows (discounted)
- Market conditions & assumptions
- Risk analysis
- Legal and statutory matters
- Financing / Treasury

Activities



Outputs

- Valuation
- Asset integration plan
- Board approval paper
- Legal contract
- Acquisition strategy

Systems

- Discounted cash flow models
- Profit and loss models
- Legal data base
- Exploration and production data bases
- Funding models
- Asset register
- Accounts payable

Risks Which Threaten Objectives

- A. Inaccurate evaluation of reserves [3,4,5]
- B. Estimated production profiles not achieved [1,2,4,5]
- C. Exploration potential not realized [1,2,3,4,5]
- D. Falling commodity prices [1,4,5]
- E. Future capital expenditure underestimated [1,4,5]
- F. Political or legal risk not identified [1,2,3,4,5]
- G. Vendor supplying inaccurate data [1,2,3,4,5]
- H. Poor policies and procedures [1,2,3,4,5]
- I. Weak due diligence strategy or implementation

Management Responses Linked to Risks

- ⇒ Technical reviews (reserves and production) [A,B,C,E,G,I]
- ⇒ Due diligence [A,B,C,E,G,H,I]
- ⇒ Effective process for alignment of asset purchase with Corporate objectives [E,F,H,I]
- ⇒ Treasury risk management [D,E,G,H,I]
- ⇒ Legal review [F,G,H]
- ⇒ Board approval [H]
- ⇒ Independent evaluation / review [A,B,C,E,G,H]

Threats from Business Continuity perspective and Risk Assessment Matrix are the same as used in the previous process

Consideration of COVID-19 on the business continuity is assessed using the same template as in the previous processes.

Outcomes of the workshop with Acquisition department are summarized below

Preventive actions to prevent deviation from current mode	Normal operations with reduced resources	Degraded mode	Stop operations mode
Maximize remote work with access to the company tools when possible	Postpone or hold non-critical activities and projects	Perform critical tasks only (e.g. responding to requests from CEO/EVP, budget	Full shutdown of the department for a short period of time is possible since there is

<p>Identify and ensure availability of back-up staff</p> <p>Prepare delegation of activities for those who could be on leave/ inaccessible/ quarantined</p> <p>Ensure Standard operating procedures awareness by all employees</p>	<p>Adopt staff rotation around the week to ensure paper workflows uninterrupted</p> <p>Redistribute activities to the available manpower</p> <p>Increase overtime use to compensate for reduced resource</p> <p>Impose restrictions on travel/leaves for the existing staff wherever necessary</p>	<p>management, cost control related activities, etc)</p> <p>Postpone issuance of non-critical reports and management information</p> <p>Impose restrictions on the number of activities conducted</p> <p>Ensure maximum number of employees available by cancellation of non-urgent leaves</p> <p>Perform only most critical tasks and controls activities if staff is available</p> <p>Ensure appropriate reallocation and delegation of tasks/ activities</p>	<p>no significant impact on core operations</p>
<p>Baseline FTE</p> <p>17 employees</p>	<p>Normal operations with reduced resources</p> <p>9 employees</p>	<p>Degraded Mode</p> <p>5 employees</p>	<p>Stop Operations</p> <p>2</p>

The Acquisition department assessed that if the number of Full Time Employees (FTE) reduced from 17 to 9, they would move from the normal operation to reduced outputs. If the number of Full Time Employees (FTE) has further reduced to 5, they would be moving to the degraded mode. Stopping the operation will be triggered at level of 2 Full Time Employees.

8- Divestitures

Description

This process describes the management of decisions to divest assets (including legal entities)

Process Objectives

1. Improve strategic asset position
2. Maximise disposal price
3. Minimise legal or contractual risk
4. Increase value

Critical Success Factors (CSF's)

- A. Correct evaluation of production and exploration value [2,4]
- B. Identify potential buyers who are keen [1,2,4]
- C. Correct evaluation of future market conditions [1,2,4]
- D. The “right” divestiture plan [1,2,3,4]
- E. Quality information memorandum [1,2,3,4]

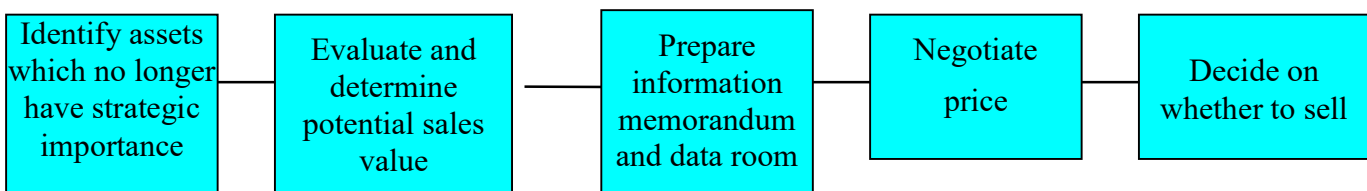
KPI's linked to CSF's

- ⇒ Divestiture value per BOE equivalent [A]
- ⇒ Price paid [A]
- ⇒ Number of potential purchasers [A,B,C,E]
- ⇒ Earnings per share [A,C,D]
- ⇒ Commercial success rate [A,C,D]
- ⇒ Market feedback [A,C,D,E]

Inputs

- Strategic plan
- Contracts
- Cashflows
- Market conditions and assumptions
- Reserve data
- Production profile
- Risk analysis
- Legal and statutory matters
- Treasury

Activities



Outputs

- Information memorandum
- Legal contract
- Divestiture strategic plan
- Data package
- Taxation position

Systems

- Cash flow
- Legal data base
- Exploration and production databases
- Accounting
- Valuation modelling
- Asset register
- Taxation modelling
- Environment management

Risks Which Threaten Objectives

- A. Falling commodity prices [1,2,4]
- B. Inappropriate assumptions [1,2,3,4]
- C. Inaccurate data [1,2,3,4]
- D. Inaccurate evaluation of reserves [1,2,3,4]
- E. Misinterpreted exploration potential [2,4]
- F. Poor policies and procedures [1,2,3,4]

Management Responses Linked to Risks

- ⇒ Treasury risk management [A,B,C,F]
- ⇒ Third party evaluation/review [B,C,D,E]
- ⇒ Board approval [A,F]
- ⇒ Technical reviews (reserves and production) [B,C,D,E]
- ⇒ Internal asset divestiture group [B,C,D,E,F]

Threats from Business Continuity perspective and Risk Assessment Matrix are the same as used in the previous process

Consideration of COVID-19 on the business continuity is assessed using the same template as in the previous processes.

Outcomes of the workshop with Divestiture department are summarized below

Preventive actions to prevent deviation from current mode	Normal operations with reduced resources	Degraded mode	Stop operations mode
<p>Maximize remote work with access to the company tools when possible</p> <p>Identify and ensure availability of back-up staff</p> <p>Prepare delegation of activities for those who could be on leave/ inaccessible/ quarantined</p> <p>Ensure Standard operating procedures awareness by all employees</p>	<p>Postpone or hold non-critical activities and projects</p> <p>Adopt staff rotation around the week to ensure paper workflows uninterrupted</p> <p>Redistribute activities to the available manpower</p> <p>Increase overtime use to compensate for reduced resource</p> <p>Impose restrictions on travel/leaves for the existing staff wherever necessary</p>	<p>Perform critical tasks only (e.g. responding to requests from CEO/ EVP, budget management, cost control related activities, etc)</p> <p>Postpone issuance of non-critical reports and management information</p> <p>Impose restrictions on the number of activities conducted</p> <p>Ensure maximum number of employees available by cancellation of non-urgent leaves</p> <p>Perform only most critical tasks and controls activities if staff is available</p> <p>Ensure appropriate reallocation and delegation of tasks/ activities</p>	<p>Full shutdown of the department for a short period of time is possible since there is no significant impact on core operations</p>
<p>Baseline FTE</p> <p>12 employees</p>	<p>Normal operations with reduced resources</p> <p>5 employees</p>	<p>Degraded Mode</p> <p>3 employees</p>	<p>Stop Operations</p> <p>1</p>

The Divestiture department assessed that if the number of Full Time Employees (FTE) reduced from 12 to 5, they would move from the normal operation to reduced outputs. If the number of

Full Time Employees (FTE) has further reduced to 3, they would be moving to the degraded mode. Stopping the operation will be triggered at level of 1 Full Time Employees.

9- Marketing

Description

The activity relates to the maximization of contribution from the sale of the company's own crude oil and gas production and includes:

- analysis of markets
- identification of current prices, price trends and development of price forecasts
- determination of own production supply
- identification of customers
- negotiation of contracts and account management
- collection of revenue and minimization of credit risk
- liaison with trading department on volume shortfalls and excesses to maximise contribution

Process Objectives

- | | | |
|--|----------------------------|--|
| 1. Maximize revenue | 4. Identify target markets | 7. Liaise with production department |
| 2. Identify present and future market demand | 5. Develop price forecasts | 8. Monitor target markets and customers and respond |
| 3. Identify market prices | 6. Develop pricing policy | 9. Develop marketing/trading strategy and departmental liaison |

Critical Success Factors (CSF's)

- A. Marketing presence [1,2,3,4,8]
- B. Profitability [1]
- C. Accurate, timely and relevant data [1,2,3,4,5,6,7,8,9]
- D. Losses due to price and currency fluctuations [1]

KPI's linked to CSF's

- ⇒ Market share [A]
- ⇒ Margin achieved [B]
- ⇒ Amount of data re-work [C]
- ⇒ Hedged price vs actual [D]

Inputs

- Market data
- Production volume data
- Competitor data
- Cost data
- Actual price and margin data
- Economic forecasts
- Exchange rate data
- Sales forecasts
- Processing plans
- Distribution plans

Activities



Outputs

- Marketing plan
- Customer targets
- Implementation plans
- Pricing plans and margin targets
- Competitor analysis
- Inputs to production plans
- Input to delivery plans
- Input to trading plans

Systems

- Competitor database
- Sales and pricing systems
- Marketing database
- Sales margin forecasting system
- Costing and margin system

Risks Which Threaten Objectives

- A. Inaccurate or non-existent internal data [1,2,4,6,8,9]
- B. Inaccurate external data [1,2,3,4,5,8,9]
- C. Lack of internal alignment and commitment [1,2,3,4,5,6,7,8,9]
- D. Failure to anticipate or respond to market changes [1,2,3,4,8,9]
- E. Adverse currency movements affect profitability [1,3,5,6,8,9]

Management Responses Linked to Risks

- ⇒ Define critical data and develop appropriate system [A,B,D,E]
- ⇒ Define critical data and validate from more than one source [A,B,D,E]
- ⇒ Ensure marketing plans linked to business strategy and cascaded to individual objectives including production and trading [C,D,E]
- ⇒ Ensure marketing programmes are reviewed for alignment to expected external changes [B,C,D,E]
- ⇒ Review currency exposures and sensitivities and consider hedging [E]

Threats from Business Continuity perspective and Risk Assessment Matrix are the same as used in the previous process

Consideration of COVID-19 on the business continuity is assessed using the same template as in the previous processes.

Outcomes of the workshop with Marketing department are summarized below

Preventive actions to prevent deviation from current mode	Normal operations with reduced resources	Degraded mode	Stop operations mode
<p>Maximize remote work with access to the company tools when possible</p> <p>Identify and ensure availability of back-up staff</p>	<p>Postpone or hold non-critical activities and projects</p> <p>Adopt staff rotation around the week to ensure paper workflows</p>	<p>Perform critical tasks only (e.g. responding to requests from CEO/EVP, budget management, cost control related activities, etc)</p>	<p>Full shutdown of the department for a short period of time is possible since there is no significant impact on core operations</p>

Prepare delegation of activities for those who could be on leave/ inaccessible/ quarantined Ensure Standard operating procedures awareness by all employees	uninterrupted Redistribute activities to the available manpower Increase overtime use to compensate for reduced resource Impose restrictions on travel/leaves for the existing staff wherever necessary	Postpone issuance of non-critical reports and management information Impose restrictions on the number of activities conducted Ensure maximum number of employees available by cancellation of non-urgent leaves Perform only most critical tasks and controls activities if staff is available Ensure appropriate reallocation and delegation of tasks/ activities	
Baseline FTE	Normal operations with reduced resources	Degraded Mode	Stop Operations
34 employees	20 employees	11 employees	3

The Marketing department assessed that if the number of Full Time Employees (FTE) reduced from 34 to 20, they would move from the normal operation to reduced outputs. If the number of Full Time Employees (FTE) has further reduced to 11, they would be moving to the degraded mode. Stopping the operation will be triggered at level of 3 Full Time Employees.

