

CORPORATE STAKEHOLDERS, ENVIRONMENTAL AND
SOCIAL RISKS, AND ENTERPRISE RISK MANAGEMENT:
TOWARDS AN INTEGRATING FRAMEWORK

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Abstract

Over the years, there has been criticism about the limitations of the existing ERM frameworks, including COSO and the ISO 31000. The most notable being that these are 'inward' looking i.e. focus predominantly on management of internal operational and financial risks that yield gains solely for the interest of the business owners/shareholders and the management. This is to the detriment of 'external' stakeholders i.e. customers, suppliers, community, regulators, society, etc., who in today's stakeholder sensitive business climate play a major role in generating and managing both - business risks as well as opportunities. There is also a criticism in the literature that these frameworks are inconsistent and fragmented in guidance as to their essential components and their links, making them difficult to understand and implement. During the course of review of these frameworks, the researcher has also observed that the existing ERM frameworks are developed mainly by the practitioners and as such lack a clear underlying theoretical rationale and guidance.

This study attempts to address these gaps. The first objective of this research is to draw on insight from academic and professional literature on enterprise risk management, corporate social responsibility, corporate governance, and stakeholder theory to propose a conceptual framework for ERM that clearly integrates the role of external stakeholders in the risk management process. As the development of the framework is underpinned by sound theoretical insights from relevant literatures, it clearly identifies and draws clear consistent links between the stakeholders and their roles, responsibilities and processes that could be adopted in an external stakeholder integrated approach to enterprise risk management.

The second objective of this study, is to draw on this framework, to describe and analyse risk management (including environmental and social risk management) practices at Gulf Petrochemical Industries Company (GPIC), a medium sized privately-owned complex in the oil and gas sector in Bahrain. This description and analysis of GPIC in the light of this framework has not only highlighted the strength and weaknesses of risk management at GPIC, but has also provided some illustration of the framework in action.

To achieve the latter objective, the researcher has adopted an inductive qualitative approach. This began with an extensive review of the company's archival data and documents to understand the evolution of risk management at GPIC. This was followed up by lengthy multiple interviews with key internal and external stakeholders to gain a rich insight and in depth understanding of the risk management process at GPIC.

By doing so, the researcher has not only described the evolution of risk management at GPIC, but has also demonstrated evidences and examples of policies, procedures and practices implemented by GPIC over the years to integrate internal and external stakeholders in the management of risks including environmental and social risks. The key lessons emerging from this analysis are: first, the importance of the commitment at the top (as was the case with GPIC) to undertake effective risk management; second, the importance of achieving sound financial footing i.e. being financially strong and meeting the needs of shareholders and other internal stakeholders particularly employees before looking outside. GPIC has kept its shareholders happy (with consistent and growing financial rewards) and has also been effective in managing its employee related social risks. It has various financial and non-financial programmes and activities for keeping its workforce motivated and happy. Third, the importance of managing external stakeholders related risks especially as the company's operations grow and become more visible – which is what GPIC did as it grew under Dr. Jawahery's leadership. Dr. Jawahery acknowledged the importance of external stakeholders and undertook measures to address external stakeholders related environmental and social risks. The final important lesson emerging from this analysis is the importance of consulting, involving and regularly communicating with the relevant stakeholders in the risk management process. In the final respect, room for further improvement exists. While GPIC has addressed many external stakeholders related risks, some of its suppliers have noted the lack of communication between themselves and GPIC. Room exists for GPIC to communicate more effectively and regularly about various stakeholder relevant risks and how GPIC is managing them. This can help build goodwill and trust with these stakeholders which can act as a cushion for GPIC in adverse circumstances.

While the study is limited to an in-depth analysis of only one company, the proposed framework and the rich insights gained from its application, can be used by future research to study other companies as well as to apply to other companies' risk management processes. For regulators and policy makers, a key takeaway is the importance of encouraging companies through some regulation to communicate more effectively especially with external stakeholders like suppliers. In today's changing landscape of business environment resulting from increased globalisation, advent of technology and social media that amplifies the voices of social and environmental stakeholders, activists and regulators, the scope of ERM needs to be broadened to explicitly include external stakeholders, both in terms of engagement as well as communication in the risk management process.

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Abbreviations

| | |
|----------------------------------|--|
| AAA | American Accountants Association |
| AC | Air conditioning |
| AFA | Arab Fertiliser Association |
| AICPA | American Institute of Certified Public Accountants |
| ALBA | Aluminum Bahrain |
| AMSOFT | American Software |
| AS/NZ | Australia and New Zealand |
| ASRY | Arab Shipbuilding and Repair Yard Company |
| BALEXCO | Bahrain Aluminum Extrusion Company |
| BANAGAS | Bahrain National Gas |
| BAPCO | Bahrain Petroleum Company |
| BAT | Best available technics |
| BREO | Brunel Research Ethics Online |
| BRM | Business risk management |
| C ₂ H ₅ OH | Ethanol |
| CAN | Canada |
| CBT | Competency based training |
| CDR | Carbon dioxide recovery |
| CEO | Chief executive officer |
| CH ₃ COOH | Acetic acid |
| CH ₃ OH | Methanol |

| | |
|-----------------|--|
| CO ₂ | Carbon dioxide |
| COCO | Criteria of control |
| COP 21 | Conference of the Parties 21 |
| COSO | Committee of Sponoring Organisations |
| CREAMOC | Creativity, Motivation and Organisation Culture |
| CRO | Chief risk officer |
| CSA | Canadian Standards Association |
| CSER | Corporate social and environment risk management |
| CSR | Corporate Social Responsibility |
| DCEO | Deputy chief executive officer |
| DNA | Deoxyribonucleic acid |
| EFQM | European Foundation for Quality Management |
| ENI | Ente Nazionale Idrocarburi (Italian: “State Hydrocarbons Authority”) |
| EPA | Environmental Protection Agency |
| E risk | Environmental risk |
| ERM | Enterprise risk management |
| ERP | Enterprise resource planning |
| FAO | Food and Agriculture Organisation |
| FASB | Financial Accounting Standards Board |
| FEI | Financial Executives International |
| FRR | Financial Reporting Release |
| GARMCO | Gulf Aluminum Rolling Mill Company |
| GCC | Gulf Cooperation Council |

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|----------------|---|
| Gcal | Gigacalorie |
| GEO-6 | Global Environmental Outlook 6 |
| GHG | Green house gas |
| GM | General manager |
| GPCA | Gulf Petrochemicals and Chemicals Association |
| GPIC | Gulf Petrochemical Industries Company |
| GRI | Global reporting initiative |
| H2O | Water |
| HCFC | Hydro chlorofluorocarbons |
| HH steam | High temperature high pressure steam |
| HLG | High-Level Intergovernmental and Stakeholder Advisory Group |
| HR | Human resources |
| HSE | Health, safety and environment |
| ICAEW | Institute of Chartered Accountants of England and Wales |
| IDA | International Development Associates |
| IFA | International Fertiliser Association |
| IFC World Bank | International Finance Cooperation World Bank |
| IIA | Institute of Internal Auditors |
| ILO | International Labour Organisation |
| IMA | Institute of Management Accountants |
| IMPCA | International Methanol Producers and Consumers Association |
| ISO | International Organisation for Standardisation |
| LIBOR | London Inter-Bank Offered Rate |

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|-------------|--|
| MEED | Middle East Economic Digest |
| MOSIF | Mission, objective, strategy, implementation and feedback |
| MP | Mean pressure |
| MT | Metric tonne |
| MW | Megawatt |
| MWH | Megawatt hour |
| NEBOSH | National Examination Board in Occupational Safety and Health |
| NGO | Non-governmental organisation |
| NH3 | Ammonia |
| NIHR | National Institution for Human Rights |
| NOGA | National Oil and Gas Authority |
| NOGAHOLDING | The Oil and Gas Holding Company |
| OTSC | Oilfield and Technical Supplies Centre |
| PAIB | Professional Accountants in Business Committee |
| PFT | Perfluorocarbon tracers |
| pH | Potential of hydrogen |
| PIC | Petrochemical Industries Company |
| PMS | Performance management system |
| PSA | Pressure swing absorption |
| PwC | PricewaterhouseCoopers |
| RQ | Research question |
| SABIC | Saudi Basic Industries Corporation |
| ROSPA | The Royal Society for the Prevention of Accidents |

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|--------|--|
| SAP | Systems applications and products in data processing |
| SCE | Supreme Council for Environment |
| SDGs | Sustainable development goals |
| SEC | Securities and Exchange Commission |
| SGS | Société Générale de Surveillance |
| SHE | Safety, health and environment |
| SOP | Standard operating procedure |
| S risk | Social risk |
| SSHE | Security, safety, health and environment |
| STEP | Social, technological, economic and political |
| TBL | Triple bottom line |
| TMA | Trimethylamine |
| UF85 | Urea Formaldehyde |
| UK | United Kingdom |
| UN | United Nations |
| UNEP | United Nations Environment Programme |
| UNGC | United Nations Global Compact |
| US | United States |
| USA | United States of America |
| VRIN | Valuable, Rare, Inimitable and Non-substitutable |
| WEPs | Women's empowerment principles |

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1. Introduction

1.1 Setting the context

Uncertainty and risk are inherent in all organisational activity. Indeed, much good management practice could be regarded as business risk management (BRM). Early approaches to BRM involved informal processes, often involving little more than intuitive perception of risks, followed by ad hoc silo-based approaches to risk management. Consequently, it was not always effective. The challenge then was to develop a BRM practice that would increase its scope and effectiveness. It had to be an enterprise-wide initiative. This thinking resulted in scholars introducing terms such as 'integrated', or 'holistic' BRM (Power, 2007; p. 67). Miller and Waller (2003) use the term integrated risk management to mean embedding the risk management process into all aspects of decision making – i.e. all functions and processes within an organisation. Mottershead and Godfrey (2001) explain BRM as an approach that looks at risks across the whole organisation and aims to align BRM values to shareholder value levers.

Today, with changing times, the challenge for business goes even further. With corporate social responsibility (CSR) becoming the new arena for corporate competitive advantage and reputation (Porter and Kramer, 2006; Galbreath, 2010) and with rising stakeholder activism (both for 'green activities' and for 'social justice'), a new era of business has been ushered in. An era where businesses need to create, sustain and communicate value for all key stakeholders including external stakeholders like, suppliers, customers, local communities and the wider society (Jensen, 2002). Value creation requires taking risks and hence the need to identify, understand, assess, manage and communicate management of effective business including CSR related environmental and social risks to all key corporate stakeholders.

With the rise in stakeholder importance in both theory and practice, business organisations are compelled to take action, either on a voluntary basis or out of necessity, to ensure that they continue to remain in business. In short, they have begun undertaking in some form or another, their environmental and societal (E & S) risk management to address the situation.

Based on observation and review of the relevant literature, the researcher came to the conclusion that the risk management mechanisms of the past few decades including formal enterprise risk management frameworks focused on business risks in an 'inward looking' fashion – i.e. the managers and directors considered it their sole duty and responsibility towards business owners - to enhance the profits and enhance the owners' capital by focusing on operational, financial, market and such other business risks which safeguarded or boosted the organisation's bottom line (Marks, 2010). A similar inward looking approach has traditionally also been adopted by formal ERM frameworks such as Committee of Sponsoring Organisations (COSO) framework.

Such excessive focus on internal operational risks and shareholder value creation has led to indiscriminate destruction of ecology (through deforestation, depletion of water tables and release of pollutants in the air and sea, climate change, etc.), commercial colonisation of poor countries (to exploit their natural resources and cheap labour) and deterioration of the fabric of society (in the form of increasing the gap between the haves and have nots and unequal access to medical and education facilities, etc.). One example of such irresponsible behaviour is of the West Fertiliser Company. In April 2013, an ammonium nitrate devastating explosion occurred at the Company, located in Texas, which destroyed scores of homes and killed 15 people. The blast devastated a large section of West, a small town around 20 miles north of Waco, levelling and damaging up to 75 homes and leaving 180 people injured. The explosion resulted from the failure of the company to take the necessary steps to avert a preventable fire and explosion. Company officials failed to safely store the chemicals in its stockpile. The company was heavily fined by the US Environmental Protection Agency (EPA) for failing to have in place a risk management assessment that met federal standards and was subject to legal settlements (The New York Times, 18 April 2013). Another example is the case of Walmart's social injustice towards its employees. Walmart was accused in a report based on a survey of more than 1,000 employees of discriminating against pregnant workers, employees taking medical or lawful absences, employees who take care of a sick family member and employees with disabilities (The New York Times, 01 June 2017).

The resultant environmental and social unrest and anger has forced governments of the world to take notice and address the situation through forums such as UN, where they came up with several advisory guidelines and pledges to take corrective actions such as the Paris Agreement in 2015. This Agreement came into effect to set a new course in the global climate effort along with the 17 Sustainable Development Goals which were outlined by the UN in 2015 to end poverty, protect the planet and ensure prosperity for everyone.

It also provoked the general public to take notice and react. Regulations came in force in many jurisdictions where strict action and stiff penalties were enforced. Examples of such regulations are labour and environmental laws in many countries and some examples from the United States are the Americans with Disabilities Act, the Family and Medical Leave Act, the Pregnancy Discrimination Act, Clean Air Act, the Clean Water Act and the National Environmental Policy Act.

Accordingly, the researcher has concluded that in today's business environment, if any organisation aims to sustain its operations in the long term, then, besides managing its business and economic risks (to ensure the financial resources for survival), it also needs to manage social and environment risks. This entails looking outward by recognising and engaging with key external stakeholders, such as suppliers, customers, regulators, local communities, NGOs and environmentalists, in addition to internal stakeholders such as management and workforce.

This study thus aims to conceptualise and study in practice, this external stakeholder integrated approach to risk management, in the context of one company namely Gulf Petrochemical Industries Company (GPIC) with a view to engage gainfully with them as well as draw insights that could be useful for scholars, practitioners as well as regulators of business risk management.

1.2 Summary of prior literature and identification of research gap

1.2.1 Critical review of ERM literature

In the early days, there was tendency for organisations to look at risk management in specific areas, such as market risk, credit risk, operational risk and to devise risk

management mechanisms for each type of risk within an entity. Then it was realised that risks within a single entity are inter-linked and had an over-lapping impact. So, organisations evolved to adopt a more holistic view of all business risks faced across the entity and moved to an enterprise-wide approach to risk management that began to be known as enterprise risk management (ERM) (Hopkins, 2002 and DeLoach, 2000).

In order to facilitate this approach and process, frameworks started to get formalised, the most prominent being COSO and ISO 31000. Despite their popularity and wide usage, from the review of the academic and practitioner literature related to ERM, the researcher noted that these frameworks tended to possess a number of weaknesses. Importantly, these frameworks had an inward-looking bias which focused predominantly on internal operational or financial risks, hence a focus essentially on internal stakeholders (Marks, 2011).

Further, both COSO and ISO 31000:2018 have a rather limited and fragmented guidance on external stakeholders and their role in ERM. Researchers also noted a lack of consistency in what constitutes the essential components of the framework and how these are linked (Lundqvist, 2015). The results of studies undertaken by Beasley et al. (2005), Beasley et al. (2008), Desender (2007), Gates et al. (2009), McShane et al. (2011) also indicate that to date, there is no real consensus about the principal elements and components of an effective ERM framework. Also, there was criticism of a lack of adequate guidance on the implementation of the COSO Framework (Purdy, 2010). Ward (2013) contends that such guidance offers little advice on how these could be used to deploy and develop ERM in organisations.

Beasley et al. (2010) also finds that the COSO framework, the most cited and debated framework is ambiguous and overly theoretical in nature. Oliverio (2001) pointed out several failings including the absence of a guideline for operational implementation and explicit strategies for communication. This research has attempted to address these gaps by developing a conceptual framework for ERM that is underpinned by sound relevant theoretical concepts. By analysing the ERM practices of one company

in the light of this framework, the study also offers some practical illustration of its implementation.

1.2.2 Integrating ERM with CSR and stakeholder theory: Social and environmental risk management

When the term ERM is mentioned, the tendency to date has been to focus on operational, business and financial risks only. Both COSO and ISO31000 ERM frameworks are largely inward-looking. In today's business economy, where there is increasing globalisation, rapid strides have been made in technical innovation, and most importantly there is an exponential increase in use of social media to highlight social issues and ecological disasters, hence, newer risks are emerging that are gaining traction. These newer risks can be broadly categorised as social and environmental risks (S & E risks). These risks that have the potential to impact businesses significantly, have their sources outside the organisation, resulting in a new set of stakeholders that are now very relevant for businesses' continued operations and success, and can be categorised as external stakeholders. Thus a whole new concept of corporate citizenship has emerged leading to the development of the stakeholder theory (Freeman, 1984; Jones, 1995). This has guided the emergence of corporate social responsibility (CSR) which features high in the hierarchy of the Board room agenda.

When an organisation decides to implement measures to address CSR, it involves deployment of resources including incurring short term and long-term costs that may not provide immediate and apparent financial benefit to the company. However, in order to sustain the business in the current business environment, modern ethical and professional business organisations need to take care of various stakeholder constituencies (Jensen, 2002). Organisations need to balance the economic responsibility of running a business enterprise to generate profits that reward shareholders, while fulfilling the legal (e.g. as per UK Company Law, 2006) and ethical responsibilities of meeting the expectations of other stakeholders. In order to do this most effectively and strategically, companies need to integrate their E and S risks or

in other words external stakeholder related risk management activities within their ERM framework– a topic that has been addressed specifically in this thesis.

Kytle and Ruggie (2005) have pointed out that CSR is related to ERM in 2 ways – one, by providing intelligence about what E and S risks are and two, by offering effective means to respond to them. In both cases, it involves effectively engaging internal and external stakeholders within the risk management process. An aspect that this study investigates in the context of GPIC.

1.2.3 Corporate governance and corporate communication: Links with ERM

According to Stein and Wiedemann (2016), corporate governance also involves ‘risk governance’, not only internally, but also externally, sending clear ethical signals to all stakeholders concerning risk-related sustainability (Stein and Wiedemann, 2016). This thinking is also reflected in the ISO31000:2018 framework, wherein the principles require the board and top management to continuously consult and communicate with the relevant stakeholders – both internal and external. Purdy (2010; p. 883) points out that this is very important in order to *‘gain their (stakeholders) input to the (risk management) process and their ownership of the outputs’*.

Good corporate governance also requires that top management and boards undertake regular risk reporting of the company’s principal risks in their Annual reports to shareholders. This is an integral part of corporate governance codes including that of the UK (see UK Corporate Governance Code, 2018: p. 12). Consultation, communication and risk reporting/disclosures promote stakeholder engagement and corporate transparency which in turn help build trust with the corporate stakeholders. Trust leads to cooperation which is essential for achieving corporate objectives – the key goal of risk management (Purdy, 2010). In the light of the above developments, in recent years, corporations have significantly increased their stakeholder reporting. This includes CSR related reporting (with many companies now producing hefty stand-alone CSR reports). Carrying on in the same vein, there is a pressing need for risk related reporting in all principal risk areas. According to the UK Code (2018; p.12) *‘principal risks should include, but are not necessarily limited to, those that could result in events or circumstances that might threaten the company’s business model, future*

performance, solvency or liquidity and reputation'. Following this line of thinking, this study investigates the risk-related communication practices of GPIC with internal and external stakeholders.

1.3 Objectives and research questions

The preceding discussion has highlighted the following gaps in the ERM literature, namely: the predominantly inward-looking focus of existing ERM frameworks (as evident from review of ERM frameworks literature by the researcher); their inconsistent and fragmented approach to conceptualisation and identification of essential components (as identified by Lundqvist, 2014) likely due to their lack of theoretical underpinning; and their lack of understandability and clarity on guidance for implementation (as per Purdy, 2010). Hence, the objective of this research: first, drawing on the relevant academic and practitioner literature particularly that related to ERM, corporate governance, CSR, and stakeholder theory, to develop a theoretical as well as practically useful conceptual framework that can guide both scholars and practitioners in researching and undertaking effective, comprehensive business risk management respectively. This framework explicitly includes both internal and external stakeholders in the entire risk management process. This conceptual framework has been developed and proposed at the end of chapter 2. The second objective is to draw on this framework to describe and analyse the risk management practices including S and E risks at a specific oil and gas sector company namely Gulf Petrochemical Industries Company (GPIC), and highlighting its strengths and weaknesses in the light of the proposed conceptual framework. By doing so, the study also offers some practical guidance on the implementation of this framework.

To achieve the above objectives, the research addresses the following questions in the context of GPIC:

RQ1: How is GPIC managing its risks, including environmental and social risks?

RQ2: How is GPIC integrating its external stakeholders in the management of its risks, including environmental and social risks?

1.4 Research methodology

The researcher has answered these questions by conducting an inductive qualitative research of a single case of GPIC in the Kingdom of Bahrain. The researcher has drawn extensively on the company's archival data and documents primarily to identify factual information and key milestones in the risk management process of GPIC. The researcher has also conducted interviews with key internal and external stakeholders to gain a rich insight and in depth understanding of the ERM process including the role of various stakeholders in this process.

GPIC is a suitable candidate for this case study as the company is considered to be a role model in safety, environment and CSR. It has achieved many awards, achievements and factual evidence of its good practices which are discussed in the findings chapters.

1.5 Key findings, contributions and future research directions

The researcher's study merged several streams of literature, namely: enterprise risk management, corporate social responsibility, corporate governance and stakeholder theory, which contributed to increasing knowledge and better understanding of the process and practice of risk management. It also helped in understanding how E & S risks can be better analysed and managed. Risk management needs to be an integrated and dynamic process.

A key contribution to knowledge which resulted from studying several streams of literature and addressing the gaps identified in literature is the development of an enterprise risk management conceptual framework that is underpinned by sound relevant theoretical concepts. The framework developed in this study not only identifies the key actors/stakeholders (both internal and external) in risk management process but also clearly articulates the potential role of these in risk management.

Another key contribution is drawing on this framework to understand how risks (including S and E risks) are managed at Gulf Petrochemical Industries Company (GPIC). In doing so, the study critically analyses the risk management practices at GPIC highlighting the strengths and weakness in its practices. This also provides some illustration of the framework in action. It thus addresses another gap in ERM literature, that related to lack

of adequate guidance on how ERM frameworks can be implemented in practice (Purdy, 2010).

The results of the finding chapters (4 and 5) suggest the following key insights: first, that GPIC's good risk management (as evident from several accolades and accreditations it has earned over the years) could primarily be attributed to the commitment of the top leadership since inception of the company to risk management and the manner (inclusive, dynamic) in which the company managed its risks (operational, market, financial risks, social and environmental). The early focus on the safe operation of the plant and for the health and safety of workforce was later extended to the local community near the complex through regard for the air and marine environment.

Second, the researcher observed that GPIC engaged with the workforce at all levels and at all key critical points in the evolution of the company and its risk management process. Further to manage its social risks related to the workforce, the company over time, created and sustained a supportive and rewarding culture for the workforce which has earned GPIC handsome returns in the form of a loyal, dedicated and productive workforce.

Third, the researcher observed that as the company's financial performance stabilised and strengthened over time, GPIC's management took a strategic decision to address the societal and environmental risks that could detrimentally impact the company. It crafted a deliberate strategy to provide collateral benefit to the ecology and the society at large, with the objective of ensuring sustainability. Examples are the greenery (herb garden) projects, bird sanctuary and fish farm that the company constructed within its complex to demonstrate the non-contamination and safety of soil, air and water; the green wave initiative in collaboration with UN in 2015, to plant local trees at public schools and constructing the public Bahrain Japan Friendship Garden.

The researcher concluded that this was a strategic shift in GPIC's risk management strategy, wherein there was a deliberate attempt to engage with GPIC's external stakeholders. Thus GPIC, continued with its leadership role in security, safety, health and then also environment excellence at regional and global level through active participation in relevant international organisations and winning national, regional and international accolades in recognition of its efforts. In its usual quest for consultation and objective

assessment GPIC also recently undertook an independent review of its ERM and risk management process by KPMG and PwC.

Finally, the results of analysis reveal that there is room for further improvement at GPIC, especially with respect to its communication with external stakeholders. For example, BAPCO's Deputy CEO (supplier of GPIC's key raw material and owner of a jetty that is used to export two GPIC products) kept emphasising during the interview that despite the communication between many departments in both companies, communication at the leadership level must improve. Such two-way communication is needed to ensure that external stakeholders receive information that is relevant to their needs. This can also help develop a positive attitude towards GPIC and help it build goodwill with external stakeholders, which as Godfrey (2005) points out can act as a cushion in difficult times. To achieve this, GPIC could set up mechanisms inviting external stakeholders' feedback in order to gain a better understanding of external stakeholders' interests and attitudes so that GPIC can communicate more effectively with its external stakeholders.

For future research, the conceptual framework developed in this thesis can be used to study risk management and specially to investigate and understand better the role of top leadership and external stakeholders in both business risk management as well as its communication. Future research can also draw on this framework to study and understand and identify the key strengths and weaknesses of risk management in other companies, sectors, and countries.

Underpinned by relevant theories, the conceptual framework is also easy to understand and implement. Moreover, the rich, in-depth description and analysis of the risk management process at GPIC (a company that has won several external accolades for its risk management practices) can also guide practitioners in developing and implementing their own models of risk management.

Finally, for regulators and policy makers, the findings suggest that perhaps there is room to develop some regulation to incentivise companies to communicate more effectively its risk management practices. Particularly, how it is meeting the needs and expectations of stakeholder including key external stakeholders like suppliers and customers.

1.6 Thesis outline

This rest of the thesis is organised as follows: Chapter two critically reviews the literature on ERM and identifying the gaps in this literature. It then draws on risk related insights from the literature in the areas of corporate governance, CSR and stakeholder theory to develop and propose a new conceptual framework for external stakeholder integrated risk management. The chapter concludes with posing the two research questions. Chapter three on methodology, describes the research approach, research design and research methods adopted in this study. Chapter 4, (on GPIC internal stakeholders) the researcher answers the first research question (RQ1) based on the review of archival data and responses to interview questions with key internal stakeholders. In chapter 5 (GPIC external stakeholders) the researcher answers the second research question (RQ2) based on the review of archival data and responses to interview questions with key strategic external stakeholders. Chapter 6 offers conclusions and discusses the key findings, contributions and limitations of the study.