10- Trading

Description

This activity's purpose is to support the marketing of own production and to maximise contribution to the business from forward trading and arbitrage activities. It includes assisting in ensuring adequate volume of crude oil and gas to satisfy contractual obligations, hedging against price and currency exposures and trading to make a profit. Although not included in this model,

it is noted that some major oil companies have oil trading divisions or departments which, as an independent profit centre, carry out oil trading, unrelated to either the Company’s own crude oil production or its downstream consumption.

Process Objectives

- 1. Maximise financial contribution from marketing/trading activities
- 2. Supplement own production to satisfy contractual obligations
- 3. Hedge against price/currency movements

Critical Success Factors (CSF’s)

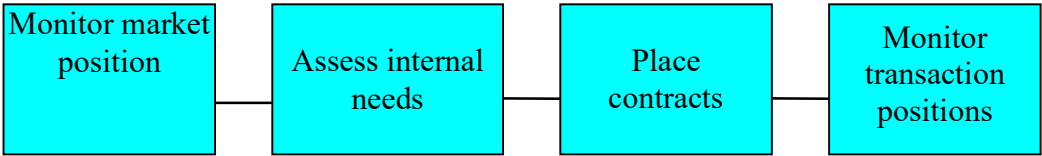
- A. Acceptable risk [1,2,3]
- B. Acceptable profitability [1,2,3]
- C. Accurate, timely, and relevant data [1,2,3]

KPI’s linked to CSF’s

Inputs

- Market data
- Price data
- Price forecasts
- Economic forecasts
- Exchange rate data
- Exchange rate forecasts
- Sales plans
- Production plans

Activities



Outputs

- Market analysis
- Open position reporting
- Receipt

- Trading plan
- Contribution results data
- Payments
- Margins

Systems

- Transaction data base
- Market research
- Purchase/payables
- Contract administration
- Invoicing/receivables
- Treasury

Risks Which Threaten Objectives

- A. Poor trading performance [1,2,3]
- B. Losses on transactions [1,2]

Management Responses Linked to Risks

- ⇒ Monitoring of market forecasts/internal needs [A,B]
- ⇒ Control of open positions - exposure limits [A,B]

Threats from Business Continuity perspective and Risk Assessment Matrix are the same as used in the previous process

Consideration of COVID-19 on the business continuity is assessed using the same template as in the previous processes.

Outcomes of the workshop with Trading department are summarized below

Preventive actions to prevent deviation from current mode	Normal operations with reduced resources	Degraded mode	Stop operations mode
Maximize remote work with access to the company tools when possible Identify and ensure availability of back-up staff Prepare delegation of	Postpone or hold non-critical activities and projects Adopt staff rotation around the week to ensure paper workflows uninterrupted	Perform critical tasks only (e.g. responding to requests from CEO/EVP, budget management, cost control related activities, etc) Postpone issuance of non-critical reports	Full shutdown of the department for a short period of time is possible since there is no significant impact on core operations

<p>activities for those who could be on leave/ inaccessible/ quarantined</p> <p>Ensure Standard operating procedures awareness by all employees</p>	<p>Redistribute activities to the available manpower</p> <p>Increase overtime use to compensate for reduced resource</p> <p>Impose restrictions on travel/leaves for the existing staff wherever necessary</p>	<p>and management information</p> <p>Impose restrictions on the number of activities conducted</p> <p>Ensure maximum number of employees available by cancellation of non-urgent leaves</p> <p>Perform only most critical tasks and controls activities if staff is available</p> <p>Ensure appropriate reallocation and delegation of tasks/ activities</p>	
<p>Baseline FTE</p> <p>40 employees</p>	<p>Normal operations with reduced resources</p> <p>18 employees</p>	<p>Degraded Mode</p> <p>10 employees</p>	<p>Stop Operations</p> <p>2</p>

The Trading department assessed that if the number of Full Time Employees (FTE) reduced from 40 to 18, they would move from the normal operation to reduced outputs. If the number of Full Time Employees (FTE) has further reduced to 10, they would be moving to the degraded mode. Stopping the operation will be triggered at level of 2 Full Time Employees.

11- Research & Development

Description

Research is the invention or discovery of the completely new processes, products, science, etc. Development is improvement on the existing. Research carries with it a higher level of risk/ reward - the uncertainty of success is much greater, but if successful the benefits may allow the company to stand out significantly above its competitors. As a generalization, research will have

the longer time frame; development activities will be much more focused on short term implementation and benefits.

In oil and gas companies, research is most commonly carried out in centralized facilities, whereas development may be carried out both at centralized research facilities and at operating sites. Although research may cover the whole spectrum of human activity, in oil and gas companies it is generally strongly technically focused.

Process Objectives

1. Manage the R&D investment to ensure continuous generation of valuable ideas
2. Identify and maintain own core science competencies
3. Develop new or improved process technologies to create/ maintain competitive advantage
4. Improve product manufacturing in terms of quality, efficiency, flexibility and responsiveness
5. Develop new or modified products to meet specific customer needs in current and target markets
6. Enhance and protect intellectual property of the company
7. Develop and manage joint research programmes with external agencies
8. Deliver cost-effective solutions to customers

Critical Success Factors (CSF's)

- A. Having the appropriate science and knowledge base [1,2,3,4,5,6,7,8]
- B. Ability to innovate to anticipate or meet needs [1,2,3,4,5,6,7,8]
- C. Ability to respond quickly to meet needs [1,2,3,4,5,6,7]
- D. Efficient use of R&D resources to provide new processes and products [1,2,3,4,5,6,7,8]
- E. Seamless transfer of R&D developments to implementation [2,3,4,5,8]
- F. Sustained investment [1,2,3,4,5,6,7,8]
- G. Value creation through technology or knowledge application [1,2,3,4,5,6,7,8]

KPI's linked to CSF's

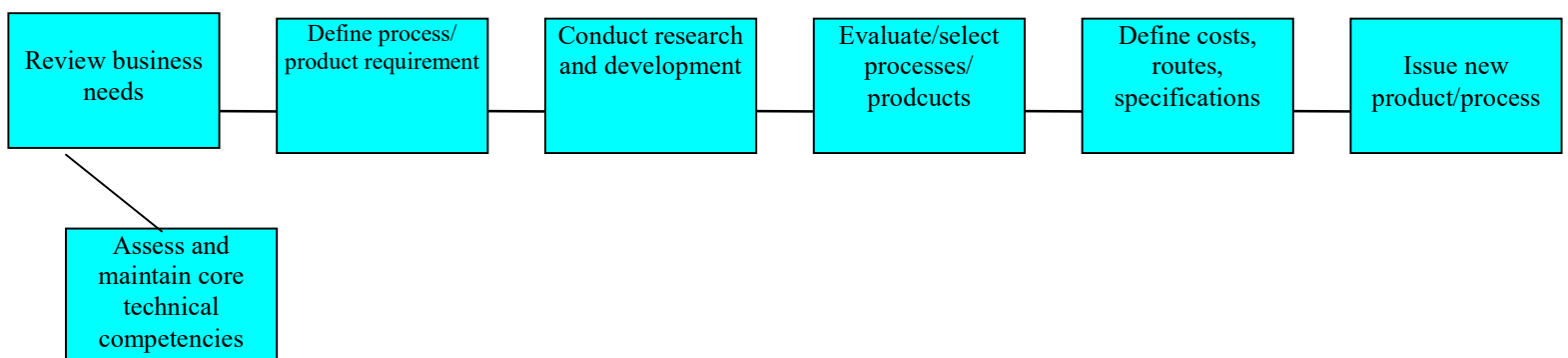
- ⇒ Number of relevant patents filed [A,B]
- ⇒ Time to implementation/ time to market [B,C,D,E]

- ⇒ R&D \$ invested per BOE New Reserves [F,G]
- ⇒ Market share from new products [A,C,E]
- ⇒ Number of new ideas generated [A,B,C,D]
- ⇒ Success rate of development of ideas [E]
- ⇒ R&D spent to cost savings achieved ratio [F,G]
- ⇒ Tax credits for R&D [F,G]
- ⇒ R&D \$ invested to Revenue ratio [F,G]
- ⇒ R&D \$ invested to Production ratio [F,G]

Inputs

- Strategic plan
- Data on future exploration and production environments
- Safety, health and environmental trends
- Production and engineering specifications and capabilities
- Business strategy and marketing plans for gas and refined products
- Existing market and customer needs
- Target market data
- Existing product specification
- Competitor information
- Future infrastructure needs
- Portfolio analysis
- Literature and patent searches
- Analysis of own technical skills

Activities



Outputs

- New and modified processes/equipment/facilities
- New and modified products
- Initial process and product costing data
- E, H & S assessments
- Product specifications
- R&D tax claim
- Production route definitions
- Materials, technology and resource requirements for new processes and products

Systems

- Research & development database
- Engineering database
- Information systems
- E, H & S management systems
- Laboratory information management systems
- Product database
- Market research database
- Cost accounting systems
- Library and on-line information systems
- Patent systems

Risks Which Threaten Objectives

- A. High cost of process/ product development [3,4,5,8]
- B. Lack of business focus for R&D process [1,2,3,4,5,6,7,8]
- C. Insufficient protection of intellectual property [1,2,3,4,5,6,8]
- D. Too slow to develop new processes/ products [1,2,3,4,5,6,8]
- E. Uncompetitive processes or products developed [1,2,3,4,5,6,8]
- F. Lack of process and/ or product innovation [1,2,3,4,5,6,7,8]
- G. Processes or products that do not meet the technical requirements [1,2,3,4,5,6,8]
- H. Too slow to implementation of new processes or products [2,3,4,8]
- I. Reduced government funding [7]

Management Responses Linked to Risks

⇒ Use of cross-functional teams to ensure R&D is focused on and anticipates business needs

[B,D,E,G,H]

- ⇒ R&D process procedures, policies and controls [A,B,C,D,E,F,G,H]
- ⇒ Proactive management and assessment of R&D “pipeline” [B,D,E,F,G,H]
- ⇒ Screening of new products and processes [A,D,E,F,G,H]
- ⇒ Business approval of R&D activities [A,B,D,E,F,G,H]

Threats from Business Continuity perspective and Risk Assessment Matrix are the same as used in the previous process

Consideration of COVID-19 on the business continuity is assessed using the same template as in the previous processes.

Outcomes of the workshop with Research & Development department are summarized below

Preventive actions to prevent deviation from current mode	Normal operations with reduced resources	Degraded mode	Stop operations mode
<p>Maximize remote work with access to the company tools when possible</p> <p>Identify and ensure availability of back-up staff</p> <p>Prepare delegation of activities for those who could be on leave/ inaccessible/ quarantined</p> <p>Ensure Standard operating procedures awareness by all employees</p>	<p>Postpone or hold non-critical activities and projects</p> <p>Adopt staff rotation around the week to ensure paper workflows uninterrupted</p> <p>Redistribute activities to the available manpower</p> <p>Increase overtime use to compensate for reduced resource</p> <p>Impose restrictions on travel/leaves for the existing staff wherever necessary</p>	<p>Perform critical tasks only (e.g. responding to requests from CEO/ EVP, budget management, cost control related activities, etc)</p> <p>Postpone issuance of non-critical reports and management information</p> <p>Impose restrictions on the number of activities conducted</p> <p>Ensure maximum number of employees available by cancellation of non-urgent leaves</p> <p>Perform only most critical tasks and controls activities if</p>	<p>Full shutdown of the department for a short period of time is possible since there is no significant impact on core operations</p>

		staff is available Ensure appropriate reallocation and delegation of tasks/ activities	
Baseline FTE 16 employees	Normal operations with reduced resources 7 employees	Degraded Mode 5 employees	Stop Operations 2

The Research & Development department assessed that if the number of Full Time Employees (FTE) reduced from 16 to 7, they would move from the normal operation to reduced outputs. If the number of Full Time Employees (FTE) has further reduced to 5, they would be moving to the degraded mode. Stopping the operation will be triggered at level of 2 Full Time Employees.

12- Information Management

Description

Information management is the system or collection of systems within a corporate entity, which enable knowledge to be captured and shared. IT/ computer systems are very much a part of information management, but information management is wider, covering hard copy systems (typically paper) as well as electronic systems. Success in ensuring capture, retrievability and usability of information is critical to the success of the corporation.

Process Objectives

- 1. Enable timely and accurate data & information processing, reporting, and storage
- 2. Control the cost of collecting, processing, distributing, and storing data & information

Critical Success Factors (CSF's)

- A. Involve users with acquisition, development and maintenance decisions [1,2]
- B. Develop integrated systems that provide cross functionality and commonality among applications [1,2]

C. Well integrated strategic business and information system planning [1,2]

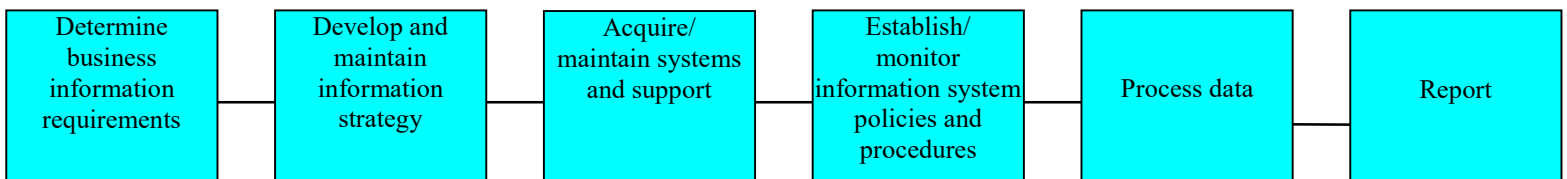
KPI's linked to CSF's

- ⇒ Information processing cycle time; information survey results; response time for on-line requests [A]
- ⇒ Information technology cost as percentage of total costs; cost of information technology operation vs. outsourcing services [B,C]
- ⇒ Number of user complaints/ requests for change [A,C]

Inputs

- All company information
- Strategic plan
- Technology opportunities/ constraints
- Trade and research materials
- User group requests and feedback
- Capital and operating budgets

Activities



Outputs

- User training manuals
- Information technology strategy
- All company information
- Project status reports
- User systems and documentation
- Systems implementation plans
- Disaster recovery plan
- Vendor contracts
- Hardware and software
- Information technology procedures and standards
- System development methodology

Systems

- All company systems

Risks Which Threaten Objectives

- A. Technology failures [1,2]
- B. Rapid obsolescence of processes or technology [1,2]
- C. Ineffective systems integration [1,2]
- D. Project overruns [2]
- E. Information systems do not support business objectives [1,2]
- F. Misalignment of information requirements with data and knowledge [1,2]

Management Responses Linked to Risks

- ⇒ Formal disaster recovery plan and process [A]
- ⇒ Ongoing system maintenance [A,C]
- ⇒ Formal information technology plan [A,B,C,E,F]
- ⇒ Plan system development to ensure integration [C,E,F]
- ⇒ Cost justification and analysis at project level [D]
- ⇒ Technology steering committee [B,C,D,E,F]

Threats from Business Continuity perspective and Risk Assessment Matrix are the same as used in the previous process

Consideration of COVID-19 on the business continuity is assessed using the same template as in the previous processes.

Outcomes of the workshop with Information Management department are summarized below

Preventive actions to prevent deviation from current mode	Normal operations with reduced resources	Degraded mode	Stop operations mode
Maximize remote work with access to the company tools when possible Identify and ensure	Postpone or hold non-critical activities and projects Adopt staff rotation around the week to	Perform critical tasks only (e.g. responding to requests from CEO/EVP, budget management, cost control related	Full shutdown of the department for a short period of time is possible since there is no significant impact on core operations

availability of back-up staff Prepare delegation of activities for those who could be on leave/ inaccessible/ quarantined Ensure Standard operating procedures awareness by all employees	ensure paper workflows uninterrupted Redistribute activities to the available manpower Increase overtime use to compensate for reduced resource Impose restrictions on travel/leaves for the existing staff wherever necessary	activities, etc) Postpone issuance of non-critical reports and management information Impose restrictions on the number of activities conducted Ensure maximum number of employees available by cancellation of non-urgent leaves Perform only most critical tasks and controls activities if staff is available Ensure appropriate reallocation and delegation of tasks/ activities	
Baseline FTE	Normal operations with reduced resources	Degraded Mode	Stop Operations
134 employees	70 employees	35 employees	11

The Information Management department assessed that if the number of Full Time Employees (FTE) reduced from 134 to 70, they would move from the normal operation to reduced outputs. If the number of Full Time Employees (FTE) has further reduced to 35, they would be moving to the degraded mode. Stopping the operation will be triggered at level of 11 Full Time Employees.

13- Legal

Description

Legal activities are an integral part of any companies operations. For the oil/ gas industry, particular complications arise because of the international nature of the operations of many companies, and the significant formation of complex joint ventures.

Process Objectives

1. To protect the company's assets and operations
2. Reduce legal issues

Critical Success Factors (CSF's)

- A. Quality lawyers [1,2]
- B. Risk aware employees [1,2]
- C. Maintain database of problems and resolutions [1,2]
- D. Adequate procedures regarding lawsuit handling [1,2]

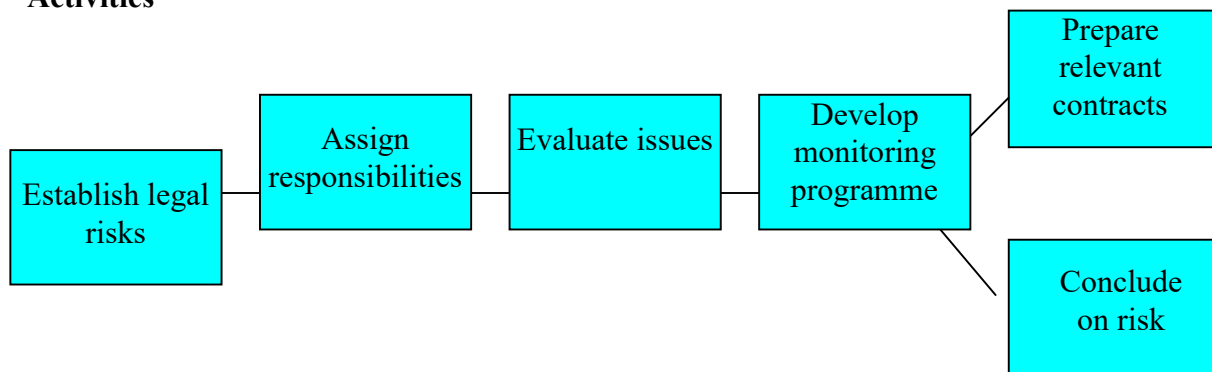
KPI's linked to CSF's

- ⇒ Number of contract disputes and lawsuits [A,B]
- ⇒ Percentage settled in company's favour [A,C,D]
- ⇒ Loss of capital [A,B,D]
- ⇒ External legal costs [D]
- ⇒ Internal communication sessions/training on risk minimization [B]

Inputs

- Corporations law
- Common law
- Other business decisions
- Regulations
- Contracts

Activities



Outputs

- Legal contracts
- Regulatory reports
- Board or Management reports
- Compliance reports
- Litigation or arbitration

Systems

- Exploration and production license database
- Litigation databases
- Land records
- Regulation and corporation law databases

Risks Which Threaten Objectives

- A. Poor documentation [1,2]
- B. Poor decision making [1,2]
- C. Poor implementation of policies, procedures and programs [1,2]
- D. Inadequate responses to problems [1,2]
- E. Legal or regulatory violations [1,2]

Management Responses Linked to Risks

- ⇒ Legal review of contracts [A,B,C,D,E]
- ⇒ Monitor legal and regulatory compliance [C,D,E]
- ⇒ Due diligence[A,B,C,D,E]
- ⇒ Contingency plans [C,E]
- ⇒ Independent legal review [A,B,C,D,E]

Threats from Business Continuity perspective and Risk Assessment Matrix are the same as used in the previous process

Consideration of COVID-19 on the business continuity is assessed using the same template as in the previous processes.

Outcomes of the workshop with Legal department are summarized below

Preventive actions to prevent deviation from current mode	Normal operations with reduced resources	Degraded mode	Stop operations mode
<p>Maximize remote work with access to the company tools when possible</p> <p>Identify and ensure availability of back-up staff</p> <p>Prepare delegation of activities for those who could be on leave/ inaccessible/ quarantined</p> <p>Ensure Standard operating procedures awareness by all employees</p>	<p>Postpone or hold non-critical activities and projects</p> <p>Adopt staff rotation around the week to ensure paper workflows uninterrupted</p> <p>Redistribute activities to the available manpower</p> <p>Increase overtime use to compensate for reduced resource</p> <p>Impose restrictions on travel/leaves for the existing staff wherever necessary</p>	<p>Perform critical tasks only (e.g. responding to requests from CEO/ EVP, budget management, cost control related activities, etc)</p> <p>Postpone issuance of non-critical reports and management information</p> <p>Impose restrictions on the number of activities conducted</p> <p>Ensure maximum number of employees available by cancellation of non-urgent leaves</p> <p>Perform only most critical tasks and controls activities if staff is available</p> <p>Ensure appropriate reallocation and delegation of tasks/ activities</p>	<p>Full shutdown of the department for a short period of time is possible since there is no significant impact on core operations</p>
<p>Baseline FTE</p> <p>15 employees</p>	<p>Normal operations with reduced resources</p> <p>10 employees</p>	<p>Degraded Mode</p> <p>5 employees</p>	<p>Stop Operations</p> <p>2</p>

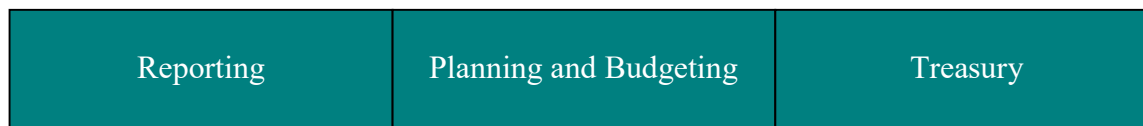
The Legal department assessed that if the number of Full Time Employees (FTE) reduced from 15 to 10, they would move from the normal operation to reduced outputs. If the number of Full Time Employees (FTE) has further reduced to 5, they would be moving to the degraded mode. Stopping the operation will be triggered at level of 2 Full Time Employees.

14- Finance

Description

This process considers financial reporting, planning and management along with financial risk management of the entity.

Sub Process Components



Reporting

Description

Financial reporting is the provision of current and historical financial and related data to managers, to assist them in understanding the state of their own business, and identifying areas where they need to take action. Typical data may include costs, production and stock figures, sales figures, profit and loss reports, etc. Financial reporting is required at many levels throughout organizations, with the needs at each level and in each area of business differing significantly. Successful financial reporting will be timely, reliable, in a format understandable and usable by the relevant manager, and addressing the key areas needed to be controlled.

Process Objectives

1. Accurate, timely and relevant financial and management reports
2. Provide low cost/reduced cycle time reporting
3. Provide accounting framework which meets internal and external needs

Critical Success Factors (CSF's)

- A. Regular monthly closing schedule [1,3]
- B. Accurate and efficient transaction processing [1,2,3]
- C. Qualified and properly trained personnel [1,2,3]

D. Thorough, easy to read reports [1]

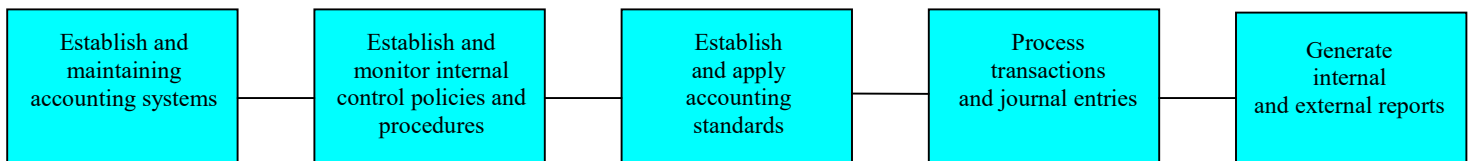
KPI's linked to CSF's

- ⇒ Mistakes made/correction entries [B]
- ⇒ Number of days to close [A]
- ⇒ Cost per transaction processed [B]
- ⇒ Joint venture parties satisfaction with reports [A,B,C,D]
- ⇒ Executives' satisfaction with reports [A,B,C,D]
- ⇒ Financial statement losses resulting from internal control errors [B,C]

Inputs

- Business transactions
- Accounting systems
- Accounting policies
- Treasury transactions
- Costing systems
- Strategic plan

Activities



Outputs

- Management reports
- Financial statements
- Approved accounting policies and procedures
- Joint venture reports
- Performance measurement reports
- Accounting records

Systems

- General ledger
- Project management
- Billings/receivables
- Joint venture
- Financial and management accounting

- Disbursement/payables
- Payroll/time recording
- Cost accounting
- Treasury

Risks Which Threaten Objectives

- A. Poorly integrated systems [1,2,3]
- B. Accounting errors and fraud [1,3]
- C. Management reporting systems improperly aligned with strategic objectives [1,3]
- D. Quality of personnel [1,2,3]

Management Responses Linked to Risks

- ⇒ Effective internal controls, including controls over reconciliations [A,B,C]
- ⇒ Internal audit, adequate segregation [A,B,C]
- ⇒ Corporate governance [A,B,C]
- ⇒ Regular review of accounting policies and estimates [B,C]
- ⇒ Board of Directors to review and discuss results with senior management [B,C,D]

Planning and Budgeting

Description

Financial planning and budgeting quantifies forecasts of future costs and revenues of the corporation.