2. Literature review

2.1 Introduction and evolution of ERM

In this chapter, I will review the literature on the evolution of ERM, the emergence of formal risk management frameworks and on determinants and value relevance of ERM for businesses. I will also review the professional literature written by proponents of various ERM frameworks as it will help examine the contents of the major frameworks and the perspectives of their proponents. I will also review briefly the academic literature on corporate governance, corporate social responsibility and stakeholder theory in order to establish their interface with ERM.

In order to trace the evolution of ERM, one needs to start from the very root of the terminology of risk. Oxford Dictionary cites the earliest use of the word 'risk' in the '*mid-17th century from French risque (noun), risquer (verb), from Italian risico 'danger' and rischiare 'run into danger' 'and defines it as 'the possibility of something bad happening at some time in the future; a situation that could be dangerous or have a bad result'* (Oxford Learner's Dictionaries, Risk, <https://www.oxfordlearnersdictionaries.com/definition/english/risk_1>). According to Lupton (1999), in the past, the term risk was used broadly in lieu of hazards, threats or harm.

The above definition indicates a pre-disposition of risk as a negative outcome of a threat or hazard. To date, this view persists in our day to day understanding of risk in common parlance as well as in the context of business, where business risk is defined by the Cambridge Dictionary as '*the possibility of something bad happening*' (Cambridge Dictionary, Risk, <<https://dictionary.cambridge.org/dictionary/english/risk>>). According to Slagmulder and Devoldere (2018), quite often the event has a deviation caused to be negative, which is the defensive approach of risk analysis. Those who hold such views are in the majority. The minority comprises offensive approach according to whom risk is a chance of positive deviation. In this study, risk and potential consequences have been perceived and analysed as unwelcome and disruptive elements of business activity.

Every business endeavour involves an element of risk. There is a popular quote by William G.T. Shedd: '*a ship is safe in harbour, but that's not what ships are for*' (The best Quotations, William G.T. Shedd, <<https://best-quotations.com/authquotes.php?auth=5247>>). A ship is meant to sail through rough and choppy seas, overcome waves and winds, to ensure that people and goods are transported safely from one harbour to another designated harbour. A sailing ship was likened to a business enterprise, and the rough seas and adverse weather were likened to risks; the manner in which a ship's captain encountered these was considered risk management. Traditionally, business owners did not have to be taught this process. The successful ones earned good profits and sustained their incomes over a period of time by implementing the basics of risk management.

In the early days, there was no major academic work in the field of risk and risk management. Bernstein's (1996) book, '*Against the Gods: remarkable story of risk*', contends that risk management is practiced from ancient times and the dividing lines between ancient times and modern times, is that risk management became a systemic process and organisations realised how to identify, predict, monitor and manage risks. Organisations also realised that the future did not just hold incidental and irregular events such as natural disasters and or what was referred to as luck.

According to Linsley and Shrivs (2006; p. 388) with reference to Ewald (1991), '*the development of probability calculations and the insurance industry during the industrial revolution impacted upon ideas of risk*'. According to Doherty (1985), traditionally, organisations focused on those risks that could jeopardise their existing assets or income by insuring them.

Mehr and Hedges (1963) published a landmark book to address the subject of business risk management, entitled '*Risk Management in the Business Enterprise*'. They are rightly referred to as the 'fathers of risk management'. They explained how effective risk management could maximise efficiency and result in greater productivity in an enterprise. They were also of the view that as far as possible all business risks should not just be insured, they should be managed in an effective and comprehensive manner.

In their book, '*Risk Management in the Business Enterprise*', Mehr and Hedges (1963) came up with the basic risk management process, that holds good even to date, namely; risk identification (analyse all factors and seek events/ threats that can lead to loss); risk analysis (determine the gravity of the threat and measure potential for loss); risk response (study what to do by examining alternatives of – eliminate, reduce, transfer, assume); risk control (seek methods to reduce/mitigate risks by examining appropriate steps for implementing internal controls); and risk monitoring (selecting the best methods of internal control and ensuring that these are implemented and overseeing their results).

Doherty (1985) concurred with the above process and added that risk management is like any other management process concerned with resolving problems. He refined the process as follows; establishing or identifying business objectives; gathering relevant information about the environment to ascertain possible problems; evaluating the costs and benefits of alternatives to resolve the problems; and using analytical tools and choosing the best alternative that is most consistent with corporate goals and objectives. He further stated that risk management process could be represented in terms of response to; identification (what is the problem?); measurement (what is the magnitude of the problem); and treatment (what can be done about the problem).

While tackling the question of business risk management (BRM), in the early days, the category of risks sought to be mitigated was 'pure risk'. Pure risk is a category of risk in which loss is the only possible outcome. There were three classes of pure risk – personal (premature death, illness, unemployment, etc.), property (fire, disaster, etc.) and liability (claims arising from intentional/unintentional injury). Insurance agents and brokers addressed only pure risks, which left so many other risks uncovered (Gupta, 2016).

According to Lam (2003) and Power (2003), BRM evolved from a corporate treasury management function into an enterprise-wide BRM, extending its scope beyond financial to operational and other categories of risks. With emerging technology, new inventions and globalisation, risks were no longer only financial in nature, they became more and more complex. Top managements of many enterprises realised that it was too expensive and not cost effective to manage every risk with insurance, so they deemed it desirable

to incorporate some form of BRM measure as part of corporate governance, one that would encompass all business risks within an organisation (Lam, 2003).

2.2 Emergence of formal business risk management frameworks

According to Ward (2003; p.7), uncertainty and risk is inherent in all organisational activity. *'Every member of an organisation needs to make decisions, plan and manage uncertainty to a greater or lesser extent'*. Indeed, much existing good management practice could be regarded as BRM. An early approach to BRM, involved informal processes, often involving little more than intuitive perception of risks, followed by ad hoc approaches to risk management. Consequently, it was less effective. The challenge was how to develop a BRM practice in ways to increase its scope and effectiveness. It had to be an enterprise-wide initiative. This thinking has resulted in academics introducing terms such as 'integrated', 'holistic', 'total' BRM. Miller and Waller (2003) use the term 'integrated risk management' to mean embedding the risk management process into all aspects of decision making – i.e. all functions and processes within an organisation.

Mottershead and Godfrey (2001) stated that BRM is an approach that looks at risk across the whole organisation rather than through the traditional functions and aligns BRM values to shareholder value levers. Hopkins (2002) also used the term holistic BRM as the management of all sources of risk. DeLoach (2000) went a step further by bundling all the above definitions, and described 'Enterprise Risk Management' (ERM) as a truly holistic BRM - an integrated, forward looking and process-oriented approach taken to manage not just financial but all of the organisation's key risks, with the intention of optimising shareholder value.

According to Ward (2003; p.9) however, *'the foregoing definitions illustrate the potential for ambiguity, and even confusion, between the terms'*. While these definitions may be useful in explaining a generic process of BRM, Ward (2013) contends that such guidance offers little advice on how these could be used to deploy and develop ERM in their organisations. From a professional perspective, to achieve this purpose a number of formal ERM frameworks have been developed in recent years which are discussed and reviewed below.

2.2.1 Turnbull Guidance, UK

In UK, the publication of the Combined Code on Corporate Governance, (London Stock Exchange, 1998) and the subsequent guidance on compliance for company directors was developed by Institute of Chartered Accountants of England and Wales through a committee chaired by Nigel Turnbull. This Turnbull Guidance (1999) required a company's board to adopt a risk-based approach to establishing a sound system of internal control and reviewing its effectiveness. While compliance with Combined Code was achieved, it did not result in an effective BRM system.

According to a review prepared by the Professional Accountants in Business (PAIB) Committee titled "Internal Controls—A Review of Current Developments" (2006), the Turnbull Guidance contributed to increased awareness and a better understanding of risk management and improvements in internal controls and corporate disclosures. However, Page and Spira (2004) state that adopting the Turnbull Guidance results in adjustments to systems and processes and increased costs. They also argue that the Guidance raised the profile of internal audit by highlighting its role in risk management but resulted in abandoning the role of internal audit in enforcing compliance.

2.2.2 COSO (Internal Control Framework)

Consequent to major scandals arising from corrupt and unethical business practices and financial misreporting by major corporations such as TYCO, ENRON and Worldcom, according to John Flaherty and Tony Maki, in their foreword note to COSO Executive Summary (2004), there is a clear and increasing need for a robust and dynamic ERM framework to identify, assess and manage risks effectively.

The origins of COSO dates back to the time when the National Commission on Fraudulent Financial Reporting was founded in 1985 by James G. Treadway, Commissioner of SEC, with Paine Webber as Chairman. Their brief was to inspect, analyse and make recommendations on the reasons for and the impact of fraudulent corporate financial reports and other unethical business practices in the 1970s and 1980s.

The Commission was of the opinion that the root cause was lack of oversight and internal controls. Accordingly, an Integrated Framework of Internal Control was

devised to be used by management to evaluate and strengthen corporate internal control environment to ensure proper financial reporting. It was released in 1992.

Since then the business environment changed dramatically - operational environments became more complex and technologically driven as well as globalised. The 1992 framework was thus revisited and superseded, with a new framework in 2013 by a Committee of Sponsoring Organisations (COSO), an independent private sector initiative dedicated to providing thought leadership through a comprehensive framework and guidance. It was jointly sponsored and funded by the American Accountants Association (AAA), the American Institute of Certified Public Accountants (AICPA), the Financial Executives International (FEI), the Institute of Management Accountants (IMA) and the Institute of Internal Auditors (IIA). The COSO Board comprised of members nominated by each of the 5 bodies. The principal contributors were partners, directors and lead managers of PwC, USA.

The scenario was similar to UK, where the chartered accountants were also involved in providing a guidance. Accountants generally have an ingrained opinion that all wrong doings are the result of lack of internal control and that good internal control systems are the best way to combat wrongdoings and manage risks.

Internal Control according to COSO Internal control – integrated framework (2012; p. 1) was defined as the *'process effected by an entity's Board of Directors, management and other personnel, designed to provide reasonable assurance regarding achievement of objectives relating to operations, reporting, and compliance'*.

The COSO model was depicted by a cube displaying the 3 facets. The frontal facet lists 5 components of COSO. The five components are: the internal environment (comprising directed leadership from board and top management, management philosophy, operating style, integrity, ethical values, assignment of authority and responsibility); risk assessment (company-wide objectives, process level objectives, risk identification and analysis); control activity (practices and procedures, security, business continuity and back up); information and communication (quality and effectiveness of communication); and monitoring (ongoing evaluation, feedback and management of change).

The framework emphasises the importance of management judgment in designing, implementing, and conducting internal control, and in assessing the effectiveness of a system of internal control.

COSO's internal control framework concentrated predominantly on internal control, which was not surprising considering that the proponents' authors of the framework were from the accounting and audit community, who regard internal control to be the panacea of all ills. This viewpoint was similar to the one expressed in the Turnbull Guidance in UK, which was authored by the Institute of Chartered Accountants of England and Wales. Although the internal control framework contained risk management as one of the components, the main focus was not on the aspect of risk management.

Since early 2000, and the collapse of the dot.com bubble, there was a heightened concern and focus on risk management on account of high-profile business scandals and failures where stakeholders suffered huge losses - highlighting the need for a robust framework to effectively identify, assess and manage risk. Meanwhile the Sarbanes – Oxley Act of 2002 extended the long-standing requirement for publicly quoted companies to maintain systems of internal control and risk management, where management certifies and the independent auditor attests to the effectiveness of these systems. Once again, PwC was engaged by US regulators to develop a framework that would be readily usable by companies to install ERM framework.

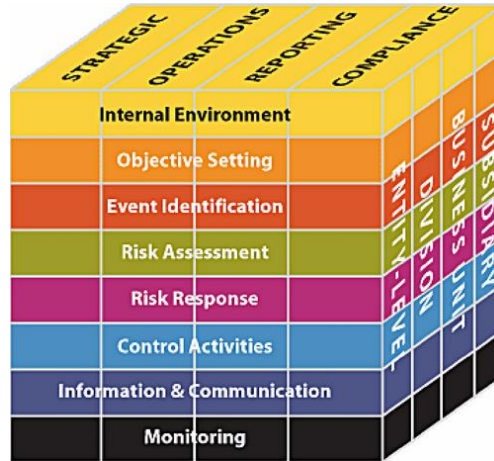
2.2.3 COSO: ERM framework

COSO ERM framework does incorporate the elements of internal control. Accordingly, companies may decide to look to the COSO ERM framework, both to satisfy their internal control needs and move towards a fuller risk management process.

As can be seen from the two cubes displayed below, the layout of the ERM framework is on the same lines as COSO's internal control framework:



COSO Internal Control Framework



COSO ERM Framework

When one compares the two COSO cubes, even the five components of the internal control framework have been retained and only two more, namely 'event identification' and 'risk response' have been added in the ERM framework. In terms of objectives displayed on the second facet of the COSO ERM framework cube, 'strategic objective' has been added to the three objectives listed in the internal control framework cube. As far as the third facet relating to levels of organisation is concerned, these remain the same in both COSO frameworks.

Power (2007) described it as a dominant template and attributed its dominance to the fact that the proponents of COSO frameworks were from the accounting and auditing professions who recommended introduction of the COSO ERM framework in the organisations they worked for or for whom they were statutory auditors, it became arguably the most used, invoked and applied BRM framework in the world.

Because of the clout and sheer number of the members of organisations comprising the COSO (AICPA – 386,000 members, FEI - 15,000 members, IIA - more than 180,000 members, IMA – approximately 65,000, and AAA – approximately 8,500 members) spread around the globe, and PwC as the author of the COSO ERM report, COSO became a standard. The background, expertise and reputation of the bodies caused people to look at it as the place to go for gaining insight and direction on how to build an ERM architecture in their organisations (Hayne and Free, 2014).

As an author, 'PwC did not have a formal responsibility beyond writing the framework; however, they also helped to develop and promote the framework after its launch by continuing to support it publicly and by developing aligned corporate tools'. 'The applied use of the framework to develop a range of commercial products' was recognised. PwC executives from more than 12 countries met to develop a methodology for how they could go to market COSO and help organisations to implement and apply COSO (Hayne and Free, 2014; p.323).

Together, PwC and other Big-4 from the auditing, consulting and accounting firms generally supported the COSO adoption and implementation. Meanwhile risk management consultants also jumped in the fray by complementing of COSO with other proprietary frameworks, branded as their own. This highlights the interpretive viability of COSO (Benders and Van Veen, 2001). According to Hayne and Free (2014), parallel to the accounting community, consultancy community too served to embed the framework through a diverse range of services to compete for the consulting dollars.

A majority of studies investigating the diffusion of BRM tools critiqued that because the individuals responsible for creating the practice tend to be different from the individuals who promoted and distributed COSO it led to the COSO model being considered problematic and insufficient for dealing with a growing array of risks (Ax and Bjornenak, 2005).

2.2.4 Other BRM frameworks

Following COSO, many countries published their own frameworks and guidelines, while retaining the basic structure of COSO. e.g. CoCo – Criteria of Control, the risk management tool developed by the Canadian Institute of Chartered Accountants.

Meanwhile, in some countries, the COSO framework format was not deemed convenient to implement. They saw merit in the international standards format. Even in Canada, despite the CoCo, Canadian Standards Association came up with CAN/CSA Q830 and the Japanese Standards Association came up with JIS Q2001, Australia and New Zealand with AS/NZ 4360- 1994.

During the era of COSO ERM implementation, there was concurrent introduction of Quality Management Systems (ISO 9000) in organisations, which had gained popularity. A key feature of ISO was that it was not complex, easy to understand and implement. This feature found ready acceptance in risk management systems and these were adopted in the Standard formats. Many companies saw merits in the AS/NZ framework introduced in 1994 and revised in 1994. When International Organisation of Standards (ISO) established a working group to develop the first internal standard on risk management, AS/NZ standard was used as the first draft and later adapted and adopted as ISO31000:2009.

2.2.5 Critiques of COSO framework

Norman Marks a practitioner and thought leader on governance, risk management and audit, and author of several books on BRM, published an article on his website in 2011 sharing the results of talking with Grant Purdy. Purdy chaired the initial committee that drafted the AS/NZ standard and has also been on the advisory committee that came out with ISO 31000.

In his article Marks mentions that Purdy believes that while *'the COSO product has a number of good points, overall Purdy finds it complex and unwieldy, and can clearly see how many companies would just give up and pay someone to tell them how to implement risk management'*. Purdy *'also thinks that the cube and the need to keep some alignment going with the Internal Control Framework diagram compromises the flow of the processes given there'*. However, the same article attributing to Purdy, also highlights a number of big technical flaws that suggest that the process being followed is likely to be deficient and inefficient, Marks (2011), *10 reasons not to like the COSO ERM framework – a discussion with Grant Purdy*, <https://normanmarks.wordpress.com/2011/02/21/10-reasons-not-to-like-the-coso-erm-framework—a-discussion-with-grant-purdy/>.

First, the article emphasised that *'the COSO process starts with the internal environment of a business, not the external one and thus fails to reflect the influence that the business environment, regulatory conditions, and external stakeholders have on the risks an organisation faces. Second, how these influence a company's risk*

appetite and risk treatment priorities is also not clear'. Third, the external stakeholders *'are not mentioned in COSO and their influence on decisions about the significance of types and levels of risk are'* neglected. Finally, *'COSO ERM risks are mostly about losses and risk response is about reducing the likelihood of losses'*. Thus according to Marks (2011) article, Purdy concludes that *'the thinking in the COSO document is not mature enough to appreciate and explain that risk is just the effect of uncertainty in what one sets out to achieve and that outcomes can be beneficial, detrimental or both'*. Further, the COSO document does not consider risks as opportunities that have beneficial consequences, Marks (2011), *10 reasons not to like the COSO ERM framework – a discussion with Grant Purdy*, <<https://normanmarks.wordpress.com/2011/02/21/10-reasons-not-to-like-the-coso-erm-framework—a-discussion-with-grant-purdy/>>.

2.2.6 ISO 31000

ISO 31000 is the international standard for risk management originally issued in 2009 and updated in 2018 by International Organisation for Standardisation (ISO). The ISO 31000 risk management standard can be adopted by organisations of any size and industry, but unlike COSO it is only a guidance and cannot be used for certification purposes. However, it aims to be used as a guide to help businesses compare their practices with a benchmark risk management standard issued by the ISO (ISO 31000, 2018).

According to Purdy (2010), organisations around the world are facing complex, new and greater risks and risk management is not consistently defined and applied across sectors and countries. The public and private sectors approach risk in a very different way as do profit and non-profit organisations. Guidance and publications from government and risk specialists are prolific but they are not harmonised by a common terminology or approach. Multinational companies operating in many countries around the globe face the challenges of inconsistent practices and definitions. Thus, according to Purdy (2010), an international standard, whereby expert representatives representing various BRM specialist organisations and associations from different countries participated in the definition and creation of a common terminology and approach, was needed. Purdy (2010) further elaborates that risk management needs

to be integrated into the overall management system and needs to be supported by strong management commitment. He mentions that ISO 31000 does not prescribe a risk management process but advocates full integration and customisation of the framework to fit the organisation. The framework needs to be tailored to the organisation and needs to take into account the organisation's internal and external context. There need to be accountability, sufficient resources and internal and external reporting mechanisms. Once implemented the applied framework needs to be monitored and reviewed to ensure that the feedback process results in continuous improvement. In this regard, the ISO 31000 framework being iterative and more holistic in scope is in some ways better than the COSO framework.

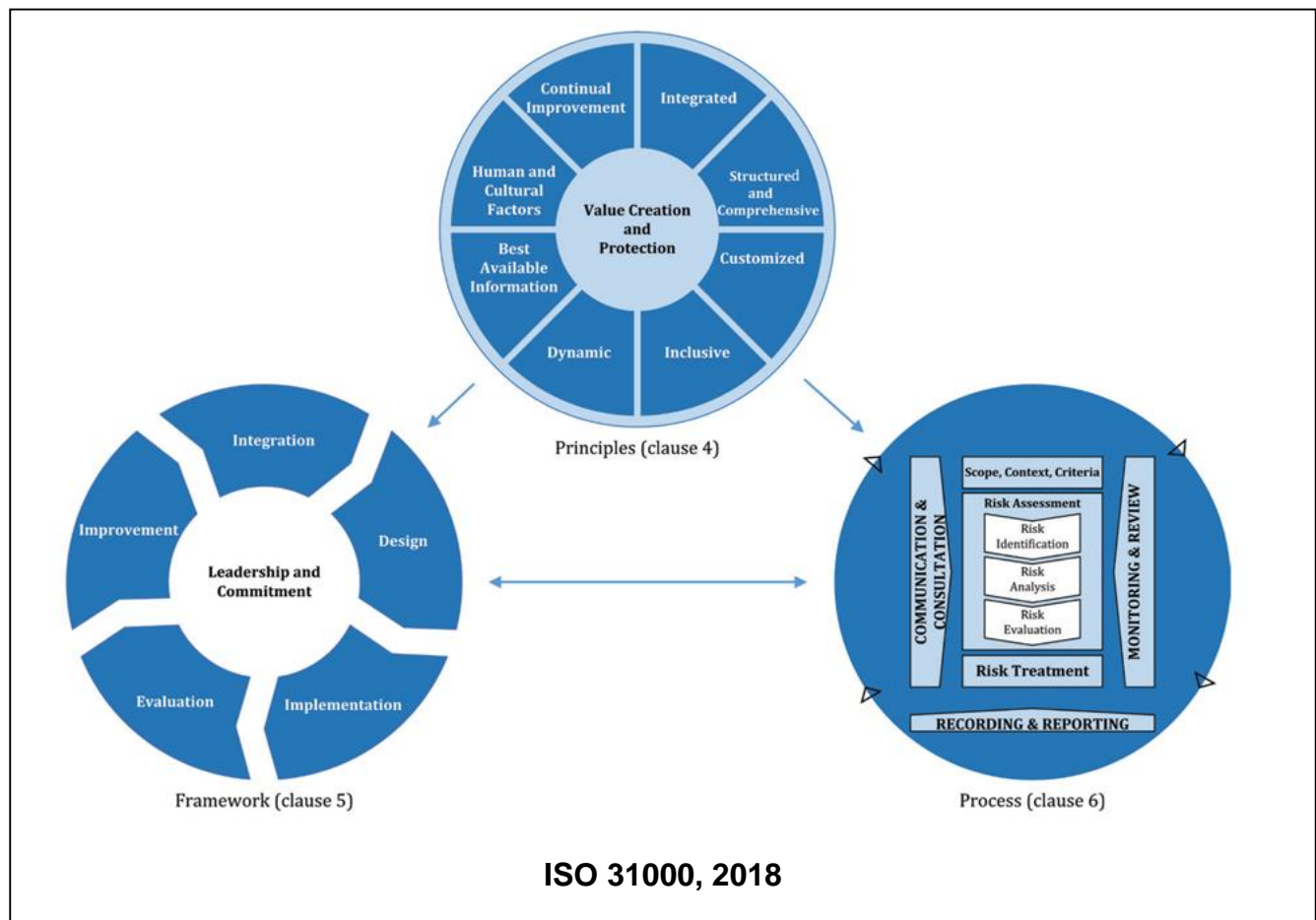
Also, as per the ISO 31000:2018 standard, page 1, risk is defined in brief as – the effect of uncertainty on objectives. It can be expanded as - the consequence of an organisation setting and pursuing objectives within an uncertain environment. According to ISO 31000, this uncertainty arises from internal and external factors that a business does not control, but may cause the organisation to fail to achieve its objectives.

International Standards Organisation (ISO), the international body charged with achieving standardisation, set out to achieve consistency and reliability in BRM by creating terms and definitions for process elements that had arisen from different forms of risk. ISO combined the creation of the BRM standard with a revision of the ISO/IEC vocabulary for BRM in guide 73:2002. According to International Standards Organisation, ISO: 31000-2009 is a paramount standard to which all other ISO and IEC standards concerning risk must align (Purdy, 2010).

ISO 31000:2009 was published in November 2009 and it is the result of four years of consultation between risk and standards experts in 30 countries. It pulls together and replaces a number of similar international standards. AS/NZS 4360:2004, which was due for revision in 2009, formed the basis of ISO 31000. This new standard was prepared by the ISO Technical Management Board Working Group on risk management. ISO 31000 is not intended for certification and does not contain compulsory requirements. It is a collection of suggested best practices.

ISO 31000 is organised in three sections:

- Principles – sustaining a dynamic and continuously improving risk management system that is customised, innovative, dynamic, structured, and *inclusive*;
- Framework – the purpose of the framework is to assist the organisation in integrating risk management into the *governance* of the organisation, significant activities and functions; and
- Processes – systematic application of policies and practices that support open *communication, consultation, and risk reporting*.



The annex to ISO 31000 standard identified five attributes to enhanced and hence more effective risk management:

1. Explicit consideration of risk in all decision making;
2. Risk management to be seen as central to the organisation management process;
3. Full accountability for risks, controls and risk treatment;
4. Continual communication with internal and external stakeholders; and
5. Continual improvement in risk management.

From the foregoing, the researcher is of the opinion that ISO 31000:2009:

- Provides a common vocabulary and approach for risk management internationally.
- It contains best practices and guidance for all types of organisations.
- It recognises risk as a neutral event and focuses on effects which can be either positive or negative for the organisation.
- Provides a list of enhanced risk management attributes and suggested measurements to gauge the maturity of the risk management framework.

Compared to the COSO framework which is very much internal stakeholders centred, the ISO31000 is designed to meet the needs of a wide range of stakeholders, including those responsible for developing risk management policy within their organisation; those accountable for ensuring that risk is effectively managed within the organisation as a whole or within a specific area, project or activity; and those who need to evaluate an organisation's effectiveness in managing risk. The standard also requires developing and implementing a plan as to how the organisation will communicate with external stakeholders. This should involve engaging appropriate external stakeholders and ensuring an effective exchange of information; external reporting to comply with legal, regulatory, and governance requirements; seeking feedback and

reporting on communication and consultation. In sum, using communication to manage external stakeholder relevant risks and build confidence in the organisation among its various external stakeholders. As the review of the empirical literature below will make clear while prior academic studies have addressed many themes related to ERM (Lundqvist, 2015 and Mikes, 2006, 2009), both in the context of COSO and ISO31000 – two widely used ERM frameworks, their role in managing external stakeholder relevant particularly environmental and social risks is neglected. A gap that this study intends to address.

2.3 Review of empirical literature on ERM frameworks

2.3.1 Measuring organisational effectiveness of ERM frameworks

Following the introduction of formal frameworks of BRM grouped under the title of ERM, many researchers have assessed the effectiveness of these frameworks and identified their various shortcomings. For example, Olson and Wu (2008) mentioned that there are over 80 risk management standards across the globe. This would make it difficult for practitioners to identify which framework is best to use. However, research has predominantly identified COSO ERM as the most widely diffused risk management standard.

The ERM frameworks that are currently in vogue, such as COSO, CoCo, Turnbull, RIMS and CAS, ISO 31000, seek to cover all types of risks in a comprehensive manner – irrespective of the industry or region. However, the existence of multiple ERM frameworks contribute to an overall uncertainty regarding the key elements of ERM (Lundqvist, 2014). According to Lundqvist (2014; pp. 394-396), *'this uncertainty carries forward to empirical studies of ERM implementation'. 'By using inconsistent measures of ERM implementation, it is impossible to compare "apples with apples" and arrive at conclusive and convincing results regarding ERM's ability to create value'*. She adds that as the attention towards ERM implementation increases, the number of frameworks studied have multiplied which contribute to the overall uncertainty regarding the essential components of ERM. She adds that each framework identifies its own specific structure in *'different components in varying number and definitions, thus leading to growing dissatisfaction with existing guidance*

on ERM implementation'. She cites an empirical study of ERM by Beasley et al. (2010) who find that the COSO framework, the most cited and debated framework is ambiguous and overly theoretical in nature. She further adds that while existing frameworks '*tend to be conceptually similar to some extent, they differ in structural representations, pertaining to how dimensions and aspects of ERM are grouped and how they define the integral parts of ERM*'. In the view of this researcher these conceptual and structural inconsistencies in existing ERM frameworks, could be because these frameworks lack a clear underlying theoretical rationale and guidance. A gap that this research addresses by developing a corporate governance and corporate social responsibility based approach to ERM.

Following these limitations identified, researchers are now concerned that ERM practices are implemented on a superficial level merely to 'window dress' to meet corporate governance and/or regulatory requirements and appease stakeholders. They are further concerned that with the box ticking approach to risk management, there is a real danger that ERM would fail to make the expected impact on business (Power 2009, Soim and Collier 2013).

Mikes (2006, 2009) and Power (2007, 2009) mentioned that ERM can vary in its practices, cultural significance and level of embeddedness. Further they point out that there is a danger of ERM lapsing into rule-based compliance and hence may not be embedded in decision making and business processes. Therefore, Price (2008) emphasises that for ERM to be effective, companies must establish a risk management culture wherein ERM is part of the existing business practices and behaviour of managers in their day to day decisions. Since each corporation has its own culture and behavioural patterns of management decision making as well as different processes, according to Arena et al. (2010) ERM can mean different things in different organisations and within the same organisation at different times. Thus, Mikes (2006, 2009) concludes that ERM remains poorly integrated across organisations with different practices grouped under the same ERM label.

According to Giovannoni, Quarchioni and Riccaboni (2016), control of risk information flow and organisation culture can explain a risk manager's influence on the

organisation by engaging in sense-giving efforts. ERM functions as a sense-giver vertically and influences meaning construction among decision makers in an organisation, horizontally. These two processes of influence used over a period of time incentivised a change in the ERM practices influence on decision making. In one process, ERM practices strives to vertically influence top management's decision regarding acceptance of BRM processes. In the second process, ERM process strives to horizontally influence decision makers to use BRM in decision making processes.

Sydow and Frenkel (2013) argue that there are gaps in ERM literature that need to be addressed to demonstrate evidence of benefit of ERM implementation, technical and cultural barriers in ERM implementation, and whether ERM increases firm value.

According to Scarbrough (2002), there are professional groups of actors – comprising accountants, auditors, academics, researchers and consultants able to perform multiple roles and support the construction and diffusion of COSO's ERM. Rogers (1995; p.5) defines diffusion as *'the process by which an innovation is communicated through certain channels over time among the members of the social system'*.

According to Spira and Page (2003; p.647), *'changes in technology and auditing encouraged devolution of control downwards and rigidly enforced compliance with policies and procedures was replaced by the rhetoric of risk'*. *'As it became increasingly believed that risk could be measured and managed, demand for new and meaningful frameworks intensified'* (Hayne and Free, 2014; p.317).

Hayne and Free (2014; p.317) referred to Oliverio (2001) who pointed to several *'failings including the absence of implementation guidance and clear allocations of responsibility, as well as, the imperative of enterprise wide approach'*.

2.3.2 ERM – developing strategic capability

The challenge in risk management is the existence of unlimited amount of risk a firm faces and the limited ability to foresee these risks. Researchers have also examined how the ERM frameworks can be effectively utilised to address the various risks that a firm face. Further it is neither feasible nor economical to address all potential risks (Bromiley and Rau, 2016). According to them the management's perception of risk,

implementation of ERM and the embedding of risk in the overall strategic choices has yet to be addressed sufficiently and that there is a need for introducing a resource based risk view and dynamic risk capability perspective.

The resource-based theory is one of the most prominent theories in the sphere of strategic management (Prahalad and Hamel, 1990). The theory stresses that the existence of VRIN (denotes resources that are Valuable, Rare, Inimitable and Non-substitutable) criteria of resource endowments in a firm explains the sustained competitive advantage the firm possesses. By transferring this resource based strategic management concept to manage all the firms' risks in unison under strategic ERM, the firm can achieve sustainable form of risk management (Nocco and Shulz, 2006). Thus a dynamic capability based ERM can help firms to cope with unforeseen events.

According to Bromiley and Rau (2016), there will always be circumstances where firms cannot foresee all risks, especially a large number of low probability-high impact ones. This makes management of each such event not feasible. According to them, under such circumstances, by applying a dynamic capability ERM, and providing managers with appropriate tools, the firm can recover from the impact of such strategic and operational risks more easily.

According to Lai et al. (2010), ERM is important to managing the firm's systematic and unsystematic risks and also ERM implementation maximises the firms value. Other studies showed that business risk management is the process through which the organisation can minimise the volatility of earnings (Lam, 2003). The results of other studies also showed that business risk management enables economical and financial growth of companies as it improves the risk management processes and reduces the cost of capital (Sharfman and Fernando, 2008; Lam, 2003).

When one considers risk management and methods, special attention needs to be paid to identification of factors that influence risk management and its consequences. According to Hahn et al., (2018) and Kerste et al. (2015), such identification and assessment takes place with the use of quantitative methods (probability, statistical and econometric) and qualitative methods (descriptive form of risk where intuitive

estimated levels – low / average / high – are subjectively applied). Arena et al. (2017) mentions that accurate and multifaceted risk management can be determined on the basis of big data analysis.

According to Ji et al. (2018), whichever method is deployed for risk management, the results need not be accurate. This is a result of difficulty in sourcing accurate data on the type and scale of hazards and their consequences.

According to the study of Oliva (2016), the importance of risk management was highlighted by the need for businesses to identify and manage their enterprise risks, which go beyond internal risks, considering the most competitive business environment. Accordingly, he adopted three theoretical pillars (new institutional economics, supply chain and ERM) to develop and assess the maturity model for ERM in supply chain of Brazilian companies. He notes that enterprises interact with customers, suppliers, government and other organisations for procurement of goods and services, production and marketing of their finished products. The environment of such actors consists of forces that are beyond organisational boundaries. Further they are subject to legal, economic, political, technological and social behavioural changes. These players constitute the key stakeholders. The key result of Oliva (2016) study is the development of a maturity model for ERM to help organisations achieve their strategic objectives. Oliva (2016) denotes the five levels of maturity as insufficient ERM, contingency ERM, structured ERM, participative ERM and systemic ERM. He mentions at length four explanatory factors of ERM as following; organisation (planning, organising, implementation and process control); technically (technical approach and attributes); transparency (participative management and effective communication) and involvement (external support and analysis in the environment of value).

2.4 Components of ERM

Given the debate in the literature on what are the essential components of an ERM framework, the researcher carried out an academic perusal of literature to examine the integral components claimed to be essential to an ERM framework. In this context, Lundqvist (2015) has attempted to identify four discreet underlying components of ERM

implementation and she insists that each of these 4 components are essential for a well implemented ERM framework. These are:

- 1 General internal environment in the firm
- 2 Control activities of the firm
- 3 Identification of risk management activities of the firm
- 4 Defining attributes of ERM implementation in the firm.

According to her, the first 2 components are not directly associated with risk management. Firms that do not demonstrate risk management activities, but if they have a strong corporate governance in place, they can still implement these two components in a robust way. The third component distinguish firms that actively manage different risks in the firm and those that do not. The fourth component contains the dimensions that are characteristic of ERM implementation, such as formal documentation of risk appetite, correlating and determining portfolio effects of combined risks and formal risk management report submitted to the board.

Arena et al. (2010) quote Miller and Rose (1992) in incorporating dimensions through which ERM systems for controlling uncertainty is embedded in the management culture and process by focusing on three elements:

1. Risk rationalities – refers to the domain for representing reality by conceiving uncertainty / risks in terms of business models, analysing the causes / triggers for possible failures and their impacts on performance, rectifying it by seeking internal control and other risk management measures.
2. Uncertainty experts - relates to distributing tasks for dealing with risks and risk management to experts, consultants, internal auditors and professional risk managers.
3. Technologies - refers to the quantitative and qualitative tools available for identifying, analysing and managing risks.

According to Arena et al. (2010), the mutual entanglement of these group of actors along with the above elements are key to understanding the organisational dynamics of ERM at two levels:

1. Internal trajectory – involvement of Chief Risk Officer (CRO), internal auditor, management accountant and other actors charged with managing uncertainty can give rise to professional rivalry where each actor competes for control over information, thereby undermining exchange of data.
2. Unified practice that covers all types of risks within an organisation with a cross cutting approach, wherein ERM becomes an umbrella.

While the debate on integral components of ERM continues, scholars have also studied whether ERM implementation improves firm performance – a question that we turn to in the following section.

2.5 Enhancing operating performance and firm value through ERM

Following the introduction of ERM frameworks many researchers have also examined the relation of implementation of ERM frameworks and firm value. Callahan and Soileau (2017) find that firms with mature ERM processes achieve greater operational performance than those with less mature risk management processes. They are also of the opinion that organisations can establish a low level of risk appetite in order to reduce downside losses at the cost of reducing opportunities for investing in upside profitable opportunities. Conversely, in trying to attain higher returns, firm may tend to focus on upside opportunities while losing focus on the possibility of the potential for extreme losses.

According to them, mature ERM processes help firms to mitigate their skewed expectation of profitability and consequently there is less likelihood of accepting too much risk and exposing the firm to downside risks. Adopting such approach could restrain firms from investing in risky high return projects, but they prevent them from exposure to extreme loss events. Over a period of time, adoption of such approach will lead to higher return on capital. Barton et al. (2012) said that such approaches at conservative ERM

may lead to stagnation and accordingly they advise that the ERM framework should be constantly kept organic and alive.

Accordingly, Callahan and Soileau (2017) used a methodology for their sample selection with a data set obtained via web-based survey of internal audit management of US based publicly traded firms that provides an assessment of ERM maturity for each year during a three-year period. This approach avoided the short-term volatility of annual data by spreading it over a longer time horizon. The data collection was aided by SEC requirement from 1st March 2010 for firms to discuss board of directors' oversight of risk within the organisation. While Callahan and Soileau (2017) study results provide support of positive correlation between ERM maturity and operating performance based on quantitative analysis, they admit limitation of the survey method and that the ERM adoption may not be disclosed with SEC filings indicating an alternative bias due to liability concerns.

According to Meidell and Kaarbøe (2017), the role of ERM is not just a compliance function to protect shareholders value, but to enhance the proposition that ERM leads to improved performance through better decision making.

The results of a number of studies confirm that the firm's performance is improved due to ERM implementation. For example, Hoyt and Liebenberg (2011) studied the relationship between firms' performance and ERM. They used the Tobin's Q to measure the firm's value. They found a positive relationship between firm value and the use of ERM. They also found a positive relationship between the appointment of chief risk officer and firm value. Lam (2003), Pagach and Warr (2010) and Tenello (2007) found that firms adopting ERM experience less volatile earnings. Baxter et al. (2013) find that S&P's ERM quality rating have a positive association with operating performance and firm value. McShane et al. (2011) also find a positive association between traditional risk management capability and firm value using S&P's risk management quality rating.

However, Lundqvist (2014), Power (2009), Soin and Collier (2013) are of the opinion that ERM is implemented on a superficial basis merely for compliance and appeasements of shareholders and hence, ERM fails to impact business and decision processes in

organisations. ERM value addition to organisations is uncertain and many researchers are studying the relationship between ERM practices and firm value (Lindqvist, 2014).

Uncertainty relating to effectiveness of ERM carries forward to other empirical studies of ERM. For example, those undertaken by Beasley et al. (2005), Beasley et al. (2008), Desender (2007), Gates et al. (2009), McShane et al. (2011). The results of these studies indicate that value creation via ERM and its determinants is unclear and inconclusive. Consequently, to date there is no real consensus about the principal elements and components of an effective ERM framework.

While the debate on essential elements of an ERM framework continues new risk related challenges have emerged in the current business environment where stakeholders other than shareholders have gained prominence. This is the issue that we turn to now.

2.6 Corporate social responsibility (CSR) and ERM

2.6.1 Emergence of CSR

When the term ERM is mentioned, the tendency is to focus on operational, business and financial risks only. In today's economy, there are other risks that are gaining centre stage, namely, social risks and environmental risks (S & E risks). This has led to the emergence of the concept and practice of corporate social responsibility (CSR) underpinned by the development and popularisation of stakeholder theory.

Corporate Social Responsibility (CSR), as a business concept gained prominence when it was covered in Bowen's (1953) book "Social Responsibilities of the Businessman". Since then several academicians have attempted to explain the concept of CSR. According to Carroll (1979), social responsibility can be best described by 3 concentric circles approach to management, as enunciated by Committee for Economic Development in 1971 – the inner circle, being the smooth execution of the economic function, the intermediate circle being execution of economic function with an awareness of social values and priorities and the outer circle outlining responsibilities involved in improving the social environment, including items such as poverty, urban plight, varieties of social discrimination and ecology

damage. The three circles embody the range of responsibilities a business has towards society. These as per Carroll (1979) are:

1. **Economic responsibility** – to run the business in an efficient manner, so as to generate sufficient profits to provide just rewards to the business owners/ shareholders, and leave enough to undertake other responsibilities;
2. **Legal responsibility** – to undertake what is mandated by law, in terms of taxes for the local community, environment measures, etc. as partial fulfillment of the social contract;
3. **Ethical responsibility** – behaviour that is not codified into law, but nevertheless expected of business by society, e.g. employment and training opportunities to locals, conservation of natural resources;
4. **Discretionary responsibilities** – undertaking measures by business out of its own volition, e.g. philanthropic contributions in cash to worthy causes, building roads and schools to benefit the local community.

When an entity undertakes the aforesaid social responsibilities, it is in effect undertaking a prudent allocation of resources, to obtain the desired results which would benefit the entity in the short and long run, thereby ensuring its sustainability (Carroll, 1979). By undertaking the above responsibilities, an entity is undertaking broad based management of social and environment risks, which hitherto did not fall within the purview of traditional ERM frameworks, such as COSO.

It needs to be noted that under current business environment, the ambit of legal responsibility has been widened. In current mainstream legal theory, American Law Institute Report (1992) articulated the principles of corporate governance by mentioning that the modern corporation creates interdependencies within a variety of groups for whom that entity should have concern, such as employees, customers, vendors and members of the community. Such social and ethical considerations (though not mandated by Law), are consistent with producing long term results in terms of enhanced profit and increased shareholder value (Donaldson, 1995).

In 1970s and 1980s, companies revamped their HR strategies to focus less on compliance with employment contracts and more on values – companies' strategy

shifted from pure autocratic leadership to more of collaboration. 1990s saw a further thrust to environmentalism and graver legal ramifications for ethical missteps. Class action suits rose as tobacco and junk food manufacturers faced heightened scrutiny. Oil and chemical companies had to contend with public pressure due to plants emissions and water contamination. In the 2000s, business ethics entered the online internet realms. In an era of unprecedented public and consumer advocacy, scrutiny and activism through internet, businesses were under pressure to demonstrate that their entities stood for something more than profits.

CSR involved incurring costs, as well as diversion of staff and management focus. Several large corporates saw a way to circumvent this trend by attempting to take advantage of globalisation by strengthening their supply chain for cost benefits – use of cheap labour, including availing of services of sweat shops and child labour.

Indiscriminate mining, logging, deforestation of rain forests and over fishing, poor disposal of waste, etc. led to corporate profits at the cost of permanent damage to eco-systems through oil spills, climate change, etc. News of oil spills and harm to environment and to vulnerable communities, such as native communities in the amazon region that have been erased to make room for oil and gas exploration and drilling and hydro power generation, made headlines in the media.

When this information entered the public information domain, organisations around the world began embracing a philosophy to maintain a balance between being profit oriented organisations and commitment to ethical behaviour. Some companies saw the adverse impact such environment and social risks cou

ld have not only on the image and bottom line of their companies, but threaten the very sustainability of their companies. To address the importance of environmental and social risks in doing business, organisations started adopting and advocating the concept of triple bottom line, people, planet, profit i.e. social, environmental and economic. The phrase “the triple bottom line” was first used by John Elkington in 1994.

Short term and long term Investments in CSR advocates positive social and environment change and do not provide immediate financial benefit to the company.

According to McWilliams and Siegel (2001), there are lots of efforts and studies attempting to address the question of whether investing in social and environmental risk management improves the corporate sustainability and financial performance of companies. There is also growing evidence that this is indeed the case (see Beurden and Gössling, 2008 for a recent meta-analytical review of the literature on the business case for CSR).

From the foregoing, the researcher has concluded that modern ethical and professional business management needs to take care of various stakeholder constituencies. Organisations need to balance the economic responsibility of running a business enterprise to generate profits that reward shareholders along with the legal and ethical responsibilities of meeting the expectations of other stakeholders. In order to do this most effectively and strategically, companies need to integrate their E and S risk management activities within their ERM framework. A topic that I turn to next.

2.6.2 Integrating ERM with CSR

To date the ERM frameworks have focused primarily on operational and financial risks. However, as has been discussed in the previous section, there are new risks, namely E & S which can impact the image, bottom line and sustainability of companies.

Kytte and Ruggie (2005) in their study on the contribution of CSR programmes to managing social risks, mention that due to globalisation and network based operating business models, there is a significant shift in market power of external stakeholders. Social risk is a rising area of concern for global companies. According to them, social risks arises when a company's own behaviour or the action of other in its operating environment creates vulnerabilities and applies pressure on the corporation to undertake certain behaviours and change. The need to listen to corporate stakeholders' perspectives on social issues becomes a competitive necessity and hence the need to embed social risks in corporate strategy. In a complex and evolving area of social risks, CSR according to them, represents a mechanism for addressing challenges across the business enterprise.

Kytle and Ruggie (2005) mention that political scientists conceive CSR as a shift away from the traditional business management style to a more complex governance in which non-state actors are gaining importance in shaping a new world order. In a globalised business environment, the dynamic system has more levers and pressure points which can be critical to smooth operations and play a role in the achievement of business objectives. These pressure points most notably exerted by civil society, communities, neighbourhoods, and such stakeholders constitute social risks. Examples of such risks are: neighbouring communities requesting changes in companies' environmental policies to reduce emissions; employees raising a concern about outsourcing of jobs; and maintenance contractors requesting coverage in companies' health care and insurance plans when working in an unhealthy environment.

Kytle and Ruggie (2005) have also mentioned that according to US government's CSR initiative, it is not just important what companies do with profits but also how they make them. Stakeholders are more empowered than ever before on a global level and often unite forces on social issues. This leads them to suggest that each area of risk management (STEP) – social, technological, economic and political – is becoming of strategic value in each area of ERM management. This last point emphasises the importance of incorporating CSR in the overall ERM framework.

According to Kytle and Ruggie (2005), CSR is morally discretionary rather than morally obligatory. They indicate that CSR is related to ERM in 2 ways – one, by providing intelligence about what E and S risks are and two, by offering effective means to respond to them. In both cases, it leads to the effective management of stakeholders concerns by addressing environment risks, human resources management, work health, security and safety, local community relations and customer/supplier relationships.

A number of studies show that CSR initiatives lead to greater stakeholders' support and enhance companies' reputation. Godfrey (2005; p. 783) referred to Rindova and Fombrum (1998) who claim that reputation in itself has no immediate financial benefits, but reputational capital arising as an outcome of CSR. They claim that CSR

'has economic value because it disposes stakeholders to hold beliefs or engage in actions that potentially create wealth for shareholders'. They also mention that a global reputation of a firm is a function of *'reputational assessments of various attributes of the firm ... including the moral dimension of a firm's performance'*. This moral dimension is represented by positive moral capital. Godfrey, Merrill and Hansen (2009) emphasise that positive moral capital gained through effective CSR acts as an insurance, since it protects relational wealth.

According to Godfrey (2005, p. 786) *'many of a firm's resources are relation based, because the earning potential of these assets depends upon the relationships a firm has with its stakeholders'*– such as: employees loyalty through affection and attachment to the organisation; communities through socially constructed system of norms, values and beliefs; supplier trust, based on the expectation that the entity will perform; and brand value with customers and customers loyalty based on the expectation that the entity will deliver irrespective of the oversight or ability to monitor.

2.6.3 Importance of environmental and social risk management

A study by Sharfman and Fernando (2008) of 267 firms showed that improved environmental risk management is associated with lower cost of capital. Their findings help to build a better theory regarding the relationship between environment risk management and cost of capital. They posit that improved environmental risk management through strategic environmental investments improves the market risk perception of the firm. This improved perception causes financial markets to be willing to accept lower risk premiums on equity, thereby allowing the firm to acquire higher level of leverage and lower cost of capital overall.

Some academicians, like Spicer (1978), studied the debate whether environmental expenditures should be viewed as a cost or as an investment. Mahapatra (1984) and Chen and Metcalf (1980) favoured the conventional view that such activities represented a cost to the firm and should be minimised. Hamilton (1995) found that firms who had been the target of EPA (Environment Protection Agency) lost market value when EPA's outcomes were announced.

Despite the contradictory views on the subject, the empirical support for either assertion is sparse. Campbell, Sefcik, and Soderstrom (1998) claim that generalized environmental risk management is neither quantifiable nor transparent.

Sharfman and Fernando (2008) mentioned that environmental performance of firms should be viewed as environmental risk management for a variety of reasons. They claim that when a firm makes strategic investments that reduce emissions and pollution, they reduced the risk of litigation (and potential settlements and litigation costs) or imposition of fines by regulators and the reputational impact of negative media coverage from non-government stakeholders. By reducing the potential for such claims and fines, the firms' resources can be strategically diverted to dividends for shareholders, debt payments, internal investments or for acquisitions. Such resultant activities are likely to be rewarded by the market in terms of improved risk perception of the company from an investment standpoint. Smith and Stulz (1985) claim that environment risk management reduces the firms' expected cost of financial distress and thereby enhances the quality of its debt. Orlitzky and Benjamin (2001) reasoned that while assessing the credit quality of a firm's debt and the cost of debt financing, the level of default risk plays an important role. Improving environmental performance can reduce the uncertainty arising from extreme environmental events and the heavy costs arising therefrom. They quote Union Carbide's disaster in India and the oil spill of Exxon Valdez as examples where heavy cash outflows arose from compensation, clean-up costs and penalties, leading to reduced profitability and making such firms vulnerable to bankruptcy. This led to a conclusion that if environment risk management reduces the default risk profile presented to the debt market, the market should in turn reward such firms with lower interest rates and cost of debt capital.

Lastly, Sharfman and Fernando (2008) conclude that based on their detailed analysis and empirical measurements that in addition to improved resource utilisation that comes with improved environment risk management, the firm gains increased leverage in the debt and equity market through a payoff in terms of markets' perception of the risk profile of the firm.

This trend of corporate behaviour namely CSR has been influenced by the emergence of “Stakeholder Theory” which was introduced by Freeman (1984) in his book “Strategic management: A stakeholder approach”.

2.6.4 Stakeholder theory and corporate stakeholders

In 1984, R.E. Freeman introduced the concept and application of “stakeholder theory” in his book, Strategic management: A stakeholder approach.

As per Freeman (1984), stakeholder theory asserts that stakeholders who are impacted by the corporation have right and duty to take part in directing it. The theory describes those individuals and groups who will be affected by or will have an impact on the company’s actions. It asks what are these entities legitimate claims on the business, what rights do they have with respect to the company’s actions, and what kind of responsibilities and obligations can they justifiably impose on a particular business?

In order to determine who are the stakeholders for corporations one needs to look at the business environment and their components together with their relationship with the corporation. There are external elements such as the suppliers, customers, regulators, economic, political, environmental, competitors, social and technological. The internal business environment includes mainly the employees and management in addition to the business management systems such as finance, marketing and operations.

‘As a simple example, when a petrochemical plant emits pollutants in the air or water, a CSR perspective would accord the onus directly on the plant owners to take measures to control the pollution. By contrast, a stakeholder theorist begins with those living in the surrounding community whose environment might be poisoned and begins to talk about business ethics by insisting that the surrounding community has a right to clean air and water’. Business Ethics (2012), <<https://2012books.lardbucket.org/books/business-ethics/index.html>>.

Hence, plants neighbouring communities and external stakeholders’ opinion should contribute to business decisions. Although they may not own shares and voting power

in the company, they have the right to participate in decisions impacting them. For, example, if an oil and gas company is planning to build a new unit within its complex, the neighbouring communities who may be affected by emissions from the new unit, should have the right to vote for accepting or rejecting the project. Hence, they become like a shareholder in the company (Asher et al., 2005, Freeman, 1983).