In a sometimes iterative process, the estimates enable an overall view of the financial future of the corporate entity to be seen, which can lead to amendments to strategy and repeat of the forecasting and planning cycle if the forecast is unacceptable. When firmed up as a budget, the forecasts are typically used for control and performance assessment.

Process Objectives

1. Develop accurate and relevant budgets and forecasts
2. Develop financial analysis of strategic options
3. Optional tax structure to minimize overall tax

Critical Success Factors (CSF's)

- A. Defined and understood processes [1,2,3]
- B. Effective communication between operations and finance [1,2,3]
- C. Integration of tax planning into business planning [1,2,3]
- D. Efficient operations/qualified personnel [1,2,3]

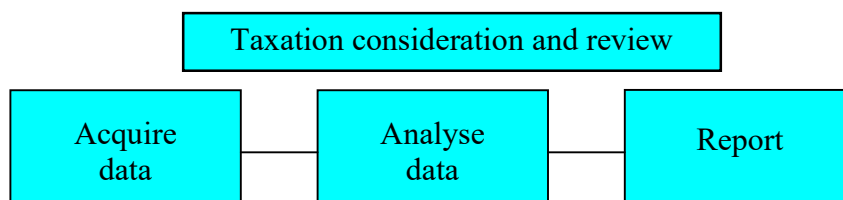
KPI's linked to CSF's

- ⇒ Budget variances [B,D]
- ⇒ Effective tax rate [C]
- ⇒ Time to complete budgets [A,B,D]
- ⇒ Known issues not included in budget or plan [B]
- ⇒ Quality of analysis [A,B,C,D]

Inputs

- Operating units business plans
- Functional budgets
- Taxation regulations
- Process budgets
- Strategic business plans
- Historical performance
- Market and price data
- Economic environment
- Capital requirements

Activities



Outputs

- Profit and loss/balance sheet forecast
- Cashflow forecasts
- Business plan
- Sensitivity analysis
- Financial analysis of strategic opportunities
- Taxation strategies

Systems

- Budgets/forecasts
- Accounting
- Capital management
- Financial modeling

Risks Which Threaten Objectives

- A. Inaccurate data [1,2,3]
- B. Unrealistic and inconsistent assumptions [1,2,3]
- C. External or internal pressure to obtain results [1,2,3]
- D. Excessive tax exposure/non optimal structure [2,3]

Management Responses Linked to Risks

- ⇒ Independent verification of data [A,B,D]
- ⇒ Senior Executive approved assumptions [B,D]
- ⇒ Financial system controls [A,B]
- ⇒ Review and approval of business plan [A,B,C,D]
- ⇒ Tax exposure review vs external environment; “expert” assistance in tax [A,B,D]

Treasury

Description

The key roles of Treasury are to

- procure, at minimum overall cost, sufficient cash resources to meet the funding requirements of the business over the development cycle,
- manage those resources to achieve an optimum return and a level of risk consistent with the strategy set by the board
- manage receipts and disbursements.

The setting of treasury strategy by the board and the effective communication and implementation of this strategy are key processes. Typical objectives may include the portfolio

mix, expected level of return and limits on individual counterpart or country concentrations of risk.

For oil and gas companies, the amounts of cash involved can be very large and since oil/ gas is most commonly traded in US dollars, optimisation of foreign exchange activities and control of related risk are often particularly significant. Treasury may also manage derivatives such as forward contracts for oil, interest rate and currency contracts, swaps and options.

Process Objectives

1. Maximize cashflow/investment earnings
2. Manage financial risk (i.e. price, interest, credit, debt, liquidity) consistent with strategy
3. Manage foreign exchange and commodity price risk exposures
4. Optimize the entity's capital structure
5. Produce relevant, timely and accurate information to management
6. Comply with financing agreements/covenants and minimise financing costs

Critical Success Factors (CSF's)

- A. Timely, relevant, accurate financial information [1,2,3,4,5,6]
- B. Quality personnel [1,2,3,4,5,6]
- C. Strong internal control environment [2,3,4,6]
- D. Accurate assessment and application of market conditions [1,2,3,4,5,6]
- E. Efficient operating systems [1,2,3,4,5,6]
- F. Strong relationships with financing sources [1,2,3,4]

KPI's linked to CSF's

- ⇒ Return on investment [A,D]
- ⇒ Employee turnover rate; cost of training vs. total cost of employment [B]
- ⇒ Cost of finance [D,F]
- ⇒ Profit/loss on hedging strategies [A,D]
- ⇒ Credit risk losses [C]

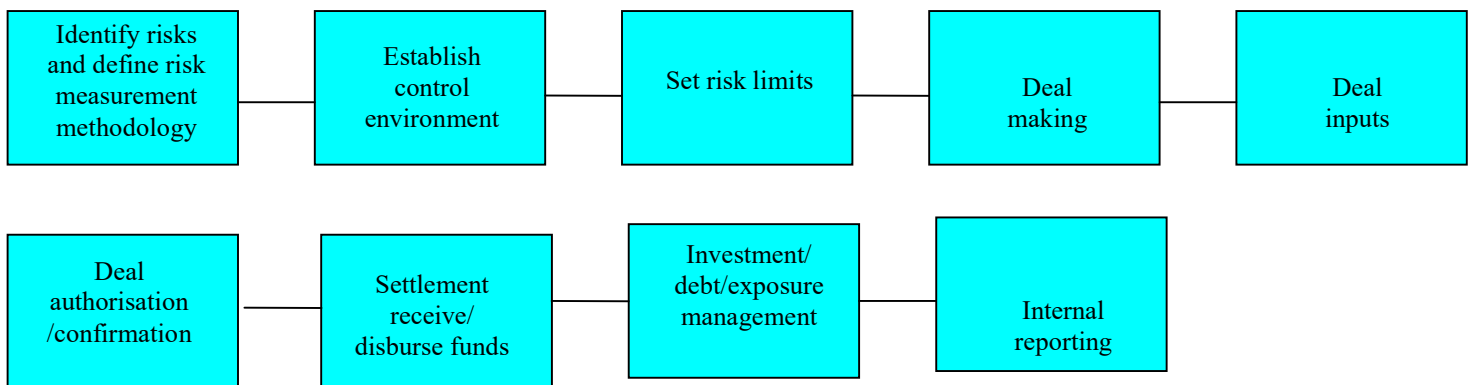
⇒ Average forward sales price [D]

⇒ Error rates [A,B,C,E]

Inputs

- Functional budgets
- Capital budgets
- Group funding requirements
- Risk exposure reports
- Bank
- Market data/information
- Cashflow forecasts
- Subsidiary data/exposures

Activities



Outputs

- Budgets/forecasts
- Contracts (interest rate, currency, commodity)
- Exposure management reports (interest rate, currency, commodity, credit, liquidity)
- Performance reports
- Investment/debt reports

Systems

- Cash management
- Disbursement/payable
- Treasury management
- Budgeting
- Receipts/accounts receivable
- Front office

- Financial
- Settlements

Risks Which Threaten Objectives

- A. Liquidity risk [1,2,4,6]
- B. Market risk (foreign exchange, commodity price, interest rate) [1,2,3,4,6]
- C. Fraud/theft [1,2,3,4,5,6]
- D. Credit and/or non-performance risk [1,2,3,4,6]
- E. Unauthorised trading [1,2,3,4,6]
- F. Unforeseen cash requirements [1,2,3,4,6]
- G. Inadequate staff [1,2,3,4,5,6]
- H. Management override [1,2,3,4,5,6]

Management Responses Linked to Risks

- ⇒ Formal hedging strategy and exposure reviews [A,B,D,E]
- ⇒ Monitor compliance with treasury strategies [A,B,D,E]
- ⇒ Daily exposure reviews [A,B,C,D,E]
- ⇒ Monitor financial information systems [C]
- ⇒ Daily review/audit of transactions/functions [C,E]
- ⇒ Regular cashflow forecasting [A,B,D,F]
- ⇒ Regular training [A,B,C,D,E,F,G]
- ⇒ Front office/back office reconciliation [G,H]

Threats from Business Continuity perspective and Risk Assessment Matrix are the same as used in the previous process

Consideration of COVID-19 on the business continuity is assessed using the same template as in the previous processes.

Outcomes of the workshop with Finance department are summarized below:

Preventive actions to prevent deviation from current mode	Normal operations with reduced resources	Degraded mode	Stop operations mode
<p>Maximize remote work with access to the company tools when possible</p> <p>Identify and ensure availability of back-up staff</p> <p>Prepare delegation of activities for those who could be on leave/ inaccessible/ quarantined</p> <p>Ensure Standard operating procedures awareness by all employees</p>	<p>Postpone or hold non-critical activities and projects</p> <p>Adopt staff rotation around the week to ensure paper workflows uninterrupted</p> <p>Redistribute activities to the available manpower</p> <p>Increase overtime use to compensate for reduced resource</p> <p>Impose restrictions on travel/leaves for the existing staff wherever necessary</p>	<p>Perform critical tasks only (e.g. responding to requests from CEO/ EVP, budget management, cost control related activities, etc)</p> <p>Postpone issuance of non-critical reports and management information</p> <p>Impose restrictions on the number of activities conducted</p> <p>Ensure maximum number of employees available by cancellation of non-urgent leaves</p> <p>Perform only most critical tasks and controls activities if staff is available</p> <p>Ensure appropriate reallocation and delegation of tasks/ activities</p>	<p>Full shutdown of the department for a short period of time is possible since there is no significant impact on core operations</p>
<p>Baseline FTE</p> <p>95 employees</p>	<p>Normal operations with reduced resources</p> <p>60 employees</p>	<p>Degraded Mode</p> <p>25 employees</p>	<p>Stop Operations</p> <p>10</p>

The Finance department assessed that if the number of Full Time Employees (FTE) reduced from 95 to 60, they would move from the normal operation to reduced outputs. If the number of Full Time Employees (FTE) has further reduced to 25, they would be moving to the degraded mode. Stopping the operation will be triggered at level of 10 Full Time Employees.

15- Human Resources

Description

Human Resources/ Personnel activities all relate to the staff of the company. Activities include recruitment, establishment and implementation of policies on pay and conditions, training and development, performance and promotion, and discipline. In general, the HR department within a company will primarily provide support to management and other functions, but depending upon the company they may take a more controlling position in some areas.

For the oil/ gas industry - particularly in the Upstream - one of the specific features often encountered is the need for staffing operations in remote and more difficult parts of the world.

Process Objectives

1. Attract and retain skilled and motivated work force
2. Control employee costs while maintaining morale and productivity
3. Comply with regulatory/ tax filing requirements
4. Adherence to code of conduct
5. Training and development of work force
6. Maintenance of sound labour relations

Critical Success Factors (CSF's)

- A. Optimise employee utilisation and productivity [2,5]
- B. Minimise downtime due to labour unrest [2,6]
- C. Commitment to training and development [1,2,5,6]
- D. Maintain competitive compensation / benefit packages [1,2,6]
- E. Optimise human resource administration efficiencies [1,2,3,4,5,6]
- F. Employee compliance [4,5,6]

KPI's linked to CSF's

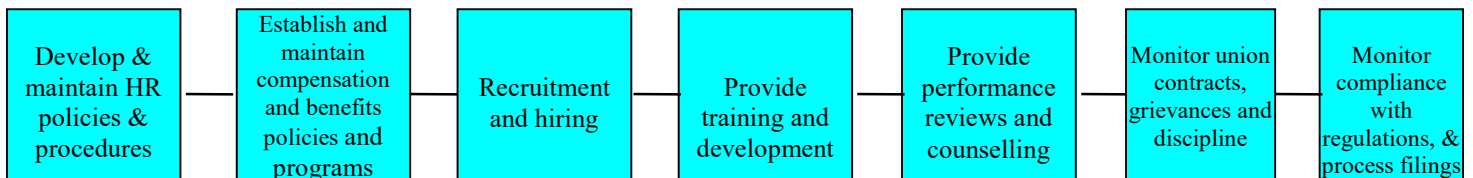
- ⇒ Employee productivity ratios [A]
- ⇒ Downtime in days due to lack of labour [B]

- ⇒ Training hours per employee; training costs per employee; percentage of payroll costs [C]
- ⇒ Employee turnover; compensation/benefit levels compared to the industry [A,D]
- ⇒ Human resource employees/total employees [E]
- ⇒ Annual business code of conduct review/agreement [F]

Inputs

- Strategic planning
- Resource requests
- Conditions of service
- Tax regulations
- Union contracts
- Labour legislation
- Industry statistics and market data
- Training goals/requests
- Personnel feedback

Activities



Outputs

- Regulatory filings
- Compensation and benefits policies and administration
- Personnel files
- Tax filings
- Human resource policies/ procedures
- Training programs
- Performance reviews
- Payroll and benefits disbursements
- Staffing and cost data

Systems

- Human resource management
- Compensation and benefits
- Salary accounting system
- Tax system
- Regulatory systems
- Cash disbursements / payables systems
- Appraisal and development system

Risks Which Threaten Objectives

- A. Labour unrest [6]
- B. Low productivity [1,2,6]
- C. Poorly motivated staff [1,2,4,5,6]
- D. Non - compliance with regulations (tax, labour, etc.) [1,2,3,4,5,6]
- E. Lack of personnel with skill sets needed [1,2,5,6]
- F. Non competitive compensation packages [1,2,4,5,6]

Management Responses Linked to Risks

- ⇒ Monitor compliance with agreements and continuous communication with unions and employees [A,B,C,D]
- ⇒ Time measurement, supervision and training [B,C,D,E]
- ⇒ Conduct employee surveys with follow up on results; monitor labour relations and establish employee grievance committees [A,B,C,E,F]
- ⇒ Monitor compliance with regulations [D]
- ⇒ Monitor compliance with hiring criteria; develop and implement effective training programs [A,B,C,E]
- ⇒ Compare salary costs and incentives to industry norms [F]

Threats from Business Continuity perspective and Risk Assessment Matrix are the same as used in the previous process

Consideration of COVID-19 on the business continuity is assessed using the same template as in the previous processes.