The stakeholders surrounding oil, gas and petrochemical plants will usually include shareholders, board of directors, employees, customers, suppliers, neighboring communities (towns and villages), government and regulators, bankers, contractors of the company and even competitors. The stakeholder theory requires the company's board and management to balance the interests of all stakeholders who are touched by the company's operations (Asher et al., 2005; Freeman, 1983).

There are many instances where large corporations lost a huge market share and collapsed despite an ERM framework in place. One of the main reasons was that corporations were looking inwards only in terms of risk management. For example, Kodak, Blackberry and Nokia were market share leaders at some point and were disrupted by competitors because they failed to innovate to innovate and failed to foresee how fast the world is changing.

Thus drawing on the concept of CSR and stakeholder theory, in view of the researcher, the existing and traditional ERM frameworks need to be expanded to include not just financial and economic risks, but also to recognise and include the role of external stakeholders in risk management via inclusion of social and environmental risks.

If such an integrated and sustainable environmental ERM framework has to be implemented, the business environment model needs to be re-examined and new players and stakeholders need to be identified. These would include customers, suppliers, competitors, governments, regulators and community leaders/NGOs.

Review of academic literature evidences that when organisations attain a higher level of sustainable ERM, they not only prosper financially (as evident from their triple bottom line), gain favourable response from the customers and community in which

they operate, but also have a positive impact on their peers as well as competitors (Lam, 2003; Power, 2003). This is the recipe for sustainability of the organisation.

2.7 Corporate governance and ERM

Bowling and Rieger (2005) mention that if ERM has to create value for its shareholders, they have to consider various factors such as complexity of risk, globalisation, technological advancement, compliance with regulations as well as corporate governance.

Rosen and Zenios (2001) mention that corporate governance is vital for effective ERM and none of the ERM components can be achieved without corporate governance compliance. Corporate governance and risk management are interrelated and interdependent. Javier (2002) add that good corporate governance means putting the right internal infrastructure to manage the risks that a company faces.

Knight (2006) clarifies that one of the corporate governance roles is the element of control, while a control environment is developed from the risk management process. Corporate governance is the glue which holds an organisation together in pursuit of its objectives. Risk management provides that resilience and becomes a vital engine for strengthening corporate governance.

Stein and Wiedemann (2016) sharpened the terminology of risk governance to bridge the gap between corporate governance and risk management. They introduced risk governance as the corporate function that is directed towards the overall regulation of risk management. They mentioned that both corporate governance and risk management have become two specialised fields over time and experts in each field are occupied with their own domain without cross-functional communication. According to them, corporate governance cover a broad range of disciplines and risk management comprise a sub-topic of corporate governance. Stein and Wiedemann (2016; p. 828) define risk governance as *'a regulative system at a higher-order level, designing risk regulation models for risk management, determining model risks, performing research and development in risk issues, and serving as a risk consultancy for top management'*.

Many countries have introduced their own corporate governance codes. These codes include guidelines for standard of behaviour to cover risk management for fraud, customer service, stakeholder requirements and communication of company performance. Very often the best practices mention in the corporate governance code are voluntary. However, in many countries listing requirements for stock exchanges makes it mandatory for companies to release a statement of compliance with the code. For example, as per the Toronto Stock Exchange, the board committees have to be more focused in their interest in risk management.

Bahrain's Corporate Governance Code (2018) aims to establish a system that governs the components of the internal control environment within a company including the risk management system. As per the Code, the board of directors should establish appropriate risk management controls and systems, set a risk management framework, embed the risk management as an organisational culture and transparently disclose the risk management activities to the company's stakeholders.

Kelffner, Lee and McGannon (2003) examined whether corporate governance guidelines in Canada have influenced companies' decision to adopt ERM. They found that reasons for adopting ERM included the influence of the risk manager, board of directors and compliance with Toronto Stock Exchange guidelines.

In practice, it has been discovered that companies which have good corporate governance practices increase the efficiency of capital allocation, reduce the cost of capital, broaden access to new capital, reduce vulnerability to crisis and render corruption more difficult (Meng, 2003).

Monks (2002) adds that corporate governance can also prevent value destruction. Sobel and Reding (2004) emphasise that the function of corporate governance and ERM is maximise shareholder value. They explain that the link provided between corporate governance and ERM enables organisations to better understand risks and in an appropriate manner. Devenport and Bradley (2001) conclude that drivers of corporate governance are often the key driver in enterprise risk management initiatives and the benefits derived are consistent with objectives of ERM.

2.8 Corporate communication and ERM

'Transparency is an important value for those promoting stakeholder ethics. The reasoning is simple: if you're going to let certain stakeholders actively participate in a corporation's decision making, then those stakeholders need to have a good idea about what's going on', Business Ethics (2012), <<https://2012books.lardbucket.org/books/business-ethics/index.html>>.

When risk management is considered in its entirety, the aspect of communication can be broken into 3 distinct areas:

- Top down: board /top management downwards to business units and operating staff;
- Down up: From operating level to top management & board;
- Board to external stakeholders and feedback to board

There is a lot of clarity in the first two areas, as far as ERM frameworks are concerned. E.g. When one looks at the COSO cube, the front facet that has 8 components. The first component, internal environment relates to governance, structure, culture and philosophy of BRM. Blakely (2009), Drew and Kendrick (2005), Kirkpatrick (2008), and Stulz (2008), all emphasise the importance of setting-up, communicating and understanding the firm's structure, business environment and philosophy of BRM and risk appetite. So, the tone needs to be set at the top and communicated down the ranks. The second component, objective setting covers the strategic objectives of the firm's operations, reporting and compliance activities. This too has to be communicated from the top management / board down to the ranks.

The eighth component of COSO, namely monitoring, deals with the manner in which communication should exist throughout the organisation to ensure that each of the other components are linked and functioning properly, that there are no material weaknesses. If any risks exist, to ensure that these are within the risk appetite; if not, to bring them to the fore to the top management and board. However, the existing ERM frameworks do not offer much guidance as to how to address the third area i.e. communication with

external stakeholders. A gap that this study intends to address both conceptually and empirically.

In terms of communication with external stakeholders, Linsley and Shrives (2006) mentioned that the American Accounting Association (AAA) and Financial Accounting Standards Board (FASB) lamented that US companies were providing insufficient risk information within their annual reports. The Institute of Chartered Accountants of England and Wales (ICAEW) noted the risk information gap and issued discussion documents encouraging UK company directors to report on risks in greater depth. Securities and Exchange Commission (SEC) Financial Reporting Release (FRR) has also sought disclosures on specific financial risks, such as derivative exposure.

According to Linsley and Shrives (2005), the major obstacle to increased risk disclosures is the reluctance of directors to release information on operational, project and financial risks they deem to be an inside confidential and classified information which could lead to legal liabilities without protection to directors.

However, the same argument does not hold good with respect to reporting for CSR i.e. to demonstrate how the entity is dealing with environment and social risks. Investors and shareholders tend to look upon companies which embrace CSR with a high degree of respect. Atkins (2006) claims that what the investing public understands by social responsibility is transparency in firm's financial reporting. Firms that implement CSR to meet expectations of stakeholders are more likely to provide investors with transparent financial information.

According to Godfrey (2005; p. 795), transparency '*means that the firm discloses its activities as they occur, thus allowing stakeholders to create a stock of positive moral capital*'. This '*transparency facilitates moral capital formation in advance of need; for when the firm needs positive moral capital, it will be too late to build it*'. Another way to look at it is that it creates a kind of risk management mechanism. He discusses the aspect of reporting through the principle of transparency and recommends that firms should publicly disclose details of their CSR portfolio. Shareholders and community members need to be informed of CSR activities, the level of funding, the goals and rationale that underpins

these decisions. Thus social and environmental risk management needs to be a two-way process- an aspect that this study will aim to investigate in the context of ERM at GPIC.

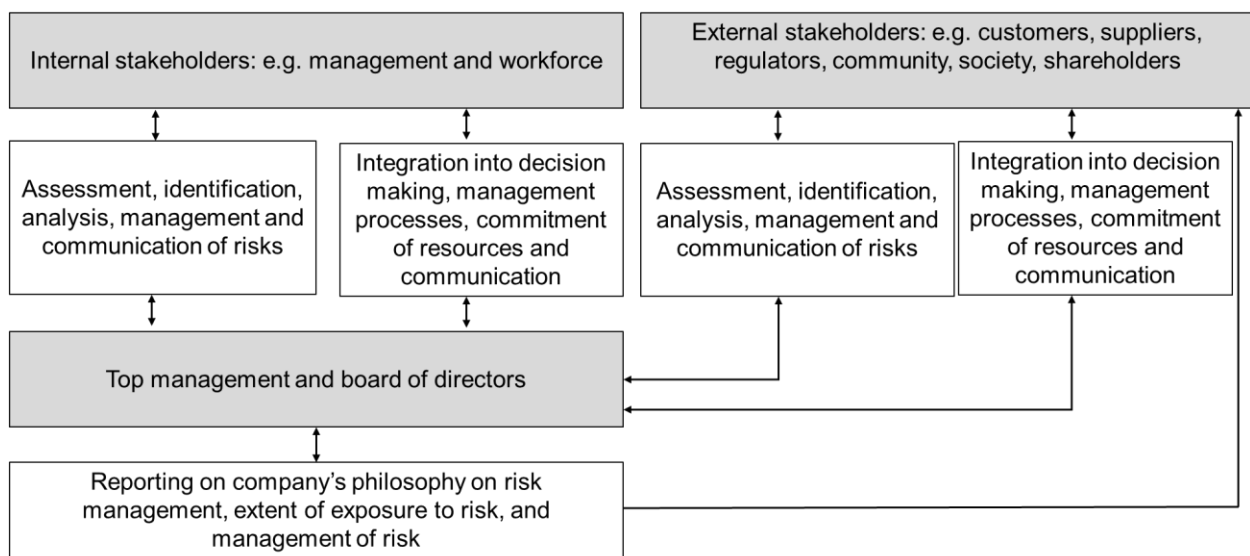
2.9 Proposed conceptual framework and research questions

The preceding literature review has highlighted the following gaps in the ERM literature pertaining specifically to existing ERM frameworks:

1. The existing formal ERM frameworks focus on business risks in an 'inward looking' fashion i.e. focus predominantly on management of internal operational and financial risks primarily from the point of view of shareholders and management. In today's stakeholder sensitive business climate 'external' stakeholders i.e. customers, suppliers, community, regulators, and wider society, play an active role in generating and helping companies manage their risks as well as opportunities (Marks, 2010).
2. There is also a criticism in the literature that these frameworks are fragmented in guidance as to their essential components and their links, making them difficult to understand and implement (Lundqvist, 2015 and Ward 2013). Although the ISO13000;2018 document shows its risk management principles, framework, and processes – these are illustrated within three self-contained circles, which do not make the links between the principles, framework and processes clear and explicit (Purdy, 2010).
3. COSO is built on Internal Control which is its main limitation. Internal control is just a process designed to provide reasonable assurances regarding achievement of objectives and these assurances are not enough to manage all risks (Marks 2010 and Power 2007).
4. COSO do not have the mechanism to give feedback to the stakeholders about the broad nature of the risk and mechanism in place to mitigate the risk. In other words, the framework does not emphasise the 2-way communication (Marks, 2010).
5. The COSO process starts with the internal environment, not the external ones and this fails to reflect the influence that the business environment, regulatory

conditions, and the external stakeholders have on the risks an organisation faces (Marks, 2010).

Drawing on the relevant academic literature particularly that related to formal ERM frameworks; corporate governance particularly in relation to the role and functions of top leadership in risk management and its communication; as well as the literature on CSR and stakeholder theory particularly related to the benefits of CSR including its role in risk management and the stakeholder theory as the theoretical foundation for the importance of meeting the expectations of internal and external stakeholders in relation to social and environmental expectations; the researcher have proposed a theoretical as well as practical and dynamic conceptual framework that can guide both scholars and practitioners in researching and undertaking effective, comprehensive business risk management respectively. Drawing on stakeholder theory, relevant literature on corporate governance and CSR, particularly in relation to risk governance and management including environmental and social risk management, the framework: first identifies the internal and external stakeholders; then articulates their role and functions in the risk management process; and finally makes explicit the links between these stakeholders and their functions in implementing and achieving comprehensive and dynamic risk management within an organisation. Below I present the proposed framework:



Based on the review of the literature and reading the existing frameworks standards, guidelines and documents, the researcher have found that the existing ERM frameworks were developed by practitioners and they lack of clear underlying theoretical rationale and guidance (Power, 2007, Hayne and Free, 2014). One of the key contributions of this study is the development of the above conceptual framework. The above framework is developed based on review of literature on ERM, CSR, corporate governance and stakeholder theory, and based on identification of gaps. In other words, the framework is underpinned by sound relevant theory and this is what differentiates the above framework from all other existing frameworks.

The above conceptual framework identifies and makes explicit the roles and functions of the two key stakeholders' groups namely internal and external. Two tasks have been listed in the conceptual framework under the both stakeholders' groups, namely:

1. Risk assessment, identification, analysis, management and communication; and
2. Integration of risks into decision making, management processes, commitment of resources and communication.

The components of the above two tasks are defined in the light of the two popular existing ERM frameworks (COSO and ISO 31000) as follows:

- **Risk Assessment**

According to ISO 31000 (2018; p.11), *'risk assessment is the overall process of risk identification, risk analysis and risk evaluation'*.

Risk assessment in the COSO ERM framework follows event identification and precedes risk response. According to COSO (2017), risk assessment is the process of measuring and prioritising risks that may affect an organisation's ability to achieve its objectives so that risks are managed.

- **Risk identification**

According to ISO 31000 (2018; p.11), *'the purpose of risk identification is to find, recognise and describe risks that might help or prevent an organisation achieving its objectives'*.

According to COSO 2017, event identification is the process of identifying and assessing risks that may impact the achievement of strategy and business objectives. Risks are prioritised by severity in the context of risk appetite. The organisation then selects risk responses and takes a portfolio view of the amount of risk it has assumed. The results of this process are reported to key risk stakeholders.

- **Risk analysis**

According to ISO 31000 (2018; p.12), the objective of risk analysis is to understand the nature of risks and it involves *'a detailed consideration of uncertainties, risk sources, consequences, likelihood, events, scenarios, controls and their effectiveness'*. 'Risk analysis can be undertaken with varying degrees of detail and complexity, depending on the purpose of the analysis, the availability and reliability of information, and the resources available. Analysis techniques can be qualitative, quantitative or a combination of these, depending on the circumstances and intended use'.

According to COSO (2017), risk analysis involves reviewing the entity's performance and considering how well the enterprise risk management components are functioning over time and in light of substantial changes, and what revisions are needed.

- **Risk management**

Risk management in the researcher's conceptual framework is the overall process of risk monitoring, risk response and risk treatment.

According to ISO 31000 (2018; p.13), *'the purpose of risk treatment is to select and implement options for addressing risk'*. The purpose of risk monitoring and review is to improve the quality and effectiveness of process design, implementation and outcomes.

Risk response concerns the existence of formal policies in place to determine how risk should be responded to and managed. There are four general responses: avoiding, accepting, reducing, and sharing risk (COSO, 2004). Control activities are policies and

procedures in place to ensure that identified risk responses are carried out (COSO, 2004).

Risk monitoring is essential to ensure that ERM is working effectively on a continuous basis (COSO, 2004).

- **Communication**

Communication of risks involves the quality and effectiveness of communication, ongoing evaluation and feedback.

According to ISO 31000 (2018; p.7), *'communication involves sharing information with targeted audiences. Consultation also involves participants providing feedback with the expectation that it will contribute to and shape decisions or other activities. Communication and consultation methods and content should reflect the expectations of stakeholders, where relevant'*.

According to COSO 2017, enterprise risk management involves obtaining and sharing necessary information on a continuous basis from both internal and external sources.

- **Integration of risks into decision making, management processes, commitment of resources and communication**

COSO (2017) emphasises the importance of integrating risk management into strategy, performance and governance. According to COSO (2017; p.10) *'governance sets the organisation's tone, reinforcing the importance of, and establishing oversight responsibilities for, enterprise risk management'*.

According to ISO 31000 (2018), risk monitoring and review should be part of the risk management process, with responsibilities clearly defined. Communication and consultation with external and internal stakeholders should be conducted throughout all steps of the risk management process. The ISO 31000 (2018) further adds that for the risk management process to be effective, it should be integrated into the governance of the organisation, including decision-making. This requires support from stakeholders, particularly top management.

'Risk is managed in every part of the organisation's structure. Everyone in an organisation has responsibility for managing risk' (ISO 31000, 2018; p.5).

'Integrating risk management into an organisation is a dynamic and iterative process, and should be customised to the organisation's needs and culture. Risk management should be a part of, and not separate from, the organisational purpose, governance, leadership and commitment, strategy, objectives and operations' (ISO 31000, 2018; p.5).

The conceptual framework in addition to identifying the stakeholders roles, also links these stakeholders and allows for two-way communication i.e. consultation, communication and risk reporting/disclosures (these tasks are related to corporate governance and governance of risks) as well as feedback to promote stakeholder engagement and corporate transparency (these tasks are based on stakeholder theory). This communication needs to take place, both between top management and internal operational stakeholders; as well as between internal stakeholder particularly top management via chief risk officer (CRO) or designated risk manager or risk committee chair with internal and external stakeholders including shareholders. With respect to shareholders, the role of the top management is to provide an overview of the organisational risk management status. This two-way communication helps build trust with the corporate stakeholders (this is related to the benefits of CSR in risk management). Trust leads to cooperation which is essential for achieving corporate objectives.

Drawing on this proposed conceptual framework, the researcher would like to address the following research questions in the context of GPIC:

RQ1: How is GPIC managing its risks, including environmental and social risks?

RQ2: How is GPIC integrating its external stakeholders in the management of its risks, including environmental and social risks?

The research questions will be answered by conducting a research based on a case study of Gulf Petrochemical Industries Company (GPIC). GPIC has a demonstrable evidence

of business ERM implementation as it previously implemented the COSO framework and converted to the ISO 31000. By undertaking this research, the researcher aims to examine the way enterprise risk management perspective could be enlarged to include external stakeholders with a particular focus on social and environment risks faced by a business.

The next chapter i.e. 3 will discuss methodology, while chapter 4 will address RQ1 and chapter 5 will address RQ2 followed by conclusions in chapter 6.

2.10 Conclusion

Chapter 2 deals with review of literature to trace the evolution of risk management from the silo based approach where specific types of risks were managed in silos. Since this method was found to be inadequate, it was found desirable to have a risk management mechanism to manage risks in a comprehensive manner throughout the enterprise. That called for a suitable framework. Different professional bodies, such as insurance, actuaries, accounting and auditing societies came up with their own versions of ERMs.

COSO which was promoted by accounting/auditing firms gain most in popularity in view of the clout which they possessed over corporate boards and shareholders. However, COSO presented several drawbacks – such as complexity in understanding and interpreting the cube at all levels within an organisation, inability to present a detailed mechanism that could be applied uniformly, focus on internal stakeholders and ignoring the impact that external stakeholders could have on the risk profile of an organization and the lack of a feedback as an essential attribute of a two-way communication. The researcher also noticed that the existing ERM frameworks failed to incorporate new concepts such as social and environmental risks that were gaining traction.

This situation gave the researcher the impetus to come up with a conceptual framework model that overcame the shortcomings and identify two research questions that will be answered by conducting a research based on a case study of Gulf Petrochemical Industries Company (GPIC).

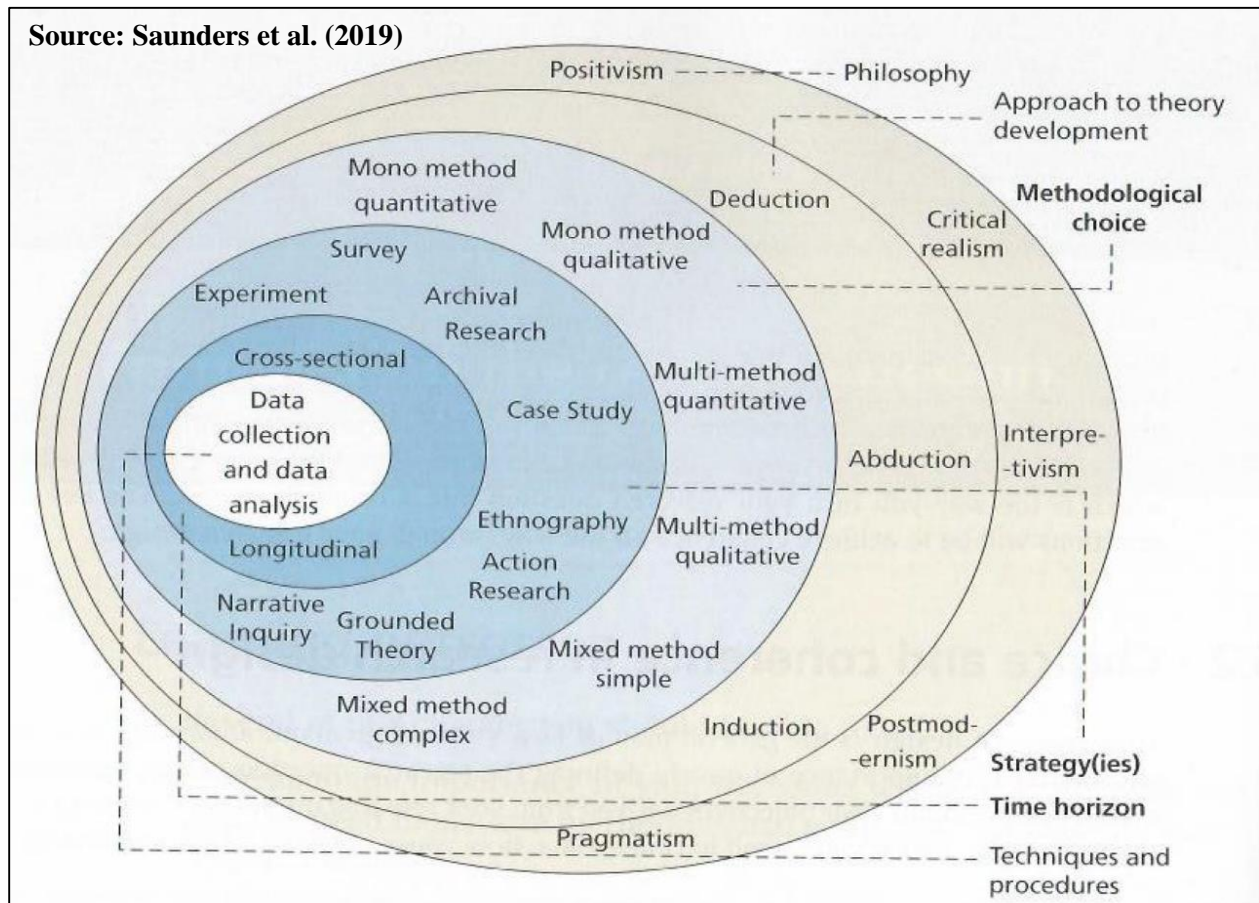
The next chapter i.e. 3 will discuss methodology, while chapter 4 will address RQ1 and chapter 5 will address RQ2 followed by conclusions in chapter 6.

3. Methodology

3.1 Introduction

According to Sapsford (2007), research is a scientific inquiry into the phenomenon being studied – which in the current scenario is the ERM frameworks and environmental and social risk management. Walcott (1994) defined research methodology as a deliberate process, i.e. a requirement of undergoing a structured sequence of steps to understand an issue by examining all its perspectives, before arriving at a certain conclusion.

Saunders et al. (2019), who is regarded as an authority on the subject of research methodology, developed a “Saunders research onion”, to elaborate this process. He regards research philosophy as the innermost core of the onion. As one starts peeling the onion, we come across the research design stage, followed by approach, research strategy, data collection methods, data analysis and identification of key findings emerging to draw meaningful conclusions.



Remenyi et al. (2003) mentioned that identifying the most appropriate methodology is important to ensure that the research objectives are met. Accordingly, Saunders et al. (2019) stress that it is crucial that the researcher has total clarity of the research objectives – i.e. seeking answers to the research questions - to determine the course that is consistent with the research questions and approaches, both methodological and theoretical.

The researcher recognised the importance of adopting the correct methodology for his research and apart from the subject matter of ERM at hand, the researcher also undertook a review of academic literature to examine the subject of research methodology and understand all the relevant perspectives involved. The selection of the most appropriate research methodology was important to ensure that research questions were appropriately addressed.

According to Wegner (2008), qualitative method lends to understanding, analysis and interpreting of social phenomenon and examining human behavior in the natural environment, thereby making it holistic and humanistic. It permits placement of participant's views and exploit subjective dimensions. Yin (2009), mentions that that there are times when qualitative methods are the only method that can evaluate human behavior or social occurrences that are complex and impossible to quantify.

Camic et al. (2003) mention that qualitative methodology is seen as an alternative approach that seeks to answer questions that cannot be answered through quantification, random sampling, probability testing, and other measures, and which seek to control the environment of the participant. Viewed as a complementary approach to research, qualitative methodology can be utilised alongside quantitative methods, bringing a new depth and richness to data analysis.

According to them, qualitative researchers aim to gather an in-depth understanding of human behavior and the reasons that govern such behavior. The qualitative method investigates the why and how of decision making, not just what, where, when. Given that the research questions in this study aim to describe and understand how GPIC manages its risks including E and S risks, the researcher opted for the qualitative research option.

As per Trochim (2020), deductive approach proceeds from the more general to the more specific, to draw conclusions from these specific outcomes. This approach to research refers to establishing a hypothesis or postulate that which can be empirically verified most often through quantitative data (Blaikie, 1993). If it is universally agreed, then deduction is valid. This approach is useful when there are established existing theories from which hypotheses can be derived and empirically tested. However, as the purpose of this study is not to test any hypothesis but to gain a rich and deep insight into-the policies, structures, processes and practices of risk management particularly E and S risk drawing on the proposed ERM framework, the researcher did not consider the deductive quantitative approach as suitable for this study.

Inductive approach is the opposite of deductive approach. Eisenhardt (1989) defined the steps for the inductive research process of building theories from case study research. In this section, the researcher attempts to align the steps and activities explained by Eisenhardt (1989) and Saunders et al. (2019) to his study, to the extent to which these are applicable to this research.

For this research, the researcher has chosen the inductive qualitative approach to gain an in depth understanding of the ERM process of GPIC, a petrochemical complex located in Bahrain.

The researcher will discuss below the approach and methodology adopted in his study drawing particularly on the work of Saunders et al. (2019) and Eisenhardt (1989).

GPIC is a perfect candidate for a case study research as the company is considered to be a role model in safety, environment and CSR as evidenced by many awards, achievements and factual evidences. In addition, the company has a formal ERM framework which was initially based on COSO then converted to ISO 31000.

According to Eisenhardt (1989), some attributes that lead to strengths in theory building from case studies also lead to weaknesses. Researchers may reach premature or false conclusions as a result of information processing biases. Thus, researchers may balance and counteract these biases by looking at the data in many divergent ways.

She further adds that researchers working on case studies can lose their sense of proportion as they study voluminous data. Another weakness is that building theory from cases may result in narrow and idiosyncratic theory. However, the result can be deeper insight into both the emergent theory and the conflicting literature, as well as sharpening of the limits to generalisability of the focal research.

As the purpose of study was to describe and understand 'how' GPIC manages its risks as per RQ1, the researcher drew on a number of data sources. These included: archival records and documents; interviews with senior personnel who were instrumental in creating the risk management culture, policies, processes and practices at GPIC, including members of the executive management team, the managers of key functions, and members of the workforce. To answer RQ2, the researcher conducted interviews of key external stakeholders such as shareholders, marketers, customers, supplier of raw material, supplier of spare parts, retired executive, consultant, government and regulator. To conduct this research, the researcher proceeded as follows: literature review, conceptual framework development and research questions.

The researcher is the Secretary to the Board and Chief Internal Auditor at GPIC. One of his key roles is to provide objective assurance to the Audit, Finance and Risk Committee and the board of directors that the major business risks are being managed appropriately and that the risk management within the company is operating effectively. Another key duty is to provide consulting services to the management team to improve the company's risk management processes. Hence, due to the job requirements, the researcher was interested to expand his knowledge in risk management and started reading the academic literature on ERM.

Due to his seniority, the researcher could gain a unique level of access and a very rich insight into the process and practice of risk management including the E and S risk management. It allowed the researcher to gain access to the data presented to the evaluators who were involved in benchmarking and awarding GPIC several accolades for its safety, societal and environmental risk management.

Further, the fact that the researcher's seniority permitted him to have access to present and past senior management personnel in order to interview them, frequently and on

prolonged basis, led to gaining an insight into their perception of risk and the formulation of policies that covered a range of issues such as shareholder value preservation, through viable operations balanced with CSR, sustainability through E and S risk management, engagement with external stakeholders, etc.

Based on the literature review, the researcher found secondary data in terms of adequate academic literature to derive insights on risk, risk management evolution, ERM frameworks and drawbacks and key gaps in ERM frameworks. Here, he observed that not only were the existing frameworks inward looking, with relatively little emphasis on external stakeholders, but also the subject of the management of social and environment risks did not figure prominently in the literature relating to ERM frameworks. Consequently, he decided to develop a more holistic external stakeholder integrated framework and draw on it, to gain insights and gather in-depth knowledge into risk management practices at GPIC. Thus studying this phenomenon in its natural setting.

According to Eisenhardt (1989), without a research focus, it is easy to become overwhelmed by the volume of data. Accordingly, the researcher dwelled upon the aspects that clarified as to how the process of risk management evolved and how GPIC managed its risks by going beyond the scope and ambit of traditional business and operating risks, to cover social and environmental risks.

Drawing on insights from literature on formal enterprise risk management frameworks, corporate social responsibility, stakeholder theory, corporate governance and the identified gaps, the researcher developed a conceptual framework as presented at the end of chapter 2. This dynamic framework for enterprise risk management makes explicit the role and functions of corporate stakeholders in the risk management process so that it becomes easy to understand and implement.

The researcher integrated in this framework, the role that external stakeholders, like customers, suppliers, regulators, and government can play in the enterprise risk management process. The framework allows for two-way communication with the internal and external stakeholders. By doing so, the framework acknowledges and explicitly incorporates the increasingly vital role that external stakeholders now play in creating,

protecting (ISO13000; 2018) and sustaining value for all relevant stakeholders for a business – the key objectives of risk management.

Based on the knowledge of several case histories where international profit generating companies have ceased to exist, realisation dawned on the top leadership of GPIC (where the researcher is employed) that merely optimising its operating performance would not be sufficient to ensure sustainability over a long period of time. Examples proved that benefits accrued to GPIC when it engaged with other external stakeholders, such as its regulators, shareholders, suppliers, customers, etc. to manage social and environment risks, in addition to the business risks. These will be discussed in detail in the finding chapters.

This viewpoint reinforced the researcher's opinion that the drawback of a traditional ERM framework which only looked inwards towards its internal stakeholders by managing business and operational risks is inadequate. If an ERM framework was to gain maturity, the ambit of ERM frameworks would have to be expanded to make sure they are comprehensive enough to include the regular management of traditional business risks, but also includes adequate measures imbedded in their strategy and processes to manage social and environment risks through engagement with all its internal as well as external stakeholders.

Drawing on the conceptual framework and the literature review, the researcher defined the two key research questions (RQs), (in chapter 2) aiming to examine the way enterprise risk management perspective could be enlarged to add social and environment risks. These being:

RQ1: How is GPIC managing its risks, including environmental and social risks?

RQ2: How is GPIC integrating its external stakeholders in the management of its risks, including environmental and social risks?

As the purpose of the research is not to test any hypothesis, and the type of questions are the "how" type, the most suitable approach to answer the questions is the inductive

qualitative approach to understand the process of E & S management within the company in the light of the conceptual framework development.

In the light of these RQs, the researcher set about to compile his premises to gain a rich and deep insight through the review of archival documents, interviews with internal stakeholders and external stakeholders and pose suitably crafted interview questions. These would serve as the basis of research findings and analysis which are presented in the following two chapters.

3.2 Justification of GPIC as a case study

3.2.1 The Kingdom of Bahrain

The Kingdom of Bahrain is an archipelago of more than 30 islands. The 2 main and large islands are Muharraq and Manama. The country's airport, iron and steel plant and Bahrain International Investment Park is located on the Muharraq island, which is linked by 3 causeway bridges to the main island Manama which is the capital of the Kingdom and where the government offices, banks, insurance companies, market and residential areas are located. Consequent upon the discovery of oil and gas in the region, the first refinery (BAPCO) was set up in the adjacent desert to process the extracted crude for export. This was followed by setting up of BANAGAS to process the gas extracted. ALBA (Aluminium Bahrain Company) was set up with smelters to process imported alumina into billets for export and also help create downstream SMEs for aluminium-based byproducts. A portion of the gas production was diversified to produce electricity for local and industrial consumption, as well as to fire desalination plants to generate sweet water for local and industrial consumption. Lastly, GPIC was set up on the neighbouring island of Sitra (now linked to the mainland by a causeway bridge) to convert gas into petrochemicals.

All the above major industrial ventures were grass root projects and were first of a kind in the Kingdom. Early on in its move towards industrialisation, the companies recognised that that the locals did not have the required qualifications, expertise and/or experience to independently operate the units and hence had to rely on appropriate expatriate manpower. However, the Kingdom's ruling dispensation stressed upon the managements of all these companies to develop local expertise

and skills. Consequent upon the government emphasis on creating employment and upskilling of local workforce, the onus fell on the companies including GPIC, who is a significant employer in the economy to develop their own strategies to manage social risks related to indigenous employment creation, upskilling and upgrading of local workforce. To this end, as I discuss in detail in chapter 4, GPIC took initiatives based on the expertise and advice of shareholders, independent consultants, insurers, their reinsurance partners and surveyors of underwriters, to establish a robust social risk management system.

Bahrain 2020 population is 1.7 million and roughly half of the population is of Arab origin while more than half are expatriates from India, Pakistan, Britain, and the United States. Creating gainful employment for local Arabs is an important social challenge and poses a social legitimacy risk for GPIC should the company be seen as not contributing to national goals.

In terms of environmental challenges, oil and gas industries world-wide are known to cause pollution to the environment including land, water and air pollution caused by release by effluents as part of oil and gas operations. GPIC was aware of the importance of its location on the Sitra Island and of the adjoining village community that relied on fishing for the main source of livelihood. GPIC was aware that its operations should not release effluents that would cause harm to the sea and air, which could adversely impact the fragile ecology of Bahrain. As I discuss in detail in the findings chapters 4 and 5, GPIC took measures to manage these risks.

In terms of environmental risk management, initially there was no regulatory agency in Bahrain to guide environmental management. Hence, all initiatives at managing the environmental risks by GPIC as with other companies, were by way of self-regulation within the industry. GPIC as I discuss in detail in chapter 4 recognised and adopted a proactive stance towards environmental risk management.

It was only decades later that a government sponsored environment regulation agency was formed. The Supreme Council for Environment (SCE) in Bahrain is a government entity in charge of the development of Bahrain's future strategy for the environment and sustainable development, and following up on the implementation of this strategy

with relevant ministries, agencies and institutions. The SCE's mandate also includes protecting Bahrain's natural habitat and human environment, ensuring the sustainability of its components, and preserving and developing its resources for future generations.

In line with the Bahrain government's national goals and focus on the welfare of its citizens, GPIC has over the years continued to play an active role in being a good corporate citizen through identifying, assessing, measuring, managing and to some extent communicating its societal and environmental risks related to customers, suppliers, legal compliance, communities and government agencies. These I will discuss in detail in the findings chapters 4 and 5.

3.2.2 Selecting GPIC as a case study

According to Eisenhardt (1989), selecting population helps the researcher to define the set of entities from which the research sampling is to be withdrawn, define the limits for generalising the findings, control environmental variation, reduce extraneous variation and transparently observe the process of interest.

Saunders et al. (2019) has described a case study as a strategy that involves the empirical investigation of a phenomenon within a real life context, using multiple sources of evidence.

Field study methodology for conducting research was suggested by Merchant and Manzoni (1989). It involves collecting responses through questionnaires, surveys and structured interviews to draw appropriate inferences (Babbie, 1990). In the current case, field study allowed focus on relevant issues relating to risk management in the petrochemical industry which would provide the researcher with appropriate qualitative data, through enhanced interaction with interviewees. Yin (2009) was a believer in case study methodology for examining contemporary events in the real-world context. He recommends this methodology to study phenomenon which is best addressed with 'how' and 'why' questions.

GPIC is a perfect candidate for a case study research as the company is considered to be a role model in safety, environment and CSR as evidences by many awards,

achievements and factual evidences. In addition, the company has a formal ERM framework which was initially based on COSO then converted to ISO 31000.

GPIC was established in 1979. The company is a joint venture equally owned by the National Oil and Gas Holding Company in the Kingdom of Bahrain, SABIC Agri-nutrient Investments Company in the Kingdom of Saudi Arabia, and Petrochemical Industries Co. in the State of Kuwait. GPIC considers itself a role model in the protection of the environment. GPIC's process plants were designed to meet the most exacting environmental standards. GPIC does not just meet the strictest international standards of emission levels but goes way beyond. A constant investment in reliability ensures that these high standards are monitored and adhered to for the protection of the air, sea and land within and surrounding the complex. This bill of health is endorsed by nature through innovative projects where, over the years, GPIC has pioneered fish farming to protect and propagate endangered species of fish (to demonstrate a safe marine environment) and a bird sanctuary that has become the resting/breeding ground for migrating birds. It has a plantation of date palm trees and maintains a medicinal herbal garden; the latest addition is the Olive Garden.

The challenges of regional and global climate change have always been at the forefront of GPIC's strategies. It was with this key focus and, to manage green-house gas emissions, the company commissioned the first Carbon Dioxide Recovery (CDR) unit in the middle east which captured CO₂ not only to enhance its product volume, but also to reduce the emission. This project deservedly won the 2011 MEED Award for Environmental Excellence.

GPIC has a robust and internationally recognised Safety, Health and Environmental Management System. The company has won many accolades including the Sir George Earle Trophy from ROSPA, UK and the R.W. Campbell Award from the National Safety Council, USA for excellence in HSE management systems. Through these effective management systems, the company has received many accreditations including ISO 9001, ISO 14001 and ISO 18001. These management systems have been fully integrated into our every-day operations. GPIC also complies with the guidelines of ISO 31000 which deals with Enterprise Risk Management.

GPIC considers its personnel as the most valuable asset. GPIC goes beyond the realm of rewarding its staff in financial terms, through attractive pay packages, allowances, bonuses and perquisites. GPIC nurtures this asset through respect, involvement, care and development. GPIC believes in a 'One Team' approach and seeks the involvement of staff by adding value to business processes beyond their own scope of responsibility by giving them the opportunity to understand the processes, offer suggestions and be a part of the decision making process.

GPIC has maintained a safe work environment in terms of management of pollution and occupational hazard needs. From its commissioning to date, GPIC has not recorded any serious accident. In fact, its extended periods of 'no lost time' provide testimony to this record of safety.

GPIC believes that is an integral part of the local community and thus has a responsibility towards the community. The company has made financial significant contributions to local charities, sports funds, social, environmental, professional, educational and health causes. The above discussion makes it clear that GPIC is a suitable candidate for addressing the research questions.

3.2.3 Benchmarking studies and global recognition

Evidence of GPIC's excellence in environmental and social performance include the results of independent benchmarking exercises and recognitions by reputable global and prestigious award giving bodies. While GPIC is a relatively small player in the market, it has over the years of its existence, continuously strived to improve its E and S performance by competing in such exercises alongside global giants. These results and factual evidences make GPIC a suitable candidate for the case study on the vital aspect of E&S risk management. Below are few examples and more details are discussed within the finding chapters.

GPIC participated in the 10th edition of IFA's (International Fertiliser Association) Environmental Performance Benchmark. In order to gauge the size of the IFA producer members' participation, it needs to be noted that those who participated in the benchmark included 278 production sites, 784 production lines and 349 million

tonnes of production representing some of the biggest companies in the world in this sector.

The benchmark results included a wealth of emissions averages and best-in-class indicators, showcasing where the fertiliser industry stood in 2020 and how far the industry has come in its efforts to reduce emissions in over fifty types of emissions across the nitrogen, phosphate and potash sectors. The parameters of the benchmark included the following emissions to air, land and water: nitrogen oxides to air, nitrous oxide to air, carbon dioxide to air, dust to air, fluoride to air, Sulphur dioxide to air, nitrogen to water, phosphorus and fluoride to water and phosphogypsum to land. The benchmark results illustrate that GPIC achieved the best-in-class figures across the various emission areas demonstrating its strength on Environment Risk management

GPIC also participated in the 17th edition of IFA Safety Performance Benchmark for the “lost time” injuries and total recordable injuries for company employees and contractors for industrial sites located around the world. The benchmark showcased where the global industry stands today, and how far the industry has come in its efforts to achieve excellence in safety performance globally. Moreover, the benchmark allowed companies to see where they stood within the global fertiliser community and make specific comparisons with the industry’s top performers. 532 company facilities participated from over 30 countries. The benchmark results illustrated that GPIC was the best-in-class. GPIC has achieved an unprecedented record of zero lost time accidents for a stretch of more than 19 years.

GPIC has been the recipient of the Global Safety Awards from the British Safety Council for each consecutive year since 2010 and the ROSPA award for excellence in safety management in the chemical sector for each consecutive year since 1991, as well as the Arab Network for Social Responsibility Award for the best company in the Arab region in terms of sustainability and social responsibility for each consecutive year for over a decade. GPIC was also honoured with the Arab Network Award for Social Responsibility for Partnership and Cooperation - Environmental Research Sector, as well as the gold medal presented by the International Fertiliser Association.

GPIC's President was chosen as an Ambassador by the Regional Network for Social Responsibility for GPIC's efforts to support global efforts to combat the emerging Coronavirus. He was also granted honorary membership of the World Federation for Social Responsibility.

The researcher had access to archival data which shows that historically, no matter how robust and effective, GPIC does not rely merely on its internal procedures and processes to achieve desired objectives. It has always deemed it appropriate to subject these to objective scrutiny of evidence provided by independent global evaluators through reputable audit firms or by participation in benchmarking studies.

Accordingly, when GPIC stood to the test of its safety standards in comparison with global giants for ROSPA and Campbell Awards, it became the only organisation to win both awards on either side of the Atlantic, thereby proving its safety credentials. Similarly, in the sphere of environmental risk management, when GPIC decided to participate in global benchmarking studies conducted by IFA, it managed to secure best in class rating in several aspects of effluent management. These achievements were the results of concerted efforts and expenditure of cost and resources was not considered deprivation of profits to shareholders. Instead, these were seen as investments to ensure sustainability of the enterprise and eventually to global sustainability.

Yet entities like GPIC being responsible corporate citizens continue to do the right thing as part of the CSR exercise, with the conviction that it is contributing to the social and environmental good and is assisting in the sustainability effort.

3.3 Review of archival documents

Saunders et al. (2019) described the archival research as a strategy that analyses administrative records and documents as an important source of data resulting from the daily activities of a business.

The objective of reviewing the archival documents of GPIC is to partially answer both research questions. The researcher in his capacity as the company's Secretary to the Board and the Chief Internal Auditor, was privileged to have unlimited and unrestricted

access to archival data of the company in order to understand the evolution of risk management at GPIC and to partially address both research questions.

The basis for selecting relevant archival records for review by the researcher was to gain insight and understand the following two risk management related tasks which are part of the researcher's conceptual framework:

1. Risk assessment, identification, analysis, management and communication; and
2. Integration of risks into decision making, management processes, commitment of resources and communication.

To understand the evolution of risk management in GPIC, the ERM system and processes, the E & S risk management initiatives and controls and risk management communication with stakeholders, the researcher reviewed all relevant archival documents.

To understand the company's strategies relevant to risk management, the researcher reviewed the following documents:

1. The company's Memorandum and Articles of Association.
2. The Board of Directors Charter.
3. The Board Audit, Finance and Risk Committee Charter.
4. All of the Board of Directors and the Board Audit, Finance and Risk Committee minutes of meetings.
5. Board resolutions relevant to ERM.
6. Management presentations to the Board of Directors and the Board Audit, Finance and Risk Committee meetings.
7. The Resilience Committee (a committee responsible for managing ERM and business continuity) Charter.
8. Presentations to the Board Audit, Finance and Risk Committee,
9. GPIC's Integrated Quality, Health, Safety and Environment Policy. It's a Policy approved by GPIC's Board of Directors embracing the Quality, Health, Safety and Environment as core business values.

To understand how the board strategies are integrated into the decision making process, the researcher reviewed the following policies, procedures and documents:

1. The company's Corporate Governance Policy.
2. The Resilience Committee Charter.
3. Code of Conduct and Ethics Policies.
4. GPIC's Sustainability Objectives & Targets 2020. Among other targets of the company, the company's specific 2020 targets towards E & S are as follows:
 - To attain zero lost time safety, health and environment accidents and maintain high level of safety at GPIC sites at all times
 - To ensure that local CSR initiatives and programmes are managed and conducted according to the following set targets:

Strategic Philanthropy

Sustained financial contributions to NGOs, educational institutions, charity organisation, etc.

Outreach

Achieve yearly target of schools' environmental awareness lectures

Innovation

Sustained support to GPIC & Ministry of Education Environmental Research Programme for schools

- To ensure implementation and compliance with the 10 principles of the UN Global Compact, the 6 Food and Agricultural Business Principles, the Women Empowerment Principles and the 17 Sustainable Development Goals.
- To expand the use of renewable energy at GPIC. The 2020 target is to provide solar energy to non-process area buildings.
- To phase out Ozone depleting and global warming potential HCFC's including R-22 as refrigerants from GPIC. The 2020 target is to replace R-22 Refrigerant AC units.

- To reduce Green House Gas (GHG) emission levels. The 2020 target is to reduce GHG emissions below 2014 levels for the existing plants.
 - Optimise energy consumption so that every saleable tonne of product is attained within the target level of energy consumption to ensure implementation of identified significant energy use projects related to reduction of consumption of HH steam and fuel natural gas, and to check the feasibility to further reduce the overall specific energy consumption per tonne of product through a probable project.
 - To ensure 100% compliance to environmental legislation.
 - To increase recycle / reuse of water streams
5. The researcher reviewed the Security, Safety, Health & Environment Department annual goals, targets and indicators and their monitoring results. Among other goals for the department, the department specific 2020 goals towards E & S are as follows:
- To maintain compliance with GRI Sustainability Reporting and UN Global Compact Principles by commitment to UNGC 10 principles, commitment to UNGC Food and Agriculture 6 principles and supporting and contributing to the UN 17 Sustainable Development Goals (SDGs)
 - To ensure no environmental pollution takes place
 - To ensure that all areas within the complex are subjected to environmental inspections to comply with internal and external environmental requirements
 - To optimise cost and reduce the company's footprint by reducing corporate paper consumption by 30% over 2015 baseline
 - Increase paper / cardboard, plastic and metal cans recycling by 30% over the 2014 baseline
 - Expand the use of energy efficient lighting at GPIC
 - To maintain compliance with annual greenhouse gas inventory reporting as mandated by the National Oil & Gas Authority (NOGA)
 - Effective management of waste towards the ultimate objective of zero waste to landfill

- Reporting of responsible care metrics
6. The Human Resources Policy.
 7. Records of environmental and social projects and initiatives.
 8. GPIC's Environmental Compliance Manual: for ensuring compliance with Bahrain's Environmental Legislation and Regulation. The document shows in practical terms how to interpret the requirements in the ISO 14001 standard related to compliance with legislation and regulations. It shows GPIC's status of compliance to the applicable environmental legislation and regulations laid down by the Supreme Council for the Environment, Kingdom of Bahrain. It elaborates the current systems and procedures that are in place to comply with the subject legislation and regulations and it also provides an outlook on GPIC's future mitigating measures to ensure compliance.
 9. The Job Description of the Safety and Environment Superintendent.
 10. GPIC's organisation chart.
 11. Training and development procedures.
 12. Standard Operating Procedures (SOP) and Standing Instructions in GPIC's Quality Management System. E.g:
 - Standing Instruction: Bahrain Environmental Standards
This document contains the threshold limits for sea water outfall, emissions and ambient air quality as mandated by the Supreme Council for Environment, Bahrain. GPIC's Environment section has to ensure that all the operations are carried out Responsibly by concerned sections and there are no exceedance beyond the limits mandated by the Supreme Council for Environment. In case any exceedance is observed the Safety and Environment Superintendent will contact the concerned section superintendent and/ or Senior Shift Supervisor on duty to know the reason of exceedance and the mitigation/ control measures that are put in place.
 - Standing Instruction: Mobile Air Quality Monitoring Station
The purpose of the unit is to measure the air quality surrounding GPIC vicinity and to confirm GPIC adherence to Bahrain environmental legislation.

The unit consists of gas analysers to measure the gaseous pollutants concentration at the proximity of the unit and source direction of the pollutants. The Standing Instruction covers the daily data collection from Mobile Air quality station and monthly air quality reporting.

- Standard Operating Procedure: Hazardous Waste Transporters

GPIC is a producer of Ammonia, Methanol and Granular Urea and as part of its process it generates some amount of hazardous waste which is transported responsibly by approved hazardous waste transporters to Government approved waste handling facilities. In compliance to Ministerial Order no. 3 of 2006 Hazardous Waste Management, GPIC has to ensure that the waste is transported by Approved and Licensed transporters. To keep a track of the validity of the waste transporters licenses a quarterly audit and review/ update will be carried by the Safety and Environment Section and a report will be sent to all concerned. GPIC's Safety and Environment Section maintains a register of the Government approved Hazardous waste transporters including the validity period of their licenses as approved by the Supreme Council for Environment. The Safety and Environment Superintendent issues quarterly reports on the license validity and send reminders to relevant personnel at GPIC as and when required, prior to the expiry of the relevant hazardous waste transporters license.

- Standard Operating Procedure: Environment Section Routine Activities

The SOP covers and list down all routine activities that must be carried out by the Safety and Environment Section to ensure effective implementation and management of the Environmental Management System.

- Standard Operating Procedure: Recycling of Waste

The purpose of the procedure is to regulate the recycling cycle procedure for waste generators, waste collectors and transporters within the complex, to ensure all individuals at GPIC are aware about the recycling facilities available

at the complex and how to be used, to promote effective methodology at GPIC towards waste segregation, collection, transportation and handling to responsible recycling companies and to measure and report GPIC progress towards waste recycling. The objective of the procedure is to reduce the amount of waste sent to landfills and incinerators, conserve natural resources such as wood, water, and minerals, prevent pollution by reducing the need to collect new raw materials, saves energy and reduce greenhouse gas emissions that contribute to global climate change.

To understand structures, the researcher reviewed the following:

1. GPIC's organisation chart.
2. Training and development procedures.
3. The Human Resources Policy.

To understand how the company identifies, analyses and assesses risks, the researcher reviewed the following:

1. The Integrated Risk Management Standard Operating Procedure.
2. The ERM internally developed database.
3. All the audit and review reports of the ERM system conducted by internal auditors, external auditors and consultants.
4. ISO 14001 Standard Certification– Environmental Management Systems.

To understand the resources committed for social and environmental risk management, the researcher reviewed the following:

1. All historical records regarding approved environmental and social capital projects.
2. The donations and charity archival records.
3. The yearly operating budget allocated for environmental and social initiatives.

To understand the company's corporate communication relevant to ERM, social and environmental risk management, the researcher reviewed the following:

1. 2018 and 2019 annual reports.
2. 2018 and 2019 Sustainability reports.
3. 2018 and 2019 annual issued ERM reports by the Resilience Committee.
4. Benchmarking studies conducted by the Gulf Petrochemicals and Chemicals Association (GPCA), the International Fertiliser Association (IFA), the Arab Fertiliser Association (AFA) and other organisations.
5. GPIC's Half Yearly Environmental Compliance Report, issued for the Supreme Council for Environment as per Ministerial Order No. (10) Year 1999 (Air-water).
6. Safety, Security, Health & Environment Department monthly reports. A detailed report of the department's activities which includes performance indicators and a detailed environmental section.

GPIC has a formal ERM framework wherein major risks have been identified, assessed, evaluated, monitored and measures put in place to eliminate, minimise, control or transfer them.