Outcomes of the workshop with Human Resources department are summarized below

Preventive actions to prevent deviation from current mode	Normal operations with reduced resources	Degraded mode	Stop operations mode
Maximize remote work with access to the company tools when possible	Postpone or hold non-critical activities and projects Adopt staff rotation	Perform critical tasks only (e.g. responding to requests from CEO/EVP, budget management, cost	Full shutdown of the department for a short period of time is possible since there is no significant impact

<p>Identify and ensure availability of back-up staff</p> <p>Prepare delegation of activities for those who could be on leave/ inaccessible/ quarantined</p> <p>Ensure Standard operating procedures awareness by all employees</p>	<p>around the week to ensure paper workflows uninterrupted</p> <p>Redistribute activities to the available manpower</p> <p>Increase overtime use to compensate for reduced resource</p> <p>Impose restrictions on travel/leaves for the existing staff wherever necessary</p>	<p>control related activities, etc)</p> <p>Postpone issuance of non-critical reports and management information</p> <p>Impose restrictions on the number of activities conducted</p> <p>Ensure maximum number of employees available by cancellation of non-urgent leaves</p> <p>Perform only most critical tasks and controls activities if staff is available</p> <p>Ensure appropriate reallocation and delegation of tasks/ activities</p>	<p>on core operations</p>
<p>Baseline FTE</p> <p>112 employees</p>	<p>Normal operations with reduced resources</p> <p>75 employees</p>	<p>Degraded Mode</p> <p>32 employees</p>	<p>Stop Operations</p> <p>10</p>

The Human Resources department assessed that if the number of Full Time Employees (FTE) reduced from 112 to 75, they would move from the normal operation to reduced outputs. If the number of Full Time Employees (FTE) has further reduced to 32, they would be moving to the degraded mode. Stopping the operation will be triggered at level of 10 Full Time Employees.

16- Procurement

Description

This process covers what would traditionally be known as Purchasing/Procurement and Warehousing/Stock Control. The process covers the purchase of both goods and services.

Sub Process Components



Supplier Management

Description

Supplier management is concerned with the selection of suppliers, the establishment of term contracts, and the management of relationships with the selected suppliers. Call-offs under contracts are dealt with in the process “Purchasing”.

The development and maintenance of longer term relationships with a small number of suppliers is generally not only cost effective - minimising ongoing negotiations, and enhancing purchasing power - but also provides consistency of supplies to users. Both characteristics are significant to the large oil/ gas industry companies.

Process Objectives

1. Achieving partnerships with key suppliers
2. Developing an approximate mix of suppliers
3. Ensuring that purchased product and service quality meets business objectives
4. Timely delivery of material at optimum cost
5. Minimise stock of purchased materials
6. Minimise number of suppliers

Critical Success Factors (CSF's)

- A. Supplies meet contract terms [3,4]
- B. Proactive management of supplier relationships [1,2,3,4,5,6]
- C. Clarity of contractual terms including specifications of material [3,4,5]
- D. Availability of global data on suppliers [1,2,6]

E. Understand contribution purchasing leads to achieving business objectives [3,4,5]

F. Limiting number of suppliers [1,6]

KPI's linked to CSF's

⇒ Supplier on-time delivery performance [A,C]

⇒ Cost performance [A,C,E]

⇒ Percentage of wastage of material received [A,C]

⇒ Supplier quality performance [D]

⇒ Profit contribution made by purchasing [E]

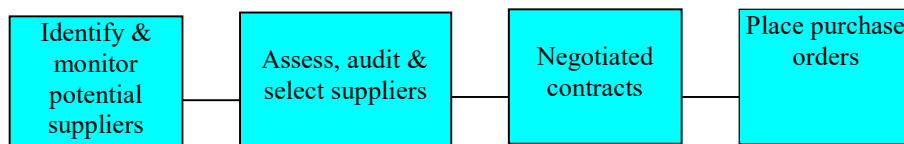
⇒ Number of suppliers generating 80% of purchase order by value and by volume [D,F]

⇒ Number of complaints lodged [A,B,E]

Inputs

- Material and service requirements
- Material specification
- Quality assurance standards
- Cost targets
- Sourcing strategy
- Manufacturing processes
- Supplier base analysis
- Supplier audit and performance data

Activities



Outputs

- Approved suppliers and data
- Supplier quality data
- Contract terms and conditions
- Supplier performance data
- Tender documents
- Lead times
- Negotiated prices

Systems

- Purchasing system (including potentially an e-business procurement system)
- Production and planning systems
- Sales forecasting systems
- Quality assurance system
- Material specification system
- Supplier evaluation system

Risks Which Threaten Objectives

- A. Adversarial relationship to supplier [1,2,3,4,5,6]
- B. Single or limited sourcing of critical material [3,4,5]
- C. Bad performance of suppliers [3,4,5]
- D. Increasing number of suppliers [1,2,6]
- E. Too many suppliers [1,2,3,6]

Management Responses Linked to Risks

- ⇒ Develop vendor communication and partnerships [A,C]
- ⇒ Develop proactive management processes with suppliers [A,C]
- ⇒ Develop supplier assessment and selection procedures [A,B,C,D,E]
- ⇒ Effective performance measurement and reporting systems [A,B,C]
- ⇒ Define a sourcing strategy for key materials and services [B,D,E]
- ⇒ Establishing or utilizing an e-business procurement system

Purchasing and Inventory Management

Description

Purchasing, for this model, is the process whereby individual orders are produced, processed, and goods and services delivered.

For this model, (where the purchase of crude oil and other feedstocks is separately considered), this purchasing and inventory management process refers to non-feedstock materials such as maintenance spares, stationery, many services, and supply of capital goods.

Note that in most organizations, the Purchasing or Sourcing Department will normally also cover the activities separately defined in this model as “Supplier management”.

Process Objectives

1. Minimize stocks and costs whilst achieving “On Time In Full” targets
2. Minimize cost of purchased goods and inventory management
3. Ensure efficiency of distribution system
4. Ensure integrity of purchasing process
5. Ensure compliance with H,S&E regulations

Critical Success Factors (CSF's)

- A. Efficient, effective, & integrated purchasing system [1,2,3,4,5]
- B. Accurate payment for goods and services received [1,2,4]
- C. Efficient stock management [1,2,3]
- D. No theft or fraud [1,2,3,4,5]
- E. Efficient & effective communication links with suppliers and internal customers [1,2,3,4,5]

KPI's linked to CSF's

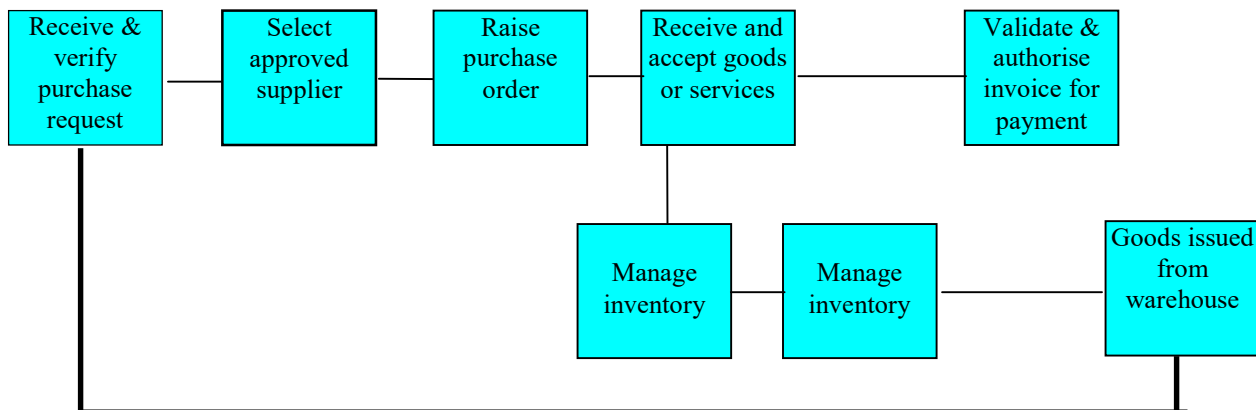
- ⇒ Purchase order error rate [A]
- ⇒ Purchase cycle time [A]
- ⇒ Percentage of invoices paid to terms accurately [A,B]
- ⇒ Inventory turnover [C]
- ⇒ Inventory write-off [C]
- ⇒ Number of inventory outs [C]
- ⇒ Stock accuracy [C]
- ⇒ Volume and value of theft and fraud detected [D]
- ⇒ Number of purchase orders given by EDI [E]

⇒ Regular communications with suppliers & internal customers [E]

Inputs

- Material and service requirements
- Supply requisitions
- Approved supplier list and data
- Capital expenditure authorisation
- Lead times
- Negotiated prices
- Invoice
- Materials
- Internal policies procedures and practices
- Material and delivery notes
- H,S&E regulations

Activities



Outputs

- Purchase orders
- Inventory information
- Purchasing performance data
- Authorised invoices
- Material issues
- Quality report

Systems

- Material requirements planning
- Inventory control systems
- Quality control system
- Production planning system
- Warehouse management

- Purchasing system (including potentially an e-business procurement system)
- Accounts payable

Risks Which Threaten Objectives

- A. Stock-outs [1,3,5]
- B. Vendor inability to supply [1,2,3,4,5]
- C. High levels of stock [1,3,4]
- D. Inaccurate or double payment for goods and services received [1,2,4]
- E. Theft and fraud [1,2,3,4,5]

Management Responses Linked to Risks

- ⇒ Alignment of purchasing, production and sales processes [A,B,C]
- ⇒ Contingency sourcing [A,B]
- ⇒ Defined and communicated policies, procedure and practice [A,B,C,D,E]
- ⇒ Proper receipting and invoice approval procedures [D,E]
- ⇒ Develop internal control system [A,C,D,E]
- ⇒ Establishing or utilizing an e-business procurement system [A,B,C]

Threats from Business Continuity perspective and Risk Assessment Matrix are the same as used in the previous process

Consideration of COVID-19 on the business continuity is assessed using the same template as in the previous processes.

Outcomes of the workshop with Procurement department are summarized below

Preventive actions to prevent deviation from current mode	Normal operations with reduced resources	Degraded mode	Stop operations mode
Maximize remote work with access to the company tools when possible	Postpone or hold non-critical activities and projects	Perform critical tasks only (e.g. responding to requests from CEO/EVP, budget	Full shutdown of the department for a short period of time is possible since there is

<p>Identify and ensure availability of back-up staff</p> <p>Prepare delegation of activities for those who could be on leave/ inaccessible/ quarantined</p> <p>Ensure Standard operating procedures awareness by all employees</p>	<p>Adopt staff rotation around the week to ensure paper workflows uninterrupted</p> <p>Redistribute activities to the available manpower</p> <p>Increase overtime use to compensate for reduced resource</p> <p>Impose restrictions on travel/leaves for the existing staff wherever necessary</p>	<p>management, cost control related activities, etc)</p> <p>Postpone issuance of non-critical reports and management information</p> <p>Impose restrictions on the number of activities conducted</p> <p>Ensure maximum number of employees available by cancellation of non-urgent leaves</p> <p>Perform only most critical tasks and controls activities if staff is available</p> <p>Ensure appropriate reallocation and delegation of tasks/ activities</p>	<p>no significant impact on core operations</p>
<p>Baseline FTE</p> <p>230 employees</p>	<p>Normal operations with reduced resources</p> <p>112 employees</p>	<p>Degraded Mode</p> <p>70 employees</p>	<p>Stop Operations</p> <p>15</p>

The Procurement department assessed that if the number of Full Time Employees (FTE) reduced from 230 to 112, they would move from the normal operation to reduced outputs. If the number of Full Time Employees (FTE) has further reduced to 70, they would be moving to the degraded mode. Stopping the operation will be triggered at level of 15 Full Time Employees.