As far as social risk management at GPIC is concerned, the researcher had the opportunity to peruse documents pertaining to the formation of GPIC. Apart from the rationale of collaborating with its larger GCC companies as shareholders and marketers of GPIC products, GPIC had the mandate from the Board of Directors and the government to provide education, training and experience to the Bahraini workforce. A dedicated structure was created within the plant complex and manned with experienced and qualified Bahraini and expatriate staff to provide theoretical, e-learning, and practical hands-on training to the local staff in-house, within the GCC and abroad. Over the years, a disciplined strategy was in place to monitor the training progress to ensure that the local staff was equipped with requisite knowledge and experience to take over from expatriates on a measured basis.

As evident from the above list, the researcher reviewed archival data in the form GPIC's HR policy, guidelines, procedures and HR benchmarking studies conducted by independent consultants and found that the underlying philosophy has been to uphold dignity of labour, by ensuring there is no discrimination – whether in terms of denomination of gender, nationality or religion. There is documentary evidence to denote that in terms of structure of grades, salary scales and perquisites, GPIC was, if not better but at least on par with major companies in Bahrain. This was essential from the social risk point of view that staff members were crucial stakeholders who need to be addressed.

The researcher reviewed documents detailing deliberation about the proposed site on which the plant was built. Bahrain is a small island in the Arabian Gulf and it was decided to preserve the frail ecology of the island and the community that resided there. Despite the additional capital cost involved, it was decided to construct the plant on a reclaimed site away from the mainland. A detailed study of the past metrological data took into account the wave heights and wind directions led to the exact location of the plant site.

As also evident from the above list, the researcher perused archival data demonstrating GPIC's concern not to pollute the environment and commitment to providing a congenial atmosphere to its employees and visitors alike. Sufficient attention was paid to aesthetics – ergonomic building design, lighting and landscaping, in addition to maintaining a high level of housekeeping throughout the plant. There were features in the original design that took into account optimisation of energy utilisation, minimisation of effluence to ensure cleaner environment.

There has been frequent outcry on the international stage about the extent of pollution caused to the seas and the marine life as a result of effluents released by petrochemical industries. The researcher examined the data for the steps taken by GPIC to minimise this environmental risk.

Apart from documentary archival evidence, there is demonstrable evidence on the ground in the form of a fish farm near the sea water outfall, where fragile fish facing extinction are bred and thrive, to show that marine life is not under threat. Similarly, a bird sanctuary has been created within the complex, where rare local birds and migratory birds, come to roost only here and not in any other part of Bahrain.

The researcher has reviewed archival data to evidence that GPIC too is committed to reduction in energy consumption and by increasing efficiencies within the company.

The researcher took the opportunity to peruse data of the recently concluded IFA (International Fertilizer Association) Environment Performance Benchmarking study based on a third-party survey conducted by the globally reputed IDA Consulting which was conducted to benchmark emissions. The participation from the survey was from 58 companies and 162 production sites located in 32 countries around the world, relating to the following parameters:

1. Emission to air
 - a. Ammonia to air
 - b. Nox to air
 - c. Co2 flue gas in ammonia plants
 - d. Dust to air in urea plants
 - e. Fluoride to air
2. Emission to water
3. Emission to land

GPIC's data was provided to compare the unit's performance related to BAT (best available technics) metrics for each of the parameters set for fertiliser production.

3.4 Interviews of internal stakeholders

According to Saunders et al. (2019), semi-structured and in-depth interviews are used to gather data which are normally analysed qualitatively. Following the review of archival documents and having a detailed understanding of GPICs ERM evolution and process, the researcher decided to conduct an exploratory study through informal interviews with insiders by posing open questions to gain insights and further understanding of the ERM processes and the management of E & S risks at GPIC and to have a sufficient and complete answer for the first research question.

Being the Chief Internal Auditor and Secretary to the Board and due to the researcher's relationship with internal stakeholders which stemmed from his position and long service period, allowed the researcher to have access to personnel at all ranks and to privileged

information. The researcher repeatedly approached the internal stakeholders seeking clarifications or additional information as much as required with no restrictions. As the interviews were informally conducted, they were recorded in hand written notes.

For answering RQ1 the researcher decided to interview the following:

| Internal Stakeholders | | | |
|------------------------------|--------------------------|------------------------------------|--------------------------|
| Ex. and Current CEOs | | | |
| Sr. | Name | Position | Years in position |
| 1. | Dr. Tawfiq Almoayyed | Ex. Chairman and Managing Director | 1979 - 1986 |
| 2. | Dr. Mustafa Alsayed | General Manager | 1986 - 2004 |
| 3. | Dr. Abdulrahman Jawahery | President | 2005 - present |

| Internal Stakeholders | | |
|------------------------------|--------------------------|--|
| Executives | | |
| Sr. | Name | Position |
| 7. | Mr. Fadhel Alansari | General Manager Corporate Support. Chairman of ERM and Sustainability Committees. |
| 8. | Mr. Yasser Alabbasi | General Manager Manufacturing |
| 9. | Ms. Najat Sharif | HR and Corporate Communications Manager |
| 10. | Mr. Jamal Alshawoosh | Safety, Health and Environment Manager |
| 11. | Mr. Abdulrahim Almaraghi | ERM and Business Excellence Superintendent |
| 12. | Mr. Percy Mistry | Retired employee. One of founders of the ERM Committee. |
| 13. | Mr. Nadeem Rana | Safety & Environment Superintendent. He is a member of GPIC's Sustainability Committee and responsible for sustainability reporting. |
| 14. | Mr. Jehad Khalfan | Finance and Marketing Manager |

In the findings chapter 4, the researcher will discuss the results of the interviews and the results of reviewed archival records to answer the first research question. The informal interviews sought answers that represent high level overview to gain firsthand knowledge of the evolution of ERM from those who shaped the strategy and destiny of GPIC. These interviews kept in mind the aspect of chronology of evolution of ERM at GPIC.

Reason: ERM frameworks and maturity levels of risk management are an evolving phenomenon and different organisations would be at different stages of evolution of ERM, depending upon when they have introduced the subject in their agenda and the level of commitment in their implementation. The researcher has made a very conscious attempt to build this factor into the interview protocol, both in terms of selecting interviewees and designing the questions.

GPIC was incorporated in 1979. The interviewees thus included the first Chairman and Managing Director, Dr. Tawfeeq Almoayyed (1979-1986), Dr. Mustafa Alsayed, General Manager (1986-2004), Dr. Abdulrahman Jawahery, President (2005 to date), Mr. Fadhel Alansari, GM Corporate Support (2019 to date) who was responsible for implementing key initiatives relating to CSR, S and E risks, as well communicating GPIC risk management performance to stakeholders, Mr. Yasser Abdulrahim, GM Manufacturing (2019 to date) who is supervising all technical departments including the security, safety, health and environment department. Finally, Ms. Najat Sharif, HR and Corporate Communications Manager (2016 to date).

The latter two was chosen particularly to elicit information about how GPIC engaged with both internal as well as external stakeholders, to ensure smooth risk-free implantation of major capex projects. The interviews proceeded in the following stages:

First stage

Since the entire study has been triggered by the researcher on the basis of the acclaim received by GPIC as a demonstrable evidence of business ERM implementation, the researcher decided to commence his interviews with their key personnel who provided the building block of the company. This allowed the researcher to introduce the aspect of chronology into the study.

The researcher recognises that when a company commences business, it is not feasible to have a robust risk management structure in place from day one, especially in the context that business risk management has evolved formally over the past few decades and further the ERM frameworks have come to the fore only in the current century. Accordingly, the researcher deemed it fit to ascertain how the risk management function evolved in GPIC.

The first contact was made with the founding father of GPIC, Dr. Tawfiq Almoayed, who was the first Chairman and Managing Director for the period 1979 to 1986; this period covered the crucial phase of planning the complex, appointment of consultants for selecting the technology, licensors and construction contractors, overseeing the construction and commissioning of the complex, arrangements for funding the capital costs and tie-ups for marketing the finished products. The interview was not structured and it followed the line of free talking conversation that permitted Dr. Almoayed to recall and give valuable insight into the strategic planning.

Dr. Mustafa Alsayed took over from Dr. Almoayed as the General Manager (in a capacity of CEO) in 1986, at a time the plant went into production. This period coincided with the time when the global petrochemical market had plummeted, where revenues were not adequate to cover the cost of production and wages, leave alone pay the interest and installments on borrowings. As GPIC faced imminent default and risk of possible bankruptcy, Dr. Alsayed devised a successful strategy to restructure the debt and avert bankruptcy. The researcher conducted a free-wheeling interview to gain insight into the risk management process that brought GPIC from the brink of bankruptcy to be a very successful petrochemical producer in the region. The interview continued further to capture the essence of a stable operation.

Dr. Abdulrahman Jawahery who is credited for ensuring a high level of stable and consistent operating efficiency of the complex from the time of commissioning of the plant, took over from Dr. Alsayed in 2005. His thrust to evolve a strategy that over a long term ensured, not only operational excellence, but also a high level of sustainability for the company in a holistic manner. The researcher had a detailed interview with Dr. Jawahery

to understand the strategy for aiming at sustainability and the role that risk management played in achieving the same.

Second stage

The first stage related to personnel who were relevant to setting the strategy. The next stage related to personnel who were actually in charge of implementing strategy at GPIC.

The researcher interviewed Mr. Fadhel Alansari, GM Corporate Support, Mr. Yasser Abdulrahim, GM Manufacturing, Ms. Najat Sharif, HR and Corporate Communications Manager and discussed risk management practices with managers of other departments who are listed in the above table.

Here the principle of purposive sampling was used. As the purpose was to gain an understanding from the internal mid-management operational stakeholders' point of view about how GPIC was managing its risks, it was decided to interview managers from departments involved in the risk management function, including general managers and managers and superintendents. Weightage was also given to seniority of service, in order to obtain opinion from people who were involved at the time ERM was introduced, and the work force who joined the organisation after the implementation.

3.5 Interviews of external stakeholders

Apart from in-house interviews of internal stakeholders, the researcher in the light of the proposed framework and RQ2, conducted interviews of various key external stakeholders of GPIC. The aim of these interviews was particularly to explore from these stakeholders' point of view: whether GPIC was communicating E & S management initiatives to the external stakeholders; what information would the external stakeholders like to be communicated to them; and why E & S risk management mattered to these stakeholders; and what these stakeholders are doing to get E&S information they need about GPIC. These interviews were aimed to answer the second research question.

In the findings chapter 5, the researcher will discuss the results of the interviews and the results of reviewed archival records which will include detailed explanation of the reports and disclosures communicated to each external stakeholders and other necessary information to answer the second research question.

Before commencing with interviews of external stakeholders, the researcher developed an interview protocol (attached in appendix 3) and aligned the interview questions with the research questions and the conceptual framework. The interview schedule design and the in-depth interviews allowed interviewees to answer questions, discuss their experiences and stories which were aligned with the purpose of the study.

For this purpose, the researcher decided to interview the following:

| External Stakeholders | | | | | | |
|------------------------------|--------------------------|---------------------------------|------------------------------|------------------------------------|-------------------------|------------------|
| Sr. | Name | Company / Organisation | Position | Relationship to GPIC | Meeting Platform | Recording |
| 1. | Mr. Rami Jamal | SABIC | Senior Product Executive | Shareholder, marketer and customer | Cisco Webex | Video recorded |
| 2. | Mr. Mahmoud Al-Abdulahdi | PIC | Team Leader Fertiliser Sales | Shareholder, marketer and customer | Cisco Webex | Video recorded |
| 3. | Mr. Ebrahim Talib | BAPCO | Deputy CEO | Supplier of raw material | Cisco Webex | Video recorded |
| 4. | Mr. Harsh V. Bhatia | OTSC | Managing Director | Supplier of spare parts | In-person | Voice recorded |
| 5. | Mr. Ramesh Gajula | KPMG | Director, Advisory | External auditors and consultants | Cisco Webex | Video recorded |
| 6. | * | Supreme Council for Environment | * | Government and regulator | N/A | Typed answers |
| 7. | Mr. Percy Mistry | TruValue Consultancy | Managing Director | Ex-employee and consultant | Cisco Webex | Video recorded |

*Note: the interviewee preferred to be anonymous.

The researcher video recorded most of the interviews as shown in the above table and manually transcribed the interviews. The researcher conducted a thematic content analysis by repeatedly playing videos and browsing through the transcripts to make notes of impressions, identify common themes and patterns. The researcher aligned the qualitative data collected with critical themes which emerged from the analysis and with the proposed conceptual framework.

Suppliers: the researcher interviewed key representatives of the raw material supplier of natural gas (BAPCO) and spare parts.

Customers: GPIC marketing of its petrochemical products (Ammonia, Methanol and Urea) is managed by its shareholders, Saudi Basic Industries Corporation (SABIC) and Petrochemical Industries Company (PIC). As such, these entities are the two main legal customers. The researcher interviewed the heads of the marketing departments of the two main customers.

Government / Regulator: The Kingdom of Bahrain lays a lot of importance on preserving the ecology and the environment. In order to monitor and oversee this aspect, the Supreme Council for Environment was created. The Council has a vision / mission of protecting Bahrain's environment and preserving / developing its natural resources for future generations. GPIC has collaborated with the Council and much before legislation for regulating the environment could be issued, GPIC used its data, expertise and knowledge of global regulatory frameworks to collaborate with the Council for issuing the policy and legislation. The researcher interviewed a key representative of the Supreme Council for Environment.

Auditors / Consultants: the researchers interviewed key representatives of consulting firms who audited GPIC's accounts and reviewed the company's ERM processes.

3.6 The conceptual framework and themes of interview questions

When the researcher decided that exploratory interviews with internal stakeholders should be the key methodology, he determined that GPIC management needed to be interviewed at two different levels. Interviews with top leadership would be at a high level that would answer to open ended themes such as the mindset towards risk management at the time of incorporation and the leadership strategy at that point and later when the operations had stabilised. Again when GPIC decided to change course and engage with external stakeholders at a cost (of time, money and resources) the researcher was keen to elicit information about the balance between profitability and E and S risk management was achieved.

Based on the archival data review and the interview with top leadership, the interviewer decided to validate the claim and comments of top management with reference to interviews at middle management level based on their respective specialty and responsibility. For example, environmental risk management and safety policies and procedures were discussed with the General Manager Manufacturing. Social risk management, manpower related risks, CSR programmes and communication with stakeholders were discussed with the HR and Corporate Communications Manager. Sustainability reporting, SDG goals, succession planning and were discussed with the General Manager Corporate Support.

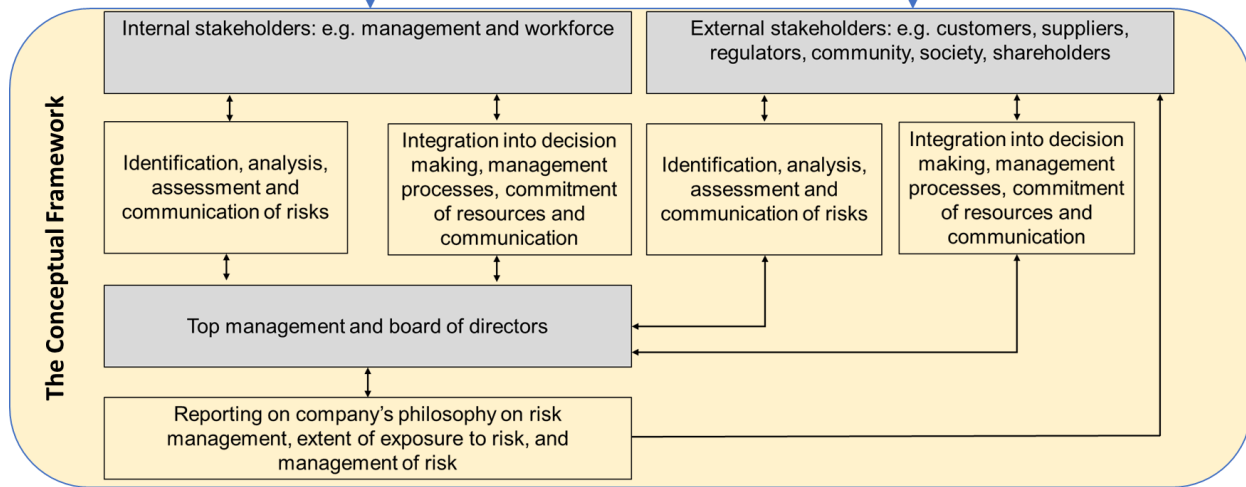
Based on the learnings from the review of archival records, interview responses from the internal stakeholders and the development of the internal stakeholders' chapter (chapter 4), the researcher was in a position to develop an interview protocol with more focused questions in the light of the conceptual framework relevant to external stakeholders to answer RQ2.

The below diagram shows the link between the conceptual framework, the research questions and the themes of interview questions.



RQ1: In the light of the proposed conceptual framework, how is GPIC managing its risks, including environmental and social risks?

RQ2: In the light of the proposed conceptual framework, how is GPIC integrating its external stakeholders in the management of its risks including environmental and social risks?



3.7 Research ethics

As per the university's policy, the researcher applied for ethics approval via Brunel Research Ethics Online (BREO), the application was subject to review by the Research Ethics Committee and received approval before starting the work.

Interviewees were given sufficient information to allow them to decide whether or not they want to take part. The purpose of the study was explained plainly and concisely. All participants were given full opportunity and encouragement to ask questions. There was no undue influence and the researcher sought consent only after a sufficient opportunity has been given to the prospective participant to consider whether or not to participate.

All interviewees were provided with a Participant Information Sheet bearing the Brunel University London logo and containing the contact details of the Chair of the College of Business, Arts and Social Sciences Research Ethics Committee.

The Participant Information Sheet stated that all information which is collected about the participant during the course of the research will be kept strictly confidential unless specific consent has been obtained. The researcher asked participants to sign the consent form before commencing with interviews and provided each participant with a copy of the Participant Information Sheet and the signed consent form. The participant information sheet and sample consent form used are in appendixes 1 and 2 respectively.

4. GPIC internal stakeholders

4.1 Introduction to GPIC

GPIC was formed as a result of a joint venture formed in 1979 with equal shareholding of the governments of Bahrain (represented by NOGAHOLDING – The Oil and Gas Holding Company), Saudi Arabia (represented by SABIC Agri-nutrient Investments Company) and Kuwait (represented by pic - Petrochemical Industries Co.) for the production of petrochemicals from natural gas.

The researcher had the opportunity to peruse memorandum and articles of association, and minutes of the earliest board meetings held at the time of formation of the company. Amongst other objectives, GPIC was launched to:

1. Gainfully use the natural gas resources of Bahrain and add value by converting it to petrochemicals;
2. As the first petrochemical in the country, to provide training to develop skills and employment opportunities to Bahrainis;
3. Provide Bahrain Government revenue in Foreign Currency through exports earnings;
4. Assist in developing the infrastructure of Bahrain.

Over a period of time, these objectives have been successfully achieved.

On the economic front, Bahrain, Saudi and Kuwaiti governments each had invested around USD 53 million as their one third share capital, totaling to USD 159 million, at the time of incorporation. It was the responsibility of GPIC's board not only to safeguard that capital but to enhance it. GPIC successfully distributed dividends exceeding USD 2.3 billion until 2019, of which the Bahrain share was more than \$770 million.

GPIC receives natural gas from Bahrain's oilfields as raw material to generate power and to produce the Ammonia and Methanol products. Around 90% of the Ammonia produced is mixed with carbon dioxide to produce granular Urea. GPIC earned its revenue from exports and thereby provided valuable forex to Bahrain. The Kuwaiti and Saudi partners

manage the marketing of GPIC products through their global network and receive a marketing commission for distributing GPIC's Ammonia, Methanol and Urea.

GPIC had provided employment to locals, and to that extent alleviating the national burden. These employees and their children form an educated base of the national society.

GPIC has provided collateral benefit (financial as well employment opportunities) to the economic community through their dealings with banks, insurance companies, suppliers and contractors. These are vital components of the stakeholders who need to be taken care of through ethical dealings and relationships.

GPIC occupies a pride of place in the landscape of Bahrain and draws not only customers, suppliers and other major oil and gas producers, but also foreign delegations with their media, visitors and VIPs. The praise received from such entities has been contributing to raising Bahrain's image abroad.

Similarly, when GPIC is congratulated with awards and recognition from abroad, the country is respected.

Besides this, GPIC is aware that there are local associations, NGOs and other establishments that are deserving recipients for funds and GPIC makes regular philanthropic contributions to them as its corporate social responsibility.

The researcher will demonstrate in this chapter evidences and examples of policies, procedures and practices implemented by GPIC to integrate internal stakeholders in the management of environmental and social risks in the light of the conceptual framework.

Based upon archival data and experiences narrated by GPIC's past and present executives, as well as augmented with responses to informal interviews questions conducted with internal stakeholders, in this chapter, the researcher aims to answer the first research question:

RQ1: How is GPIC managing its risks, including environmental and social risks?

4.2 Chronological analysis of GPIC's risk management

Based on review of archival data and interviews of top and middle level GPIC management, I discuss below the chronological evolution of risk management at GPIC from inception to date. While doing so, in the light of the conceptual framework, I also highlight the roles and functions of the top and middle level internal stakeholders in risk management including E and S risk management. While the write up below, adopts a narrative style interweaving the evidence from archival records and interviews, to draw the reader's attention to specific aspects of risk management (in the light of the conceptual framework), I italicise these as appropriate.

4.2.1 Inception of GPIC and analysis of initial risks

The researcher spoke to the first Chairman and Managing Director, Dr. Tawfeeq Almoayyed and he pointed out that stress was put by the initial company board that while managing the company, as far as possible, *there should be an aversion to risk.*

Dr. Tawfeeq mentioned that George Dorio, who is considered the first venture capitalist, has gone on record that *in any business venture, there will always be an element of risk. Economic value cannot be derived by eliminating all risks, but by undertaking measures that avoid or minimise risks. Hence, he mentioned that during his tenure he had to perform a tight walk between risk and reward.*

Financial risks

When Dr. Tawfeeq Almoayyed put into motion the plan to fund the project construction costs through borrowings, *he ensured adequate risk management.*

- Although some local banks were prepared to fund the entire project capital cost, he deemed it desirable to *diversify the base* and spread borrowings through a consortium of 29 international banks and 3 local banks, *to avert the risk of lending default from any single local or international bank (an example of identification of risks and integration into decision making).*
- Under the borrowing arrangements, *GPIC did not risk offering a lien on its assets. GPIC did not offer any security to the consortium of banks* (banks stood on par with other creditors).

- Borrowings were denominated in US Dollars, since most sales proceeds of petrochemicals from the global market were expected to be realised in US Dollars; *thereby avoiding currency risk (an example of assessment of risks and integration into management processes).*
- The borrowings were made under two separate tranches of funding agreements – one tranche where interest was payable at pre-agreed fixed rates and another tranche where interest was payable on “LIBOR +” percentage basis, thereby *providing a hedge and minimising interest rate risk (an example of assessment of risks and integration into management processes).*

Technological risks

Dr. Tawfeeq ensured that GPIC obtained manufacturing licenses and technology transfer licenses *from globally reputed organisations* such as UHDE, Germany and Haldor Topsoe, Denmark; both of them were renowned for their expertise in ammonia and methanol manufacture.

The contract to build the plant was awarded to Snamprogetti of the ENI group of Italy, *who had an international reputation for building hi-quality petrochemical complexes throughout the world (an example of commitment of resources).*

The GPIC complex was thus built on time and to the required specifications.

Market risk

The time of commissioning of GPIC ammonia and methanol plants, 1985, coincided with the fallout arising from the disintegration of the Soviet Empire. At that time, *the international prices of ammonia and methanol had crashed to such an extent that GPIC's cash flow projections indicated that it would be unable to generate sufficient inflow of funds to purchase natural gas for raw material and power or pay salaries, let alone repay bank loans.*

GPIC had no alternative, but to seek re-scheduling of the loans. The researcher had the opportunity to scrutinise the entire documentation that resulted in the rescheduling exercise.

The key elements of the rescheduling were:

GPIC would be granted *a rescue package by way of a bridging loan to pay the deficit* (if any) in loan repayments. In response, GPIC had to demonstrate that it could revive the company and operate the plants successfully. GPIC responded by offering the banks a detailed plan whereby they would *operate the plants at capacity levels, for as long an uninterrupted period as possible*. The objective was to spread the total operating cost over increased production volumes, resulting in reducing its per ton production costs. This would enable GPIC to remain competitive, and ensure maximum cash-flow to repay instalments (*an example of assessment of risks, integration into management processes and commitment of resources*).

In order to achieve this objective, GPIC contracted Comerint, a company in the Italian ENI group, who had the requisite expertise in operating and maintaining petrochemical plants globally.

4.2.2 Commencing operations

When the researcher interviewed GPIC's Chief Executive at the time, Dr. Mustafa Al Sayed, the General Manager, he mentioned that the combined expertise of the existing experienced and qualified expatriate staff in GPIC, together with the contracted staff of Comerint, provided an appropriate talent pool to undertake the exercise (*an example of commitment of resources*).

Al Sayed (2000), explained that it was not sufficient only to have appropriate manpower at his disposal. Accordingly, he planned a strategy (which he later articulated for his personal PhD thesis, as **MOSIF**), an acronym for:

M – Mission and vision to make GPIC the best petrochemical plant in its class in the world;

O – Objective was to operate the complex in a manner that ensured maximum production volumes *for uninterrupted periods to ensure lowest variable per/ton cost of production*;

S – Strategy was created to achieve the desired objective, wherein key tasks were identified, procedures were agreed upon, personnel nominated and made accountable for each task, road maps and time bound targets laid out;

I – Implement the detailed strategic plan;

F – Feedback mechanism was laid out to ensure that the actual implementation was aligned to the strategic plan.

Dr. Al Sayed added that he was a great admirer of J.F. Kennedy; that he had read his speeches and was most impressed by the speech JFK gave when he exhorted NASA to go to the moon by the end of the decade. Dr. Al Sayed felt that he was in a similar position (though not in the same league) to JFK, where he was required to lead a team to achieve the goal *to turnaround GPIC's fortunes from a company that was about to go bankrupt before it commenced operations, to becoming the most efficient manufacturing outfit of its kind in the industry*. He mentioned that achieving the goal would serve to measure the best of our energies and skills.

Dr. Al Sayed brought out the best of his own leadership skills. He said that the task could not be achieved by a single individual or group of individuals. *It had to be a tremendous team effort, where every individual could make a contribution. In this context, he made it a point to convey to all the staff that no matter whether they are senior or junior, experienced or inexperienced, qualified or not, if they had a viewpoint they needed to express their views without fear or favour. When he was faced with the enormity of the task, he encouraged the team to avoid orthodox attitudes and adopt a creative approach to solutions (an example of identification of risks and integration into decision making, management processes, commitment of resources and communication).*

He would recount the Japanese automobile industry experience after the global oil price shock. While the biggest auto manufacturers in USA and Europe continued to roll out their gas guzzling automobiles, Japanese car makers who were on the verge of failure, innovated to produce fuel efficient cars, thereby gaining a major share in the global car market. That's how the Toyotas, Hondas and Nissans became the global market leaders they are today.

This thrust at innovation required every staff member to be motivated. Instead of being ensconced in his office he went around the complex and made it a point to regularly meet the entire cross section of the staff to convince them that the bad times were like dark

clouds and soon with the planned strategy they would be blown away; things would look up and that the future of GPIC would be bright. He ensured that the work place saw significant improvement in ambience – through spacious and new work areas, ergonomic new furniture, etc. (an example of integration into management processes and communication).

The researcher found that this was reminiscent of Ford Motors incident in the USA. When the Chief Executive Officer (CEO), Mr. Mullali convened a meeting of the head of units in the Ford Group to seek solution to stem the losses incurred by the company, one of the unit heads mentioned that the company's strategies were not appropriate for meeting the market challenges and that his unit would not be able to make a turnaround expected if the same strategies were pursued. Rather than being chastised for the blunt statement, the CEO praised the unit head and decided to embrace the truth and change the strategy to read:

One team, one plan, one goal.

ONE TEAM (people working together as a lean global enterprise for auto-leadership, measured by customer, employee, dealer, inventor, supplier, workers' union for community satisfaction);

ONE PLAN (aggressive restructuring the operations to meet current demand through a changing model mix, finance plan, cost restructuring and improved balance sheet);

ONE GOAL (an exciting viable Ford Company delivering profitable growth for all). Mullali acknowledged that he couldn't lead an organisation that lost \$7 billion annually, if all the leaders in the company said "O.K. Boss". He emphasised that leadership always trusts and always perseveres.

At GPIC also, there was a wholesome change to the organisational culture where the entire workforce was geared to focus on the key goals set out and to adopt team work attitude to achieving those goals. The second segment of Dr. Al Sayed's PhD thesis encapsulated this theme for which he devised the acronym – **CREAMOC** – which stood for **C**reativity, **M**otivation and **O**rganisation **C**ulture (Al Sayed, 2000).

It took a little more than a couple of years for these efforts to show results.

Universally, petrochemical plants have a normal protocol whereby each operating cycle provides for:

1. An estimated period for **normal operation** in the plant;
2. A period for **turnaround shutdown** to undertake overall maintenance of the plant;
and
3. A reasonable estimate for **unplanned shutdowns** for dealing with unexpected trips and unforeseen repairs.

At GPIC, *the strategy through planned operations and effective maintenance was to reduce the number of unplanned shutdowns to the very minimum and conduct the turnaround in a manner so that the plants commence regular operations as soon as possible. The objective was to elongate the operating cycle as much as possible and regularly run the plants at well above the designated capacity levels. The corporate objective of attaining the lowest cost of production per ton was thus achieved (an example of identification and assessment of risks and integration into management processes).*

The Plant Operation Manager at that time, Dr. Abulrahman Jawahery (who later became President of GPIC), was so obsessed with attaining a very high level of excellence in every process, that he was not content with the operational data generated within GPIC. He was keen to compare various parameters of GPIC's performance with those of similar plants in the region and worldwide. Accordingly, GPIC participated in benchmarking studies conducted by reputed consultants. In case of most the parameters of the benchmarking studies, GPIC stood on top; where they did not, GPIC would redouble to focus its efforts to seek the top spot.

No wonder, GPIC's production costs became very competitive. Coincidentally, the improving global market prices helped in generating significant positive cash-flows that were sufficient enough to tide over the financial crisis and to repay the rescheduled bank debts.

Around this time, the Union Carbide plant disaster occurred in Bhopal India. Archives revealed that the manner in which GPIC undertook risk management is an excellent

example of the efficacy of the conceptual framework in actual practice. Although the Union Carbide plant in Bhopal was not an identical petrochemical plant like GPIC, it had certain common features with GPIC, in as much as the Union Carbide plant was a chemical complex that operated 24X7 plants that contained high pressure vessels, where a leak occurred that resulted in disastrous consequences. GPIC realised the potential of risk if a similar leak occurred at its plant in Bahrain. This was example of **identification of risk**. The management rushed to Bhopal a team that comprised its most experienced and qualified Indian engineers to gather more detailed on-the-spot data than what was available in the public domain. When the team returned with facts, a larger team analysed what could go wrong if such an accident occurred at GPIC, an example of **assessment of risks** by internal stakeholders. There were two salient takeaways from the assessment. One, procuring the cheapest spare parts is not the most cost effective solution to managing expenses. Two, sources of possible leaks and pressure build ups need to be identified and remedial measures undertaken. The big lesson was that loss arising from plant destruction can be partially (if not fully) met through insurance, but damages through injury to staff and local community members and harm to environment can be insurmountable and not easy to meet.

The immediate action was to set up a high level committee for safety and environment (later expanded to include health), that determined a revision in GPIC's procurement policy, where quality and source of spares was given due importance, along with cost considerations. Also, based on international experiences and data gathered from petrochemical complexes as well as leading manufacturers, sources of potential leaks and release of effluents were identified and appropriate actions were recommended. These findings were presented to the top management who in turn made their pitch to the board of directors, and onward to the shareholders. This was good example of **communication**. Such kind of communication helped to convey the importance of risk management and **allocation of resources** to undertake effective measures.

Dr. Al Sayed sought a detailed report of lessons learnt from Bhopal disaster and the *measures GPIC could take to avert chemical disasters at its complex*. The researcher interviewed Dr. Al Sayed to gain insight into the process of the measures undertaken. He

stated that he was glad that his Plant Operations Manager's earlier initiatives to *accord the highest priority of operating and maintenance of the GPIC plants by not compromising on quality and cost that would jeopardise safety* stood validated. He listed some of the measures:

1. A formal corporate Safety Policy was drawn up and approved by the Board of Directors;
2. Safety matters would be combined with health and environment issues to ensure a comprehensive programme under the broad umbrella of the Safety, Health and Environment (SHE) Committee;
3. GPIC's SHE Committee would seek information regarding dealing with safety, health and environment issues from other petrochemical plants in the region, through regular interaction;
4. A sub-committee was created to keep abreast of safety issues in chemical plants at a global level and alert members of their relation to GPIC and the measures taken to avert such situations, which could be adapted and adopted for implementation in GPIC;
5. Each of the key plant operations and maintenance tasks were examined by the SHE Committee, safety protocols were determined and appropriate procedures developed and documented.
6. The concept and scope of safety was enlarged to cover non-technical departments (such as warehouse and workshop and administrative blocks) – i.e. the whole organisation;
7. This development helped in creating an organisational culture for safety;
8. It was concluded that safety could be achieved only through appropriate behaviour from every member of the workforce. Hence the concept of 'behavioural safety' was launched and developed in GPIC.

Similar perspectives were added to the two other aspects of SHE – namely Health and Environment – so that the whole organisation was brought on board on these 3 themes (*a comprehensive example demonstrating all components and tasks of the conceptual framework*).

On the topic of environment, Dr. Al Sayed recounted an interesting episode. The local media had given huge coverage to an article which mentioned (in general) that oil refineries and chemical factories tend to pollute the environment, in particular the seas, which result in loss of marine life. The article alluded that since Bahrain was an island nation, the fragile economy could suffer irreparable harm if the local seas were to be polluted. There were some follow-up articles and there were discussions in the public domain about the subject. Dr. Al Sayed felt that in view of the fact that GPIC had invested a lot in technology and processes to ensure that its operations do not result in marine pollution, steps needed to be taken to counter the baseless argument. There was only one spot in the complex from where the plant discarded its condensate water in the sea and that such water was subjected to regular checks to ensure that it did not contain any toxic or other harmful material. Based on a suggestion by an in-house think-tank, GPIC decided to build a netted enclosure at that outfall spot. The enclosed area was converted into a fish farm where baby fish of sea bream were brought and allowed to breed. These fish, (a variety known to be vulnerable to pollution and in danger of extinction in the Bahrain seas), started to flourish in the enclosure water and grow to their full size, without showing symptoms of any pollution related diseases (*an example of assessment of risks and integration into decision making, commitment of resources and communication*).

Dr. Al Sayed said GPIC had demonstrable proof that it was not ruining the environment. The Fish Farm occupied pride of place in the complex.

Dr. Al Sayed added that whatever measures that were introduced in GPIC, he always stressed on the importance of capturing the process and documenting it. The purpose was to ensure that it was not subject to different interpretations and was uniformly complied with. He said that these documented procedures would provide dependable guidelines whenever the local staff take over from qualified expatriate staff (*an example of integration into management processes*).

As for every key business process, he stressed on one mantra: *Whenever you do a thing right, you cannot do it wrong. So when you do the right thing the first time, you will continue to do it right every time.* He took great pride that this attitude served as the foundation block during the exercise for formal accreditation of the ISO 9000 Quality system in GPIC.

The researcher noted that the processes and measures followed during the ISO initiative served as the foundation for future accreditations at GPIC (Management Systems Section archival records).

After achieving a miraculous turnaround of the company and bringing so many honours, the researcher asked Dr. Al Sayed whether he allowed things to relax. He responded that when an organisation is on the top, it is easier for it to slip and fall, than when it is not on the very top. He believed in the Japanese concept of Kaizen process; he explained that Kaizen is an approach to create continuous incremental improvements based on the idea that small, ongoing positive changes can reap major improvements.

Dr. Al Sayed added that he made special efforts to ensure that the SHE themes were so deeply ingrained into the psyche of the employees that they even carried the SHE message home and to their families. The resultant ripple effect was that families gained a level of comfort that their family member was working at the GPIC site was in a work environment that cared for safety and health as well as took care of the community by safeguarding the ecology (*an example of communication of risks*).

He considered this as a big plus of his career as a major contribution by GPIC in highlighting measures to mitigate social and environmental risks in Bahrain.

Secondly, he wanted to leave a legacy behind. He admitted that it would be wrong on his part if he took the entire credit for GPIC's success. He attributed it to the encouragement from the Board and support from the entire workforce. In particular, he singled out the then Plant Operations Manager, Dr. Abdulrahman Jawahery for his outstanding efforts that paved the way to GPIC's success.

So, when Dr. Mustafa was offered by the Government of Bahrain, the responsibility to be at the helm of the Bahrain's petroleum refining company BAPCO, as its CEO, Dr. Jawahery was the natural choice to take over the mantle, as the General Manager of GPIC.

4.2.3 Continuing operations

Dr. Jawahery not only carried forward the legacy, but also sought newer frontiers to conquer and to take GPIC to greater heights.

Over the years, GPIC kept on polishing and enhancing the above themes. The effort was recognised by the Bahrain Government in through various recognition awards. The company repeatedly won Arabia CSR Awards and Mohammed Bin Rashid Al Maktoum awards for business innovation and excellence in business for the industrial category. Not wanting to rest on local and regional laurels, GPIC made out a case to seek international recognition; it was awarded UK's most prestigious ROSPA Awards in the early 1990s and repeatedly for the safest chemical manufacturing unit in the world. In 2005, GPIC was named the winner of the highest accolade in the ROSPA Awards "the Sir George Earle Trophy". In 2008, GPIC was awarded USA's most prestigious award "the R.W. Campbell Award" from the National Safety Council. To date GPIC remains the only organisation on either side of the Atlantic to receive the highest accolades for safety (HR and Corporate Communication Department archival records).

When the researcher interviewed Dr. Jawahery, he was asked how he plotted the strategy for onward growth. He said that despite the awesome achievements of his predecessor, he was humble enough to acknowledge the contribution of the GPIC team and the workforce towards the company's success. He was determined to continue in the same vein, through teamwork.

Dr. Jawahery said that while the operations were on an even keel and the revenue/profits were satisfactory in the past few years, there was no guarantee that the same situation would continue forever in a world where competition was changing and new technology was evolving in the petrochemical industry. Consequently, he deemed it vital that he should craft a strategy to sustain GPIC's performance in the near, midterm and long-term future.

In terms of specifics, he was determined to focus on four key areas, which he termed as four P's:

1. Plant/Profit
2. People-Staff
3. Partnership with Society
4. Planet-Environment

- Profit - Manage the plant operations in an economically viable manner to safeguard the shareholders long term interests;
- People - Ensure the workforce is dealt with in an ethical manner to ensure positive contribution from them;
- Partnership with Society - Ensure that GPIC behaves as a responsible corporate citizen by undertaking positive contribution to society and the community;
- Planet - Ensure that GPIC takes adequate steps to protect the ecology and does not pollute/harm the environment

The researcher asked Dr. Jawahery to expand on each of the above initiatives.

1. Plant/Profit:

Dr. Jawahery mentioned that the technologies incorporated in the current plants was based on technologies that existed in early 1980, and after the passage of a few decades, the technologies had undergone rapid improvements, whereby the plant and power efficiencies had increased tremendously and the conversion rates had increased exponentially. Since it would not be commercially feasible to incorporate the new technologies at this juncture, the yields from its current operations would never be comparable to plants which have deployed modern technology. *The only way to survive would be to continue operating in an optimal manner and seek ways to improve efficiency and deploy other innovative methods to enhance volumes and undertake cost cutting measures (an example of assessment of risks and integration into management processes).*

He cited one of the key measures taken during his tenure was to *install a carbon dioxide (CO₂) recovery plant, which besides yielding higher final product volumes would also reduce CO₂ emissions and reduce pollution (an example of assessment of risks, integration into management processes and commitment of resources).*

GPIC had different computer systems in the plant (Honeywell), Maintenance Planning (Primavera), AMSOFT (finance and procurement). GPIC deemed it desirable to have an integrated computer system in place whereby one system

spoke to all systems in the plant. GPIC installed 'my-SAP' Enterprise Resource Planning (ERP) software; the objective was to utilise resources in an optimally planned manner *thereby keeping a control on costs (an example of assessment of risks, integration into management processes and commitment of resources)*.

In the same vein, a formal enterprise risk management (ERM) framework was launched in GPIC. The company's auditors PwC (who were one of the proponents of COSO at the international level) had recommended that GPIC should go in for COSO ERM framework. COSO was launched in GPIC in 2007 with the assistance of consultants PwC. The key risks identified and collated at the town hall meeting organised by PwC, under the COSO framework, mainly related to risks in the operational, financial and business areas only. Due to the complex nature of COSO and lack of easy comprehension and acceptance by the GPIC work force, it did not have a positive buy-in from the employees. COSO was replaced by ISO 31000 in 2012. Earlier GPIC had adopted and was certified for ISO 9000 quality systems. To date, GPIC is certified for 14 ISO standards. Familiarity with ISO led to greater acceptability for the ISO 31000 *(an example of integration into decision making, management processes and commitment of resources)*.

2. People-Staff

Dr. Jawahery was convinced that no matter how well they took care of the plant, it was the workforce that was true asset of GPIC. He added that the plant was in such a mint condition after decades of operation that the original suppliers and contractors associated with the supply, offered GPIC as a reference for prospective customers.

In this context, it needs to be noted that Peters (2018), in his book "The Excellence Dividend" had mentioned that he was appalled by the statistics that only 1/3 of the world's workforce were satisfied with their job. Considering that an average working adult spends majority of his daily hours at work, to be in despair about the work situation was like throwing one's life away. He felt that there was a need for a viable path out from the mess that typically constitutes one's day of work.

Business needs to give people enriching and rewarding lives. He urged the organisations to act in a way that expressed love, care, hope and joy and create a business environment where workers come to the workplace with pride and joy.

Dr. Jawahery added if GPIC takes pride in showing off their plant, it should take similar pride in showing off their employees. It is said that 'clothes maketh the man', so it was important that the uniform worn by the workforce should reflect the dignity of the person wearing a smart uniform. Dr. Jawahery ordered a change of uniform from the readymade blue denim Dicky brand of dungarees to shirt and trousers made from decent cloth and tailored to fit the individual employee (*an example of integration into decision making and commitment of resources*).

When he took over as President, the complex had a purpose built Training Centre that delivered training in a traditional manner. He decided to upgrade the facility mainly to benefit the local employees and help GPIC achieve its Bahrainisation goals by developing them with the requisite knowledge, skills and aptitude. The Training Centre was renamed as 'Academy of Leadership and Learning'. The change was not just cosmetic. The Centre was equipped with a state-of-the-art simulation digital console that would enable the staff to learn to handle varying situations and emergencies in different plants, under the supervision of experienced staff. This would prove a boon not only to the trainees but also existing local staff in obtaining cross training to operate different plants – thereby enriching their job experience and improving career progression prospects (*an example of assessment of risks, integration into management processes and commitment of resources*).

A detailed training and development plan was charted out for each employee which was subject to regular assessment. Their academic qualification skills were enhanced by sponsoring them for higher education studies at both local and overseas universities (*an example of commitment of resources*).

An 'e-learning console' was also set up at the Centre, where employees could widen their knowledge on several subjects, (including improving soft skills) in their own time and convenience. The console provided for quizzes and even examinations for certification (*an example of commitment of resources*).

Based on such reinforced knowledge and training, *promotions and career paths were charted out through a very sophisticated 'performance management scheme'*. These measures went a long way to boost the morale of these employees and fostered loyalty. Dr. Jawahery said, the attitude to employment within GPIC changed from "having a job at GPIC to provide for a livelihood, in the absence of better remunerative opportunities" to "having a job that is satisfying and which also took care of their family" (*an example of integration into management processes and commitment of resources*).

Dr. Jawahery mentioned that *this step constituted a major stride in managing a key social risk*. Social responsibility to employees was further taken care of by inducements such as *extending life insurance and health insurance cover to employees and their families, reimbursement of children education fees, subsidising house purchase loans, salary saving scheme, car schemes, health club memberships and other recreational schemes*. All in all, the atmosphere was conducive to the employees having a bright future at GPIC (*an example of assessment of risks, integration into management processes and commitment of resources*).

GPIC also built a recreation club for its employees and their families, so that they could achieve an optimum 'work-leisure' balance. The company encourages employees to participate in different sports and has created supportive basketball, football and bowling teams which have performed well at both national and regional levels. Such recognition of GPIC employee success has boosted morale of the entire GPIC workforce. During the summer vacations, *GPIC sponsored special learning and recreational activities for the employee's children at the Club*.

Employees' children with outstanding result in schools are honoured (an example commitment of resources).

Although the above measures benefitted employees directly and indirectly, Dr. Jawahery said, *concurrent efforts were made to improve their salary structure and give decent bonuses*, so that they could see a discernable improvement in their bank balances *(an example of assessment of risks, and commitment of resources).*

Apart from providing medical insurance to its employees and their families, *GPIC has a dedicated medical centre with qualified doctors and nurses to provide 24/7 services that include regular health checks, flu vaccines and organising health campaigns, blood donations, breast cancer awareness programmes, anti-smoking initiatives, first aid training, etc. (an example of commitment of resources).*

All GPIC employees undergo regular health checks. The company facilitates several awareness lectures on industrial hygiene and occupational health. Obesity and diabetes remains key areas of focus from a health perspective. The professional nutritionist at the medical Centre is available to assist the employees. *Many of the GPIC employees are certified first aiders.* GPIC has an active Health Committee whose prime objective is to oversee all health related issues and to raise awareness amongst GPIC employees *(an example of assessment of risks, commitment of resources)* (Medical Centre archival records).

The committee's charter includes:

- Promoting and organising health and responsible care awareness activities.
- Managing the GPIC anti-smoking programme.
- Overseeing hygiene & food quality in main canteen and club canteen.
- Conducting regular / emergency committee meetings to discuss the health status of the employees as well as all issues pertaining to and affecting the health, hygiene and wellness of GPIC employees at the complex and at the GPIC Club premise.

As a petrochemical and fertiliser manufacturing industry, *GPIC employees are exposed to high risk occupational hazards and are monitored and tracked through the company's health record systems. Such high risk groups include hearing, confined space, and other potential exposures or other identified hazards. Their risks are minimised by providing them with the appropriate preventive measures. In GPIC's system, health protection hinges upon recognising hazards, reducing risks, screening for illness and confirming the effectiveness of the system (an example of assessment, identification and analysis of risk and integration into management processes and commitment of resources)* (Medical Centre archival records).

Apart from the economic benefits that accrued to employees, *their confidence was boosted through empowerment measures which included nomination to various committees, presence at high level meetings, etc.*

GPIC has a wide range of awards at every level of the company, to ensure that employees are duly recognised and rewarded for their extraordinary efforts and work that goes beyond the call of duty. This includes performance based awards across departments and divisions, as well as acknowledgement of best safety practices. The company also have an incentivised scheme to reward employees during an annual awards ceremony. Some of the awards recognises sustained performance, outstanding performance, best suggestion of the year, environmental personality of the year, safety personality of the year, etc (an example of assessment of risks and commitment of resources) (HR and Corporate Communication Department archival records).

Bahrain government prides itself as a very mature, forward-looking and tolerant country, where there is no discrimination with regard to race, religion, nationality and gender – despite the fact that Bahrain is an Islamic country.

Dr. Jawahery said the same mature principles were embedded in GPIC. GPIC thrives in successful merging of social and environmental issues into its business strategies. All employees in GPIC are treated on par. The HR Policy was applied equally to all staff. *The ladies were given due respect and recognition as an important and integral part of the workforce.* In its quest to promote women within Bahrain's industrial sector, GPIC has adopted a strategy to recruit a higher number of females as compared to males in its workforce. GPIC boasts of employing women as 10% of its total workforce and 24% of its day shift workforce which is considered a national and regional landmark. This achievement was recognised in the form of Her Royal Highness Shaikha Sabeeka bint Ibrahim Alkhalifa Award for empowerment of Bahraini women. GPIC has made a commitment of support to the UN women's empowerment principles (WEPs), signed in 2014 by Dr. Jawahery. The WEPs is a partnership initiative supporting the mission to promote gender equality and women's empowerment globally (*an example of assessment of risks, integration into management processes, commitment of resources and communication*).

Dr. Jawahery, who has previously served as a board member of the "National Institution for Human Rights (NIHR) Board of Commissioners" and participated in policy making and consultations related to human rights at national level states that respecting the rights of all is an integral part of our Corporate governance policy, the Bahrain's Labour law and the UN Global Compact principles and the company aims to encourage protection of human rights through organisation wide policies. GPIC will ensure respect for the human rights of employees as established in the International Labour Organisation (ILO) declaration on fundamental principles and rights at work and the Bahrain Labour Law, including nondiscrimination, freedom of association and the right to engage in collective bargaining, prohibition of harassment, providing equal opportunity to employees, and being fair and equitable. *GPIC's goal is to achieve zero injuries and illness in the working environment as well as emphasising the off-the-job safety of all employees. Strict compliance with all applicable safety, health and environment*

policies, standards and practices is maintained, for the benefit of the company's human capital (SSHE Department archival records).

GPIC provides and will continue to provide a work environment that is pleasant, healthy and free from intimidation, hostility or other offensive behaviour towards employees, contractors, vendors or customers. The working atmosphere will contribute to the achievement of economic and social development, while providing the opportunity for creativity and innovation. GPIC's policy is to honour and respect the right of all employees to practice their religious beliefs with dignity. Employees will obey all local laws and regulations. The company will maintain appropriate levels of awareness to protect both the company's and employees' interests by anticipating the legal requirements that may arise from new laws and regulations, new business endeavours or modifications of existing business arrangements. GPIC's grievance handling system aims to ensure that any and all cases of grievances are filed (HR and Corporate Communication Department archival records).

GPIC employees are encouraged to make suggestions or contribute ideas that help improve any aspect of the work process, including production. All such constructive ideas and suggestions will be valued, as part of motivation and innovation (Suggestion and Best Practices Committee charter).

GPIC aims to ensure the confidentiality of all employee information; that personnel records, medical or any other records relating to employees are maintained accurately and securely. GPIC encourage all our employees to be good corporate citizens in that, at work, they will be in a suitable mental and physical condition in order to perform their duties in a safe and effective manner. The employees of the company are also encouraged as individuals to maintain good relationships with society, including participating effectively in professional societies, licensed charities and community centres in the Kingdom of Bahrain *(an example of*

communication of risks) (HR and Corporate Communication Department archival records).

To show commitment to youth empowerment and engagement, GPIC has formed a youth committee in 2016, with a mandate to identify the needs and requirements of young GPIC employees and keep the management apprised of areas for development and make constructive decisions for the benefit of GPIC's young employees. Dr. Jawahery has emphasised *that "our ability to shape the minds of young future leaders and give them the insight and opportunity to sustainably change the world in which we live, is a calling of the highest order"*. He further states that *"education has always been key to changing an uncertain future into a prosperous one. This truth also applies to the way we educate and pass on the knowledge when it comes to ensuring a sustainable environment for our future. Through inspiring our young future leaders, GPIC employees have awoken their ability to change what can be changed and inspired them to a future of mazing possibility" (an example of integration into management processes, commitment of resources and communication)* (Youth Committee charter).

3. Partnership with Society

Dr. Jawahery mentioned that just as a Bahraini individual cannot stay in isolation. To be a complete citizen, a Bahraini need to be a part and parcel of society, by keeping good and cordial relation with all the members of the society.

GPIC was incorporated as a company in Bahrain and like a good Bahraini individual, it had the duty and responsibility to be a good corporate citizen.

He drew parallels with individual citizens who need to comply with the laws of Bahrain, GPIC would have to do the same. Responsible citizens do not dump garbage in the open, so too GPIC needed to undertake a responsibility to dispose its waste materials in a responsible manner.

It was essential that GPIC did its best to protect the ecology and in order to thrive and sustain it needs to include social and environmental issues into its business strategies. The researcher asked Dr. Jawahery how he would balance the forces of development as against the forces of environmental deterioration.