17- Health, Safety, and Environment

Description

Finding, producing, processing and distributing oil and gas all involve serious health, safety and environmental risks. Minimization of those risks is a major activity for any oil and gas company.

The need to ensure good performance in this area is critical, since failure to do so can have severe adverse consequences - legal penalties, adverse publicity, governmental disapproval, staff concerns, and financial penalties. Good performance is good business sense.

The oil/ gas industry in general maintains very high standards of HSE - it is in its own interests to do so - but nevertheless, there will always be some organisations whose performance is better than others. On HSE issues, there is a lot of sharing of knowledge between companies in the sector.

Health, safety and environmental issues often overlap, particularly health and safety. Health - more particularly occupational health - concerns in general the longer term risks to the health of employees and contractors by exposure to materials or particular working conditions. Safety concerns the prevention of accidents which may be detrimental to people and/ or equipment. Protection of the environment is normally both a legislative requirement and an external public perception need, since permits to continue its operations in any particular locality are essential to the industry.

Process Objectives

1. Manage operations to achieve acceptable Health, Safety and Environmental standards in the community
2. Comply with regulatory requirements
3. Comply with generally accepted standards such as ISO 14,000
4. Ensure acceptable health and safety standards in the workplace
5. Manage risk to ensure costly failures of health, safety and environment are not incurred
6. Develop procedures for emergency response.

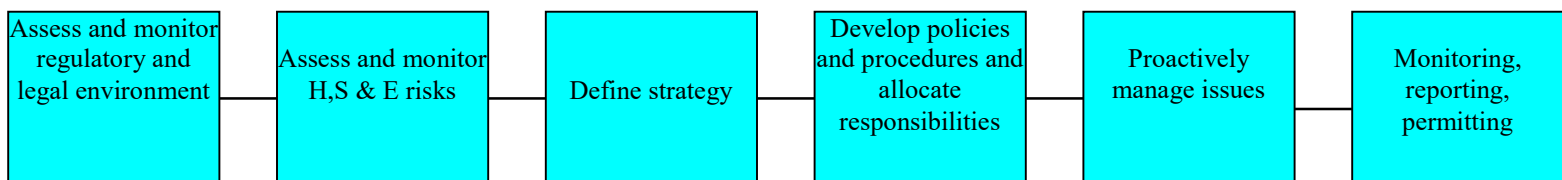
Critical Success Factors (CSF's)

- A. Management commitment to H, S & E [1,2,3,4,5,6]
- B. Integration of H, S & E into all business operations [1,4,5]
- C. Proactive external and internal H, S & E communications [1,2,4,5]
- D. Understanding of the cost of H, S & E management [1,4,6]
- E. Use best available technology not involving excessive cost [1,2,3,4,5,6]
- F. Use best practice management techniques and processes to manage the issues [1,2,3,4,5,6]
- G. Adequate training [1,2,3,4,5,6]
- H. H,S,&E regulatory compliance [1,2,3,4,5]

Inputs

- Laws, regulations and official guidance
- Health, safety and environmental data on materials handled
- Corporate strategic plan
- Equipment listing
- Listing of materials handled
- Corporate values
- Risk tolerances
- Past performance data
- Process descriptions

Activities



Outputs

- Health, Safety & Environmental strategy
- H, S & E policies and procedures
- Regulatory filings and permits
- H, S & E audit reports
- External H, S & E communications
- H, S & E cost and performance data
- H, S & E data and assessments
- Emergency response plans

Systems

- Material properties systems
- H, S & E performance records
- Data access
- Training
- HR
- Compliance reporting

Risks Which Threaten Objectives

- A. Regulatory violations resulting in payments [1,2,3,4,5]
- B. Settlement expenses [1,5]
- C. Insurance rate increases [1,4,5,6]
- D. Adverse publicity from H, S & E issues [1,4]
- E. Company/employees are not H, S & E conscious [1,2,3,4,5,6]
- F. Unfavorable market response to products [1,5]
- G. Contingent liabilities exist but are not known [1,2,3,4,5]
- H. Inability to comply with regulatory changes [1,2,5]
- I. Company too tolerant of risk [1,2,3,4,5,6]
- J. Insufficient risk management [1,2,3,4,5,6]

Management Responses Linked to Risks

- ⇒ Established reporting structure for H, S & E matters [A,B,C,D,H]
- ⇒ H, S & E management information systems [A,B,E,H]
- ⇒ Integration of H, S & E management with all business processes [A,B,E,H]
- ⇒ Track company response to issues [A,B,C,E,G,H,I]
- ⇒ Monitoring of competitor's issues [D,F,G,H,I,J]
- ⇒ Internal and external H, S & E audits [A,B,C,D,E,F,G,H,J]
- ⇒ Internal and external benchmarking [A,B,C,D,E,F,G,H,I,J]
- ⇒ Continuous monitoring and control of H, S & E performance [A,B,C,D,E,F,G,H]
- ⇒ Risk management program [A,B,C,D,E,F,G,H,I,J]
- ⇒ Emergency response procedures in place [A,B,D,G]

⇒ Staff well-trained to manage H,S,&E crisis [A,B,C,D,E,G,H,I]

Threats from Business Continuity perspective and Risk Assessment Matrix are the same as used in the previous process

Consideration of COVID-19 on the business continuity is assessed using the same template as in the previous processes.

Outcomes of the workshop with Health, Safety & Environment department are summarized below:

Preventive actions to prevent deviation from current mode	Normal operations with reduced resources	Degraded mode	Stop operations mode
<p>Maximize remote work with access to the company tools when possible</p> <p>Identify and ensure availability of back-up staff</p> <p>Prepare delegation of activities for those who could be on leave/ inaccessible/ quarantined</p> <p>Ensure Standard operating procedures awareness by all employees</p>	<p>Postpone or hold non-critical activities and projects</p> <p>Adopt staff rotation around the week to ensure paper workflows uninterrupted</p> <p>Redistribute activities to the available manpower</p> <p>Increase overtime use to compensate for reduced resource</p> <p>Impose restrictions on travel/leaves for the existing staff wherever necessary</p>	<p>Perform critical tasks only (e.g. responding to requests from CEO/ EVP, budget management, cost control related activities, etc)</p> <p>Postpone issuance of non-critical reports and management information</p> <p>Impose restrictions on the number of activities conducted</p> <p>Ensure maximum number of employees available by cancellation of non-urgent leaves</p> <p>Perform only most critical tasks and controls activities if staff is available</p> <p>Ensure appropriate reallocation and delegation of tasks/ activities</p>	<p>Full shutdown of the department for a short period of time is possible since there is no significant impact on core operations</p>

Baseline FTE	Normal operations with reduced resources	Degraded Mode	Stop Operations
79 employees	50 employees	22 employees	5

The Health, Safety & Environment department assessed that if the number of Full Time Employees (FTE) reduced from 79 to 50, they would move from the normal operation to reduced outputs. If the number of Full Time Employees (FTE) has further reduced to 22, they would be moving to the degraded mode. Stopping the operation will be triggered at level of 5 Full Time Employees.

18- Public Relations

Description

Particularly for larger companies, structured external relationships are essential. Typical key external relationships include :

- shareholder / stock market/ analysts, to maximize share price
- local and national governments, for obtaining permits/ approvals/ tax advantages the public, for marketing purposes, to avoid hindrances to obtaining permits and governmental approvals; image for potential employees; etc.

Process Objectives

1. Maximize shareholder value
2. Maintain high quality reputation
3. Facilitate information flow to stakeholders - compliant and discretionary

Critical Success Factors (CSF's)

- A. Positive shareholder reaction [1,2,3]
- B. Satisfaction of compliance requirements [2,3]
- C. Satisfaction of market expectations [1,2,3]

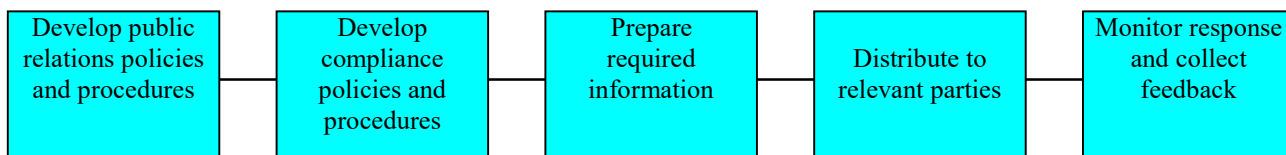
KPI's linked to CSF's

- ⇒ No adverse share price reaction to information / lack of information [A,C]
- ⇒ No default on legislative / contractual requirements [B]
- ⇒ Comparability with competitors actions [B,C]
- ⇒ No adverse share price reactions to information / lack of information [A,C]

Inputs

- Financial information
- Legal information
- Operational information

Activities



Outputs

- Press releases
- Annual reports and financial statements
- Public commentary by company officials
- Other documents/information for public release

Systems

- Financial
- Legal
- Management information
- Compliance monitoring procedures

Risks Which Threaten Objectives

- A. Release of inaccurate / inappropriate information [1,2]
- B. Failure to meet legal / contractual obligations [1,2,3]
- C. Focus on short term objectives [1,2]

Management Responses Linked to Risks

- ⇒ Internal / external check procedures [A,B]
- ⇒ Compliance monitor procedures [A,B]
- ⇒ Long term planning process [C]
- ⇒ Communications policy [A,B,C]
- ⇒ Threats from Business Continuity perspective and Risk Assessment Matrix are the same as used in the previous process
- ⇒ Consideration of COVID-19 on the business continuity is assessed using the same template as in the previous processes.

Outcomes of the workshop with Public Relations department are summarized below:

Preventive actions to prevent deviation from current mode	Normal operations with reduced resources	Degraded mode	Stop operations mode
<p>Maximize remote work with access to the company tools when possible</p> <p>Identify and ensure availability of back-up staff</p> <p>Prepare delegation of activities for those who could be on leave/ inaccessible/ quarantined</p> <p>Ensure Standard operating procedures awareness by all employees</p>	<p>Postpone or hold non-critical activities and projects</p> <p>Adopt staff rotation around the week to ensure paper workflows uninterrupted</p> <p>Redistribute activities to the available manpower</p> <p>Increase overtime use to compensate for reduced resource</p> <p>Impose restrictions on travel/leaves for the existing staff wherever necessary</p>	<p>Perform critical tasks only (e.g. responding to requests from CEO/ EVP, budget management, cost control related activities, etc)</p> <p>Postpone issuance of non-critical reports and management information</p> <p>Impose restrictions on the number of activities conducted</p> <p>Ensure maximum number of employees available by cancellation of non-urgent leaves</p> <p>Perform only most critical tasks and controls activities if</p>	<p>Full shutdown of the department for a short period of time is possible since there is no significant impact on core operations</p>

		staff is available Ensure appropriate reallocation and delegation of tasks/ activities	
Baseline FTE 12 employees	Normal operations with reduced resources 7 employees	Degraded Mode 4 employees	Stop Operations 0

The Public Relations department assessed that if the number of Full Time Employees (FTE) reduced from 12 to 7, they would move from the normal operation to reduced outputs. If the number of Full Time Employees (FTE) has further reduced to 4, they would be moving to the degraded mode. Stopping the operation will be triggered at level of zero Full Time Employees.

4.3. Presentation of Results & Findings Summary

Research Objective 1

First objective was to find the relationship between COVID-19 Pandemic and the process of Business Continuity Planning in ABC Oil Company and assess that impact. This was based on questionnaire circulated to all departments across the company, and the responses received have been discussed and validated through interviews, meetings, and interactions with many levels inside the organization.

The questionnaire included 8 different questions measuring the impact of COVID-19 on the process of business continuity planning inside the company. The ratio scale method was used to measure the result. The hypothesis was developed as there is a direct relation between COVID-19 and the process of business continuity planning inside the company, as assumed that the COVID-19 has impacted the process and enforced the management to re-consider the business continuity plan for all departments across the company.

The questions circulated to all departments were supposed to be answered by “YES” or “NO” If the aggregate rate of “YES” answer was higher than 50%, this means that the impact of COVID-19 on the process of business continuity planning inside the company is positive. The

Questionnaire was circulated to 36 persons representing the entire company, and the response rate to the questionnaire was 100%, and the positive ratio rate was 85% as follows:

		YES	NO
Q1	Has the list of threats been revisited because of COVID-19 Pandemic in your department?	32	4
Q2	Has the Risk Assessment Matrix been revised in your department because of COVID-19 Pandemic?	30	6
Q3	Has Business Impact Analysis in your department been revised because of COVID-19?	30	6
Q4	Have the critical processes been re-assessed in your department because of COVID-19 Pandemic?	36	0
Q5	Has the Recovery Time Objective been changed in your Business Continuity Plan because of COVID-19 Pandemic for the critical processes?	36	0
Q6	Has the Recovery Level Objective been revised in your Business Continuity Plan because of COVID-19 Pandemic?	26	10
Q7	Have Business Continuity Response Plans been updated in your department because of COVID-19 Pandemic?	36	0
Q8	Have Business Continuity Response Plans been activated in your department because of COVID-19 Pandemic?	20	16

246	42
85%	

Research Objective 2

Since the impact of COVID-19 Pandemic on Business Continuity Planning Process for ABC Oil Company found positive, the second objective of the study was to extend the study to understand the business processes across the company and to create an effective Business Continuity Planning model for ABC Oil Company to consider that impact. This is to ensure the ability of the company to continue functioning during a crisis situation with minimum disruption at different levels of manpower availability due to COVID-19.

21 interviews have been conducted and 22 workshops have been organized with the departments across the company. The business processes have been discussed in details with the focal points and subject matter experts during the workshops.

The impact of COVID-19 Pandemic was also discussed on each and every business process and how it has impacted the workforce. In addition, the response of each department has been developed in light of three different operational modes depending on the availability of workforce during the Pandemic:

First Mode: Continue normal operations with reduced resources

Operations without significant changes in critical activities, but with possible dropping / postponement of non-critical activities, that would not increase risks (HSEQ, fault, etc.) and would not inhibit meeting the planned level of output. Department to assess the level of people in this mode.

Second Mode: Operations in degraded mode

Dropping / postponement of certain critical / non-critical activities that potentially can lead to partial reduction in the level of output and increase risks (HSEQ, fault, etc.). Department to assess the level of people in this mode.

Third Mode: Shutdown of operations and interruption of output due to unavailability to continue operations with the available number of resources. Department to assess the level of people in this mode.

The result of the workshops was a very effective model that has been developed by the Author based on the data collected. The Model has been applied to all departments across the company, and ensured the readiness of all departments to deal with the Pandemic situation in a planned manner to avoid stopping the operation suddenly.

The Model Template developed by the Author is attached to this research. (Appendix 1).

5. CHAPTER FIVE - CONCLUSIONS AND DISCUSSIONS

5.1. Introduction

This chapter covers the summary of conclusion based on the research results presented in Chapter 4, discussion in relations to research objectives and the research framework adopted, evaluation of Strength / limitations, recommendations for improvement, recommendation for further studies, and contributions of research in adding value to ABC company and to the oil and gas sector in the State of Qatar.

5.2. Summary of Conclusion

COVID-19 has changed the way businesses are operated, added another challenge to business continuity of many industries across the world, and impacted many organizations to close out / stop their operation either temporary or permanently.

This case study research was to assess the impact of COVID-19 on the oil and gas sector in a geographical area (State of Qatar) represented by ABC Oil Company, and to develop a cohesive model to be adopted by ABC Company and across the oil and gas sector to ensure their readiness to response effectively and efficiently to a crisis like COVID-19 Pandemic.

As described in details in the previous chapter, both research objectives have been met and concluded.

First objective was to find the relationship between COVID-19 Pandemic and the process of Business Continuity Planning in ABC Oil Company and assess that impact. This was based on questionnaire circulated to all departments across the company, and the responses received have been discussed and validated through interviews, meetings, and interactions with many levels inside the organization.

The questionnaire included 8 different questions measuring the impact of COVID-19 on the process of business continuity planning inside the company. The ratio scale method was used to measure the result.

The hypothesis was developed as there is a direct relation between COVID-19 and the process of business continuity planning inside the company, as assumed that the COVID-19 has impacted the process and enforced the management to re-consider the business continuity plan for all departments across the company.

The questions circulated to all departments were supposed to be answered by “YES” or “NO”

If the aggregate rate of “YES” answer was higher than 50%, this means that the impact of COVID-19 on the process of business continuity planning inside the company is positive.

Questionnaire was circulated to 36 persons representing the entire company, and the response rate to the questionnaire was 100%, and the positive ratio rate was 85%.

This concludes the positive direct impact of COVID-19 on the process of business continuity planning inside the company.

Since the impact of COVID-19 Pandemic on Business Continuity Planning Process for ABC Oil Company found positive, the second objective of the study was to extend the study to understand the business processes across the company and to create an effective Business Continuity Planning model for ABC Oil Company to consider that impact. This is to ensure the ability of the company to continue functioning during a crisis situation with minimum disruption at different levels of manpower availability due to COVID-19.

Based on 43 interviews and workshops conducted with the departments across the company, a model has been developed and applied to better plan for a crisis like COVID-19.

The model considered three different scenarios of availability of employees, each scenario has its separate response plan from the company based on evaluation and analysis of each business process and its related activities. Moving from scenario to another will depend on the decline in the number of employees, and will require each department to adopt a different methodology to ensure business continuity in delivering their mandate which helps directly the company’s core operation.

The three scenarios are summaries below:

First: Continue normal operations with reduced resources

Operations without significant changes in critical activities, but with possible dropping / postponement of non-critical activities, that would not increase risks (HSEQ, fault, etc.) and would not inhibit meeting the planned level of output. Department to assess the level of people in this mode.

Second: Operations in degraded mode

Dropping / postponement of certain critical / non-critical activities that potentially can lead to partial reduction in the level of output and increase risks (HSEQ, fault, etc.). Department to assess the level of people in this mode.

Third: Stop Operation

Shutdown of operations and interruption of output due to unavailability to continue operations with the available number of resources. Department to assess the level of people in this mode.

The detailed model template that has been developed by the Author is attached (attachment 1).

5.3. Discussion / Implications of Results & Findings

Companies are increasingly affected by widely unexpected threats and crises, those threats and crises may adversely impact organizations' ability to continue their operations as normal, and could limit their ability to perform their business processes to achieve their business objectives. However, COVID-19 is a different crisis that has direct impact on the people as well as companies.

This case study research was divided into two parts; first part was to proof the hypotheses that there is a direct and positive relation between COVID-19 Pandemic and the process of Business Continuity Planning in the oil and gas sector (Case study on ABC Oil Company).

Second part was about developing a model for companies to adopt in order to have readiness for such crisis and ensure that they have a set of process planned in advance to continue their activities with minimum disruption.

The fact is that Pandemic is still new, it was first discovered in December 2019 and hence, companies did not prepare for such crisis that impacted the world and moved from country to another. People is a significant resource for any business to operate, without people, companies do not survive. COVID-19 is such a crisis that hits people directly and makes them unavailable for work either temporary (infected, quarantined, restricted to travel, etc), or permanently (death).

The age of this Pandemic is almost two years as said, and hence there is no much researches discussed in details how companies can survive by adopting an effective model during the Pandemic. The past researches are largely discussed the impact of the Pandemic on the businesses in some areas of the world, but did not provide a unique and detailed solution.

First part of this research was to study the impact of the Pandemic in a different geographical area than what has been studied in the past researches which is an oil and gas company in the State of Qatar, and to proof the relationship between the Pandemic and the process of business continuity planning in the case study company. This has been achieved and concluded as expected according to the hypotheses developed.

The second part which is a significant in its importance was to find a solution. The solution provided in the second part of the research came after deep analysis and understanding the business processes in each department inside ABC Oil Company and a model has been developed and applied to the said company. This model is considered a significant development that adds great value for business analysts and business continuity specialists. By adopting this model, companies could plan their level of operation / outputs in advance though identifying their individual critical processes and activities that are essential for the core operation, and plan them accordingly based on the availability level of their staff during the Pandemic or similar crisis. This result is of course is valid to the context of existing knowledge and data collected at his time.

5.4. Evaluation: Strengths / Limitations

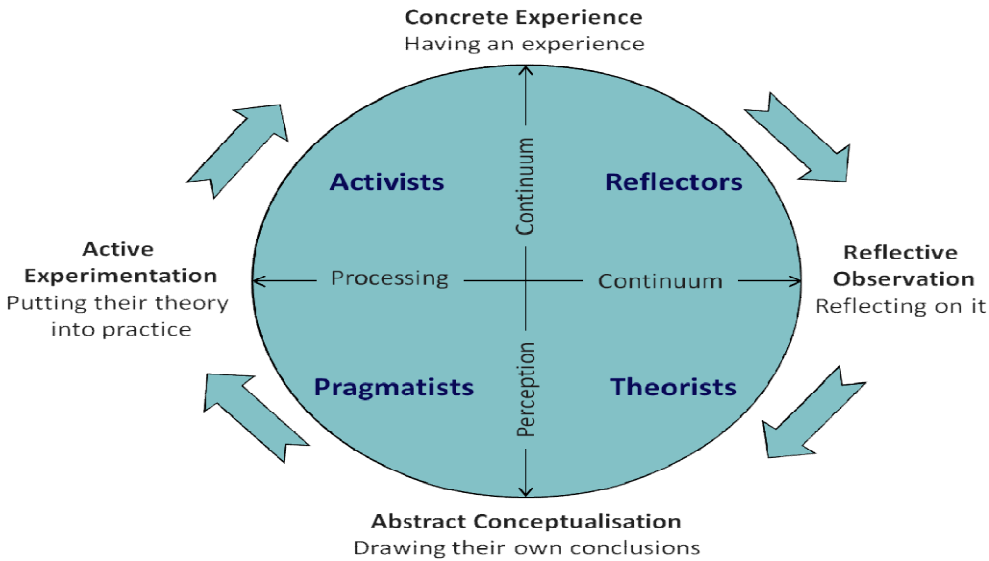
Strengths

Reflective practice was one of the main strengths I utilized fully in this research study. Reflection was described as “those intellectual and affective activities in which individuals engage to explore their experiences in order to lead to new understandings and appreciations”. And Reflective practice is a continuous process and involves the learner considering critical incidents in his or her life's experiences and learning from them, so as they would know what to do if the incident happened again. (Boud, D., Keogh, R. and Walker, D. , 1985).

According to Reynolds (1999, p. 538), critical reflection involves “a commitment to questioning assumptions and taken-forgranted embodied in both theory and professional practice.” The capacity to reflect relates directly to how effectively individuals can learn from their personal experiences and therefore reflection provides a meaningful way for leaders to gain genuine understanding. (Reynolds, M., 1999)

There most common technique used for reflective practice is “Breathing out and breathing in activities” whereby brainstorming and problem solving activities are carried out firstly then sharing and imaging techniques are used. (Megginson D. and Pedlers M., 1992). This is in addition to the self awareness learning styles.

In order to reflect my personal strengths I used the model of a learning cycle developed by Honey and Mumford. (Honey,P. and Mumford, A., 1992)



(FIGURE 6: Honey and Mumford Learning Cycle)

My concrete experience as chartered accountant and financial consultant over 25 years having worked for the big 4 firms in the world helped me to carry out this project and to complete the research successfully. I have applied what I have learned and utilized my knowledge and skills, and reflected my analysis and problem solving skills, in addition to leading and managing projects into this work which was actually a great experience.

During the research project I was looking back at what happened for each stage, describing it, reflecting on the causes and effects of my behaviour and skills. Through a close observation and analysis, I was reviewing my experience regularly throughout the project timeline and finding out my strengths and weaknesses.

Through my observation and review of each stage of the project, I was forming generalisations and conclusion on concepts and theories that will enable me to integrate these observations and reflections into my behaviour and my way of managing the project in the next stages and also to develop a key learning on future occasions or in other contexts.

The most fulfilling part of the research process was the management engagement to the project, as I have conducted a presentation session on management engagement; it was very comprehensive and cohesive and has drawn the management attention to the importance of

having Business Continuity Plan. Through this engagement session I have received a full support from the management towards completion of the research.

My personal strength relating to the research experience I believe was knowledge of the activities being carried out, and my knowledge of the structure and users within the company. Also my previous experience in dealing with such projects and my academic knowledge were considered two of my strengths and allowed me manage the research in a proper manner.

I also believe that I have a much focused attitude, and this is a personal strength of mine that was needed during the research project experience, as I was able to dedicate myself totally to this particular line of work, and I had an eye on the details. Management support was an important factor that helped to complete the research as planned ensured full commitment and collaboration from all levels in the organization.

Limitations & Challenges

Managing the project barriers, dealing with a considerable number of focal points and subject matter experts, briefing them and getting them onboard was a big challenge for me that I had to manage to ensure proper buy-in and full involvement from departments representatives to get the required information that needed to complete the research.

However, the most things surprised me during the research project that I was not expecting to happen was lack of the right level of authority for some of participants to make simple decisions like sharing the information with me. This was a big challenge and took longer time to manage. Some of them were resisting to share some information about their own department and some were unable to take a decision on the assessment of their functions criticality though they are authorized to do so. This led to back-and-forth situations until it has been resolved and approved by their line management.

Limitations of using this research also include:

Limiting the application of the data used in the research outside the organization due to sensitive information and data confidentiality. This was highlighted many times during the research process and emphasized by legal department as well. The approval obtained from the

management is to use this research for the purposed intended only which is the application to the university as part of the degree requirements, but without allowing copying, sharing, or publishing any part of the research beyond this purpose. Limitations also include that the data used in the research belongs to and owned by ABC Oil Company, it may be irrelevant to other companies, however, the general model attached to the research is a useful tool that can be applied anywhere.

The findings of my study are restricted / limited to the case study ABC Oil Company and should not be used outside without the intended purpose of fulfilling the requirements of the university Doctorate degree at any condition or under any circumstances.

5.5. Recommendations for Improvement

There was a tendency to spend more time in the preparation stage of the research; also the time taken for researching was too long. I found myself reading so many articles and books whereas it would have been timelier if I were able to plan my research in an effective manner. The issue that I was not totally dedicated for the research, as I had other work to do, and this has affected my planning stage. I was not aware of the importance of having good research techniques prior to undertaking this project. As a result, my timetable was not adhered to, although project objectives were achieved on the account of my work, personal and family time especially at the end of the research as I had to work additional hours to finalise the project. As a way of improvement, a realistic and reasonable time plan should be prepared in advance considering the availability and unavailability time in order to allocate reasonable timeframe to the research.

Key learning points

- 1) Plan properly all activities required in order to complete the project in timely manner taking in consideration my time availability and the allocated time to my family.
- 2) Identification of the right and complete data sources prior to starting.
- 3) Ensure the adherence to the time frame as much as practically possible.
- 4) Participation and time: Ensuring that all participants make time for the project - this is a direct outcome of the right type of communication by the participants' managers and the level of sponsorship set by them.

- 5) Have regular contact and follow up with the participants to ensure that continues support is in place.
- 6) Record everything on tome. Do not rely on memory.
- 7) Write the report as an ongoing process; do not leave all the writing until the final few weeks before the deadline.

5.6. Recommendation for further studies

As stated in the limitation section, this research does fit for the intended purpose only within the ABC Oil Company. The developed model needs to be tested in other industries and by different companies. This could be recommended to test the model to a different company as another case study or even in a different industry.

Another recommendation to other researchers is to try to find solutions while studying a particular issue or variable. In order to add value and good contribution, they have to focus on and make extra effort to think positively in finding solution and create something new to help the sector / industry they study.

Constructing the same research in a new context or new location is also recommended in order to generalize the concept and model developed.

Finally, I think possible areas for further research / investigation include re-assessing and expanding the framework and the model I have addressed in this research can be recommended to other researcher to do.

5.7. Contributions of Research

In order for ABC Oil Company to process its critical functions during crisis or emergency situations with minimum business disruption during COVID-19 or similar pandemic, it was essential to have a consistency across response plans to avoid confusion, conflicting priorities and over commitment of resources or facilities especially under a reduced level of workforce, also to provide a common understanding and agreement across the organization on the response

strategies for a particular threat with a particular consideration of COVID-19 pandemic in every response strategy.

The model I developed in my research helped ABC Oil Company in addressing this issue, and ensured their readiness to response to COVID-19 Pandemic or similar crisis in a very structured way and planned manner. The most significant value the research has added is the ABC Oil Company has ensured through applying the new model that they will be able to continue their operation even during a reduced level of manpower. The model helped them to assess their critical functions and activities that should continue, and the non critical functions and activities that could be deferred, and hence allocating the available staff to carry out those critical functions required for the core operation.

This model will also help oil and gas sector in Qatar in many ways to help consider the impact of COVID-19 in their Business Continuity Plan once it is generalized by ABC Oil Company and applied the same across the entire sector. Further, the conceptual model that has been generated out of this research can also be beneficial to other industries.

The other industries can also benefit from my research and could apply the same model in order to plan their response strategies in case they are facing a crisis or pandemic that affects the availability of their employees to work, and to focus more on the core and critical functions on the account of non critical activities.

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7. APPENDICES

7.1. Appendix 1: Process Analysis Template

Process Objectives

Processes are established to manage those strategic business risks facing an organization and to assist the organization in carrying out its business objectives. For those processes established to meet specific customer needs, process objective defines what value is going to be supplied to the customer. The customers may be internal customers, such as another process, or external customers. One can look at it as the whole purpose for which the organization has put together this set of resources and activities. Process objectives need to be specific, measurable, attainable, realistic, and have a sense of time. Most organizations will have fairly similar strategic management processes. However, their core business and resource management processes may differ significantly, as they are shaped by the organization's strategic objectives and the related critical success factors.

Critical Success Factors (CSFs)

Critical success factors (CSFs) are the prerequisites and areas of dependency for a process to be successful. CSFs may be inputs, parallel or supporting activities, or aspects of a business's philosophy or infrastructure necessary to ensure the proper delivery of the process. The CSFs relate directly to one or more of the process objectives. They are normally limited in number.

KPIs Linked to CSFs

Key performance indicators (KPIs) are quantitative measurements, both financial and non-financial, of the process's ability to meet its objectives and of the process performance. They are usually analyzed through trend analyses within a company or through benchmarking against a peer of the company or its industry. The KPIs that should be listed must be relevant to the CSFs and/or the process objectives. The KPIs listed must have relevance to the organization. Taken

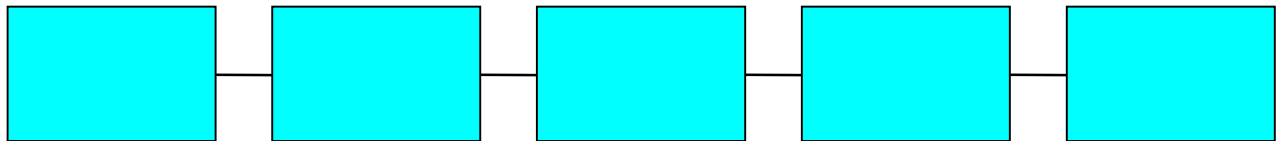
together they should provide a key set of measures for measuring process performance—achieving process objectives.

Inputs

The inputs to a process represent the elements, materials, resources, or information needed to complete the activities in the process.

Activities

The activities are those actions or sub-processes that together produce the outputs of the process. For some processes, arrows are omitted due to the non-sequential nature of the activities.



Outputs

The outputs represent the end result of the process—the product, deliverable, information, or resource that is produced.

Systems

The systems are collections of resources designed to accomplish process objectives. Information systems produce reports containing operational-, financial-, and compliance-related information that make it possible to run and control the process.

Risks That Threaten Objectives

Process risks are risks that may threaten the attainment of the processes objectives. Every process has one or more risks threatening the achievement of its objectives.

Management Responses Linked to Risks

Management responses are the policies and procedures, which may or may not be put in place, that help provide assurance that the risks are reduced to an acceptable level. The controls are implemented to either reduce, transfer, or avoid the risks associated with the process and its objectives. Management may choose to accept the risk; in this case they will not implement any specific controls. This is an acceptable response.

Threats from Business Continuity perspective

List the threats that could impact the business process from business continuity perspective.

Risk Assessment Matrix

The probability of the identified hazards (to business continuity) occurring should be considered more on a geographical basis,

Business Impact Assessment (BIA)

Identify business impact of potential disruptions to critical processes from the loss or unavailability of critical assets due to discontinuity threats. A particular focus on the manpower as a critical asset to the company and to be assessed based on the model explained according to the three levels of manpower availability.

Role Criticality and Unavailability Analysis

Each business process is to assess the critical activities for the core operation and the availability of manpower needed to carry out the critical activities. This includes assessment of recovery time objectives and recovery level objectives.

Assessment of Operational Continuity

This part of the model is the major value addition that was not existed in any other business continuity models at the moment. This part has been created and developed by the author to help organizations assess their position and plan for their operational continuity. Each business process to assess their operational continuity based on three different levels of operational modes:

Baseline FTE	Normal operations with reduced resources	Degraded mode	Stop operations mode
List of Preventive actions to prevent deviation from mode to another	List of Preventive actions to prevent deviation from mode to another	List of Preventive actions to prevent deviation from mode to another	List of Preventive actions to prevent deviation from mode to another
# of employees	# of employees	# of employees	# of employees

Critical functions and activities to be assessed under each mode, and the procedure to perform those activities to be documented in the business continuity procedures.

7.2. Appendix 2: Biography of the Author

El-Sayed M. E. Salem

Summary

El-Sayed Salem is the Managing Partner of Brookes, Consulting, Accounting and Auditing in the UK. He also engaged as Board Member / Member of Trustees of many organizations in the UK, and also a Governor of many educational institutions and academies. He is a Chartered Accountant & Professional Consultant with over 25 years progressive experience across multiple sectors. He started his professional career as Chartered Accountant in KPMG and then moved to different roles within international organizations. He was recognized for success while demonstrating a consistent track record in: improving corporate & financial governance, enhancing internal control environment & financial performance, risk management, setting up finance operations and heightening productivity, delivering robust ERP system and transforming business processes, setting and monitoring KPIs / KRIs and performance management, companies' restructuring, advising Board members on best practices, and managing complex stakeholder priorities.

Current Positions:

- ⇒ Managing Partner – BROOKES Consulting, Accounting & Auditing – UK
- ⇒ Governor for Co-op Academy of Manchester Belle-Vue - UK
- ⇒ Board Member Lakeland Art – Windermere - UK
- ⇒ Remote Practical Experience Supervisor- ACCA - UK

Previous Positions:

- ⇒ Partner - CCA Consultants and Chartered Accountants
- ⇒ Executive Member- ACCA Advisory Committee
- ⇒ Head, Dept. Financial Controls & Systems - Qatar Energy (Qatar Petroleum)
- ⇒ Regional Finance Director - Drake & Scull International (PJSC)
- ⇒ Group CFO - Ajman Holdings

- ⇒ Board Member - Ajman Holdings
- ⇒ Audit Manager- KPMG

Appointments & Nominations:

- ⇒ Member of Board of Directors at Ajman Holdings
- ⇒ Chair of Tender Committee at Ajman Holdings
- ⇒ Member of Corporate Governance Committee at Drake & Scull
- ⇒ Member of IFRS Committee at Qatar Energy
- ⇒ Member of Board Committee Panel at Qatar Energy
- ⇒ Integrity Ambassador at Qatar Energy
- ⇒ Change Champion for Qatar Energy Business Transformation
- ⇒ ERM focal point and member of Risk Management Task Force, Qatar Energy
- ⇒ Remote Practical Experience Supervisor by ACCA
- ⇒ Governor for Co-op Academy of Manchester Belle-Vue - UK
- ⇒ Board Member Lackland Art – Windermere – UK

Academic and Professional Credentials

- Doctorate of Management from European International University, Paris (under progress)
- PgDip in Management and Leadership from Cranfield University, UK (2019)
- Certified Quality Management System Lead Auditor ISO 9001 (2015)
- Master in Global Business Strategy (Executive MBA) from Oxford Brookes University, UK (2013)
- Member of the Chartered Institute for Securities & Investment MCSI, UK (2011)
- Fellow member of the Association of Chartered Certified Accountants (ACCA) UK, (2010)
- Certified Public Accountant in the League of Arab States, IACPA, League of Arab States (2004)
- Member of the Arab Society of Certified Accountants ASCA, Jordan (2004)
- Egyptian Chartered Accountant, CA, Egypt (2002)
- BSc in Accounting, University of Banha, Egypt (1997)



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EUROPEAN
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UNIVERSITY



June 18th, 2020

Re: Acceptance Letter

Dear ELSAYED MAHMOUD ELSAYED SALEM,

Congratulations! Upon thorough review and evaluation including previous education qualification and/or n experience, it was decided by the Board of Academic A European International University (EIU) - Paris, that you required standards to be admitted into the **Doctor of Manag**

Your student ID is **EIU600379**

We wish you the very best in your educational journey with

Yours Sincerely,