Dr. Jawahery said that in the 20th Century, oil known as black gold, has been responsible for making a different kind of world. Oil brought many benefits to modern society, yet it was at the centre of economic and political conflict. Now it poses a whole new challenge and risk to environment conservation. The Gulf War underlined the real cost of the oil economy in terms of its impact on the environmental and human suffering. Yet lessons have not been learned. In the West, particularly USA and more particularly California an enormous quantity of oil is burned and goes out of the exhaust pipes of cars (Roger Kenedy, Director of National Museum of American Business quoted that California is the state that oil made and oil made it the biggest hydrocarbon society on earth. More than anything, it permeates entire societies around the world and promotes a love affair with the automobile that is peculiar to our times, to such an extent that it has become a basic necessity like tooth paste and tooth brush. The resultant smog produced from the car exhaust is poisoning the air we breathe forcing regulators to pass laws wherein exhausts need to be regulated and setting a target whereby in the next 10 years 10% of all new vehicles sold would cause no pollution at all).

Dr. Jawahery said the demand for oil has risen to 13 billion barrels and all of it cannot be drilled on land, forcing exploration of oil in the seas. But that too has its downside as shown by the 1989 oil tank Exxon Valdez disaster and in recent times the British Petroleum disaster off the coast of Texas and Louisiana. Old Soviet Union, including the current modern Russia, has huge reserves of oil which they are keen to explore for economic development of the countries. In Baku the cradle of oil industry in the Soviet Era still pumps oil using the 19th Century equipment. The oil leaks from 37 miles of oil pipe-lines have caused ecological catastrophe which is estimated at 50 times the Valdez leak.

The researcher asked Dr. Jawahery whether the unyielding demand for oil to spur economic development and growth on one hand will keep on putting an undesirable impact on the environment on the other hand and what is the solution. Dr. Jawahery responded that this is a challenge for the human wisdom. There is no ready and easy answer. If everyone wants to adopt the better lifestyle of the West, it is not sustainable. There is a crying need for high tech energy of the future. He further stated that oil societies have built an awful lot of wealth which can be re-deployed if we have the political will to build a new society with new kinds of energy more discipline and self-control. It took a lot of brains to dig for oil and go after it, the same brains can dig for alternate sources of energy too.

GPIC associates itself with several regional and international platforms such as UN Global Compact to stay up to date with social, economic and environmental trends, which are reflected into the strategy (*an example of communication of risks*).

With sustainability at the heart of GPIC's strategy, GPIC is actively involved in the creation of a better world for future generations by tackling pertinent sustainability issues and balancing environmental, social and economic value. The company's forward looking business approach has embraced the shift from the classical three pillars of Sustainable Development to the 5 P's, people, planet, prosperity, partnerships and peace. By doing this GPIC has become part of the global transformation for a sustainable future. On annual basis, GPIC publishes a report that serves as GPIC's UN Global Compact Communication on Progress (COP) and the company's strategies and initiatives regarding signature issue platforms such as the Food and Agriculture Business Principles and Women's Empowerment Principles. Within the report, the company highlights in detail, its commitment, support and contribution to the United Nations 17 Sustainable Development Goals (SDGs) (*an example of communication of risks*) (GPIC's Sustainability Report).

GPIC has formally adopted quality standards ISO 31000 for risk management and ISO 22301 for business continuity management. Currently GPIC is certified for 14 ISO standards (Management Systems Section archival records).

Dr. Jawahery believes that during his tenure there has been a lot of uncertainty, complexity and volatility for the business around the globe which has impacted GPIC. We had to face many challenges, however our resilience to overcome these challenges is down to our incredible GPIC team. The ideas, skills and the dedication of the workers continues to make GPIC a pioneer in best practice and sustainability over the past few decades.

The researcher found that the outline above for sustainability is similar to the triple bottom line (TBL) propounded by John Elkington in 1994 to highlight the importance of accounting for the non-market and non-financial aspects of performance in corporations, including social performance. Elkington stated: “The triple bottom line focuses corporations not just on the economic value they add, but also on the environmental and social value they add – and destroy. At its narrowest, the term ‘triple bottom line’ is used as a framework for measuring and reporting corporate performance against economic, social and environmental parameters”. A triple bottom line is not a quest for a new bottom-line ‘metric’ but rather an approach for performance assessment and management that stresses the interdependence of economic, environmental and social criteria. According to academics, TBL is primary a platform to process a broader notion of sustainability reporting. While there are some academic research papers on the subject of TBL accounting and reporting (Rob Gray, Dave Owen, and Carol Adams, *Accounting and Accountability: Changes and Challenges in Corporate Social and Environmental Accounting* (Prentice Hall, 1996) the same has not found practical implementation in corporations.

Another platform that has gained popularity is GRI that provides an instructive contrast to TBL. GRI is an organisation that has pioneered the standardisation of sustainability reporting through the creation of the GRI framework. Key principles in its approach include: balance, comparability, materiality, accuracy, timeliness, clarity and reliability through Accordance Sustainability Report. This report fulfils the GRI Standards “in accordance” criteria; and states that it is “in accordance” with either the Core or Comprehensive options.

According to Dr. Jawahery, instead of the rhetoric on sustainability GPIC is committed to mainstreaming UN’s seven SDG’s (Sustainability Development Goals) in the company’s business functions. He believes that publishing annual GRI reports under the title ‘Together We Do Better’ is a testimony of GPIC’s transparency and accountability. Such sustainability reporting by GPIC is a measure of transparency. This pioneering effort has found recognition by UN in the form of awarding GPIC the Gold Community recognition (*an example of communication of risks*).

4.2.4 Commitment at operational level

While the sustainability initiative in GPIC is overseen by the Board of Directors and the President, over the years the key mover is Mr. Fadhel Al Ansari, General Manager Corporate Support. He is responsible for optimally placing GPIC to play a proactive role in the region’s sustainability activities to contribute to the society, environment and economic well-being of this local community.

Mr. Al Ansari’s contribution started as far back as 25 years ago. According to Mr. Al Ansari, sustainable development, by its very definition (meeting the needs of the present without compromising those of the future) begins with respect for the future generation as an important stakeholder. The young people of today should mature in the next 15 years right along-side the SDGs. Mindful of this fact GPIC decided to engage with the youth and children to expose them to the SDGs by making presentations to students in Bahrain schools and universities. In 2004 he was instrumental in establishing partnership with the Ministry of Education to launching an environment research programme, wherein GPIC

would fund 20 research projects and reward the top 3. The research topics would cover a range of environmental issues, such as water consumption saving devices, impact of Kena palm trees on environment in Bahrain, usage of solar energy for domestic appliances (*an example of communication and commitment of resources*).

He was also responsible for GPIC's affiliation with Global CSR platforms by creating strategic relationship with UNGC, UNEP AND GRI. In case of the latter, in order to promote a culture of transparency GPIC did and encouraged associate companies to report on sustainability performance in accordance with the GRI framework. Mr. Al Ansari has been responsible for the contents in the annual reports for GRI wherein, demonstrable evidence is provided for the measures taken by GPIC towards attaining sustainability development goals (SDG's) (*an example of communication of risks*).

He was also responsible for the initiative to make GPIC the first company in the Arab region to adopt and report on the newly launched food and agriculture business principles to commit to a more economically viable and sustainable contribution to the sector. Mr. Al Ansari was also responsible for ensuring GPIC's leadership commitment and support for sustainable agriculture, food security and poverty eradication through engagement with international organisations such as UNGC, UNEP, UN Environment, FAO, IFA, AFA and GPCA (*an example of communication and commitment of resources*).

Mr. Al Ansari said that GPIC's successful strategy of building a sustainability culture that has extended far beyond the traditional understanding of corporate philanthropy has been rewarded by Arabia CSR Award for the eighth time.

The researcher asked Mr. Al Ansari how he sees the role of CSR in GPIC. He responded that in GPIC CSR is built-in and not bolted-in. There is a clear integration of GPIC's sustainability strategies into its business strategies through its vision and mission, values and policies, all of which weigh-in all core decisions of the company. The comprehensive policies and procedures in GPIC have ensured that CSR is interwoven into every key business process and function. He emphasised that the tone at the top was important

and that the encouragement of the Board, guidance of the President has led to such commitment to the cause of CSR, through strong and visible messages and demonstrable financial support (*an example of assessment of risks, integration into management processes and commitment of resources*).

The researcher pointed out to Mr. Al Ansari that there are some academics who doubt philanthropy's contribution to CSR unless the approach is changed to creative philanthropy through reinventing the very foundation of NGOs. Indra Nooyi, CEO Pepsico, also expressed her reservation about achieving CSR through philanthropy. She mentioned that very often corporate contributions for certain sports and social causes are mere fronts to further their marketing campaign and society reach. Mr. Al Ansari responded that in case of GPIC, donations to NGOs undergoes a strict vetting process of the objectives and actual achievements of such objectives. For example, Bahrain Cancer Society has a large team of dedicated volunteers who highlight the plight of cancer and awareness for contribution to research and provision of care to cancer patients. When GPIC contributes to Bahrain Cancer Society it is doing philanthropy for a cause which GPIC cannot undertake. Similarly, donations are made to other NGOs in Bahrain and a close tab is kept on the performance and reputation of such NGOs (*an example commitment of resources*).

While GPIC does indulge in a significant amount of philanthropy, GPIC's CSR initiatives go beyond the gesture of merely offering financial assistance to deserving organisations, by meeting larger needs of the community.

What is the way forward? GPIC will continue its march to achieve success in a holistic way by taking care of the planet, people and economic prosperity.

The researcher asked Mr. Al Ansari about his perspective on creating value. He responded that GPIC business has more to do to create value for shareholders it has to create value for society. He strongly believes that corporate entities can become a force for change in the world. If companies like GPIC champion awareness, sustained health

and wellness, they lift others companies on the island and help to build bridges between people, cultures and economic communities of Bahrain.

Mr. Yasser Alabbasi, General Manager Manufacturing was asked about the role of technical departments reporting to him in promoting and sustaining the safety and environmental practices at GPIC. He mentioned that *GPIC is successful because safety isn't just a programme, it's a way of life for GPIC, its employees and their families. As a forward-looking petrochemical and fertiliser company, GPIC recognises that its commitment to safety is the foundation for building and maintaining trust and public confidence. It's part of being a good citizen, a good neighbor and a good partner. Safety drives GPIC's commitment to sustainable business and defines who GPIC is and what GPIC stands for. By instilling a culture that ensures the well-being and safety of GPIC employees and their families, GPIC empowers them to focus on the details and to do what's right first time every time. This leads to improved performance and reliable, consistent and predictable delivery of our high-quality products (an example of integration into management processes).*

GPIC has a number of committees which oversee the implementation and maintenance of the company policies related to occupational safety, Process Safety and Responsible Care. These committees include:

- Safety, Health and Environment Council.
- Safety Committee.
- Process Safety Management Committee.
- Responsible Care Committee.

Regarding the environmental practices, Mr. Alabbasi mentioned that GPIC's strategy of environmental management goes beyond the company facilities. *GPIC's responsible operations strategy ensures that the company does not have an adverse impact on neighbouring communities. The key goal is to manage the business processes to produce an overall positive impact on society. GPIC greenhouse gas emissions, as well as its carbon footprint, are some of the biggest challenges we face when planning GPIC's*

investment in environmental sustainability. GPIC has been able to implement some projects such as the urea plant and the carbon dioxide recovery plant that have reduced the company's carbon footprint and greenhouse gas emissions, thereby helping GPIC to contribute towards slowing the pace of climate change. The Carbon Dioxide Recovery (CDR) plant commissioned in 2009, captures 450 MT/Day of CO2 from the methanol reformer flue gases and then recycles it back into our processes. Hence reducing the Company's carbon footprint in addition to improving resource efficiency and production augmentation. This project is the best example of how GPIC combines business strategy with environmental sustainability (an example of assessment of risks, integration into management processes and commitment of resources).

Mr. Alabbasi further adds that some of *GPIC's significant environmental impacts occur during the sourcing of raw materials, manufacturing, transportation, delivery, and final disposal of its product or service.* By monitoring and reviewing relevant information, the company can potentially prevent or mitigate adverse environmental impacts during these life cycle stages. GPIC considers the extent of control or influence that it can exert over activities, products and services considering a life cycle perspective. GPIC is committed to GRI's principles on environmental sustainability. *The company takes environmental stewardship very seriously and in this context GPIC is the joint sponsors of the annual ROSPA International Dilmun Environmental Award that is given to the companies with outstanding Environmental management system (an example of assessment of risks, integration into management processes and commitment of resources).*

With regards to the protection of natural habitats, GPIC's production site now hosts a fish farm where about 100,000 sea bream fish are released into the deep sea annually to enrich marine life. The company also nurture a bird sanctuary which hosts birds of different species (migratory and local). The company's facility in Bahrain is surrounded by a number of gardens specifically designed to promote the growth of rare, indigenous, aromatic and desert plants. The gardens are also used to help educate school students on environmental preservation and to expand their knowledge on Bahrain's natural biodiversity *(an example of commitment of resources).*

Mr. Alabbasi said that the environmental performance during 2019 was par excellence. The company achieved its environmental targets including the energy targets. The company's emissions, effluents and wastes were in compliance to the Bahrain Environmental Standards and the company did not experience any reportable environmental incidents. The company enhanced its waste recycling, introduced cardboard recycling for the first time in GPIC and also implemented recycling at the GPIC Club. The company continued its drive towards energy efficiency and energy efficiency projects such as the introduction of energy efficient lighting. GPIC also participated in a number of environmental bench marking studies including IFA bench marking for effluents and emissions. The company continue to maintain its biodiversity projects within its complex and also outside and established a new Neem tree garden in 2019 with 150 trees. The company is in the process of establishing a 3MW solar energy project at GPIC *(an example of assessment of risks, integration into management processes, commitment of resources and communication)*.

GPIC's continued with its leadership role in security, safety, health and environment (SSHE) excellence at regional and global levels and has been actively involved and engaged with Regional and Global organisations such as National Safety Council, Royal Society for the Prevention of Accidents, UN and UN Environment. Dr. Jawahery, GPIC President is in the UN Environment 's High-Level Intergovernmental and Stakeholder Advisory Group (HLG) of Global Environmental Outlook 6 (GEO-6) assessment and provides advise on regional assessment. GPIC has engaged actively governmental bodies on national level strategy formulation and legislation revision on environmental issues covering Paris climate change agreement COP 21 and associated greenhouse gas inventory reporting, role of industries and private sector in the implementation of UN 17 SDGs , national energy efficiency and national renewable energy action plan, Carbon capture and potential future scenarios, ozone depletion and Montreal protocol national level initiatives and way forward *(an example of commitment of resources and communication)* (SSHE Department archival records).

GPIC replaced existing conventional lights in process areas, non- process areas, buildings and street lights with energy efficient LEDs. 2312 LED light fittings were installed in 2019 with an energy saving of 366 MWH/year and a total reduction in carbon emissions by 183 tons per year. Since 2013, GPIC have installed 6604 LEDs within our complex, replacing conventional lights, resulting in an energy saving of 1486.35MWH/Year, a cost saving of US\$ 111765/Year and a CO2 emission reduction of 742 tons/ year (*an example of commitment of resources*) (SSHE Department archival records).

GPIC in cooperation with UN Environment and Ministry of Education continued with the Green Wave initiative that was launched in 2015. Through this programme the company sponsor and facilitate the planting of local trees at public schools in order to promote biodiversity awareness and encourage environmental stewardship. At each school a variety of local tree saplings, such as pomegranate and olive, are planted by the students. Since the launch of the programme in 2015, 90 schools have benefited from the programme with the distribution of 3600 sapling trees in total (*an example of commitment of resources and communication*) (HR and Corporate Communication Department archival records).

Since 2001 GPIC embarked an environmental awareness programme targeting school students. GPIC engineers presented a number of environmental lectures in both public and private schools. The total number of students benefiting from this programme has crossed 40,000 since 2001. The company have been also sponsoring the Ministry of Education/GPIC Environmental Research Programme for fifteenth consecutive academic years for the GPIC Environment Award for secondary school students (*an example of commitment of resources and communication*) (HR and Corporate Communication Department archival records).

On the energy front, the specific energy consumption of the Ammonia, Methanol and Urea plants has improved over the years. This improvement is an outcome of implementing various energy saving and environmental schemes and adopting efficient technologies for the new equipment and plants. The declining trend in the average energy consumption

of the plants over the years is the testimony to these efforts (Plants Operation Department archival records).

Water is an important factor in the manufacturing processes. GPIC mainly needs it for production of steam and cooling purposes, and some part of it goes towards our horticulture practices. There is a strict water monitoring regime involving online analysers, laboratory analysis and regular checks by government regulators. These stringent controls ensure that GPIC remains compliant to the national legislative requirements by not exceeding the allowable threshold levels. Ground water monitoring is also carried out to ensure the process fluids and chemicals do not contaminate the sea water and that any leakages or seepages are detected on time (*an example of integration into management processes*) (Plants Operation Department archival records).

Mr. Alabbasi said that the *biggest environmental challenge is the location of our facilities, which is surrounded by sea, neighbouring facilities and the residential communities. GPIC as a responsible care company is mindful of the challenges and hence follow a precautionary approach when it comes to environmental sustainability. Compliance to the Environmental legislations, reducing energy consumption and emissions, resource conservation, energy efficiency, hazardous waste management and pollution prevention are some of our main priorities towards the environmental challenges we face at GPIC (an example of assessment of risks and integration into management processes).*

Based on extensive review of archival data and documents, as well as informal discussions with its long serving employees and past senior executives, the researcher compiled a list of events, which served as data points relating to GPIC's significant investments in energy saving projects during the last 10 years, as under:

2009-2010:

- Carbon dioxide recovery unit and Urea Stripper Replacement to take advantage of reduced specific energy consumption The overall specific energy consumption after CDR and Urea Stripper has reduced by around 3.4%.

2012:

- Replacement of Converter Basket in Ammonia Synthesis Converter resulted in a reduction in the synthesis loop pressure and a net energy saving of 0.17 Gcal/MT of ammonia produced.

2014-2017:

- An 11 KV capacitor bank was installed and commissioned in April 2015 to improve the power factor. The improved power factor above 0.9 shall ensure optimum consumption of electricity without much reactive power loss to both GPIC and Electricity and Water Authority. This has resulted in substantial cost saving for the company and the net saving as a result of this project has been US\$ 1.6 million till December 2015.
- As part of ISO 50001 GPIC has identified its significant energy uses which is primarily natural gas as fuel and steam. In this context a couple of energy saving opportunities have been identified and modifications are being processed for implementation in Urea plant and CDR unit.

2018-2019:

- GPIC's focus on energy efficiency continued and in 2019 the energy target for the year was 7.80 Gcal/MT and we actually achieved 7.37 Gcal/MT.
- The project to replace conventional lights with LEDs is progressing. The project started in 2013. So far 6604 LEDs installed with an energy saving of 1486.35 MWH/yr and CO2 reduction of 741.66 T/yr.
- Reduction of fuel natural gas in CDR unit by using surplus LSU in Urea Plant to CDR unit resulting a saving in natural gas by 990 NM3/h and GHG reduction of 7831 T/ yr of CO2
- Interconnection of discharge of Boiler Feed Water pumps of Auxiliary Boilers that will resulted in a saving of 8T/H of medium pressure steam. GHG reduction of 8224 T/yr of CO2.

2020-2021:

- A 3 MW Solar project at GPIC has been approved

Ms. Najat Sharif, Human Resources and Corporate Communications Manager was asked about the role of the Human Resources and Corporate Communications Departments in its contribution towards management of social risk to enable sustainability development in GPIC. She elaborated that GPIC's HR policy was a very maturely crafted document and very comprehensive in its contents. This HR policy provided her with adequate guidance to manage priorities based on Bahrain's Labour Law, succession planning, development planning, development of local talent, leadership development, coaching, rewards and recognition of deserving talent. In particular, she stressed upon the level of transparency in matters of engaging staff, remuneration levels and benefits, work ethics, grievance redressing mechanism, terminal benefits, etc. Such transparency in the document and GPIC's commitment to abide by its contents has been a big plus in establishing a cordial relationship with the trade union in particular and a morale booster with the staff in general. In keeping with Bahrain's tolerant policy towards its citizens, GPIC also stresses upon non-discrimination between the nationalities, religion and ethnicity of its staff. Further in aligning itself to the principles of women empowerment, GPIC has gone an extra length to recruit and give opportunities to women employees. She added that her appointment as Human Resources and Corporate Communications Manager was evidence of the same (*an example of integration of social risks management into management processes and commitment of resources*).

She said that when GPIC was established, being the first petrochemical manufacturing complex, there was no ready-made pool of local talent available to run the complex and as such GPIC had to rely upon recruitment of experienced and qualified expatriate staff to fill the required positions. As a result, a large proportion of the workforce was expatriate and a very small section was local. GPIC was committed to offering opportunity to the local workforce by undertaking to train and educate them and provide on the job training and work experience to take over from expatriate staff in a measured and phased manner. As a result, over the years the proportion of expat to local workforce changed so that

currently the local workforce accounts 95% of the total workforce (*an example of integration of social risks management into management processes*).

Training and development of Bahraini nationals is one of GPIC's main priorities, and the HR Policy aims to achieve progressive integration of Bahraini nationals into GPIC's workforce through the implementation of a well-structured and systematic career development scheme. This is our commitment towards empowering the indigenous community (Human Resources and Corporate Communication Department archival records).

GPIC have introduced a SAP-based Performance Management System (PMS) to further improve the training and development of the workforce. The system has been further enhanced by rolling out a SAP - Competency Based Training module (CBT). The company focus on employee development through periodic training, which is conducted on a competency based needs-analysis. Employees are also provided with opportunities to enhance their skills through self-learning platforms such as e-learning and the Toastmasters programme to improve their confidence and communication skills (*an example of commitment of resources*) (Human Resources and Corporate Communication Department archival records).

The company uses a variety of methods to help employees enhance their capabilities. Each employee has a personal development plan. Employees are provided with growth opportunities in alignment with the vision to enhance the Company's culture. This is achieved through organisational development interventions such as training, the ability to participate in secondments, work related travel opportunities and engaging in volunteering activities within the community (*an example of commitment of resources*) (Human Resources and Corporate Communication Department archival records).

GPIC has an education sponsorship programme for GPIC employees who intend to pursue their undergraduate / post graduate degrees. Some of the other educational initiatives launched by GPIC include:

- Facilitation of vocational/ industrial training for Bahraini students and our employees' children.
- Sponsoring and supporting key educational programmes across Bahrain, along with a provision for scholarships for GPIC employees' children.

In alignment with GPIC's key strategy on sustainable corporate social responsibility (CSR), the company developed a Junior Leadership Programme that tackled the competency gaps regarded as necessary soft skills for potential young entrants into the job market. The Junior Leadership Framework and its related curriculum is strategically aligned to the identified Core competencies developed within GPIC (*an example of integration of social risks management into management processes and commitment of resources*) (Human Resources and Corporate Communication Department archival records).

The Human Resources and Corporate Communications Department has been working to develop a robust, formal and sustainable coaching culture at GPIC. The first stage of the process was achieved with 42 members of the GPIC team qualifying through a formal training workshop by one of the world's leading international coaching experts - The Leadership Trust. Having completed the training workshop, the department now working towards the second stage of the process, i.e. creating real opportunities for employees to practice their newly acquired coaching skills within the company (*an example of integration of social risks management into management processes and commitment of resources*) (Human Resources and Corporate Communication Department archival records).

The researcher posed the question to Ms. Sharif, whether the removal of experienced and qualified expat workforce would jeopardise the safety and integrity of operations. She responded that the Bahrainisation was undertaken in a very gradual manner and after it received assurance that the local replacing the expatriate was competent and capable enough to step into their shoes. She also pointed out that a small degree of operational risk had to be balanced against a higher degree of social risk. If the local workforce was

not trained and given the opportunity for career growth, and progress, there would be dissatisfaction amongst the locals within the company and when this news spreads in the country, GPIC would invite a bad reputation of ignoring the local sentiment and support *(an example of identification and assessment of risks and integration of social risks management into decision making and management processes)*.

She mentioned that GPIC can take immense pride in the fact that over the years it has managed to create a very healthy and cordial work atmosphere, where every staff member is open to working towards a better future for the company, thereby ensuring sustainability. Such organisation culture is very important when it comes to the question of undertaking new initiatives. This was evident in the establishment of safety and risk culture, compliance with rules and procedures and upholding the highest ethical standards.

The researcher asked Ms. Sharif about the challenges facing her department. She mentioned that *although GPIC has a very low employee turnover rate, recruitment and retention of the best talent available remains a challenge*. To this end, the company continue to introduce best practices, including highly competitive benefit plans, development and growth opportunities, to reassert the company's position as an employer of choice. While the early retirement of a number of Bahraini employees presented a challenge to the company, it also provided an opportunity to induct young employees into our workforce. *Another challenge, which is also common within our industry, is 'complacency'*. The company has launched several programmes which will assist in combating complacency. These programmes include coaching, mentoring, behavioural based safety and many more. Diversity is another challenge. Even though GPIC is on the right track with regard to women's employment and empowerment, top management understands that the company still have to go a long way to go in terms of increasing the number of women within our organisation. Another important challenge which is also one of our focus areas for 2020-2021 is, improving Employees' productivity *(an example of assessment, identification and analysis risks)*.

Mr. Al Ansari is in charge of the company's succession planning. He mentioned that the company focus on successive leadership development and have a comprehensive Succession Planning programme in place. The company identifies high potential performers within the organisation based on their aspirations, engagement and ability, and support them in their development to enhance the internal talent pool. This is achieved through GPIC creating the right opportunities for employees to build their capabilities and take on additional roles and responsibilities throughout their career path. This robust HR strategy has resulted in all GPIC current Executive Management Team coming through the ranks through internal skills and merit based promotions (*an example of integration of into management processes*).

4.3 Summary of key lessons in the light of the conceptual framework

To conclude, in this chapter, the researcher reviewed the role of the internal stakeholders in risk management where management and the workforce (as per the conceptual framework) are considered to be the key internal stakeholders. To understand in-depth, the risk management at GPIC, the researcher took advantage of his position within the organisation and undertook an extensive review of GPIC's archival documents and conducted in depth exploratory interviews with the key personnel at top and middle management level, some of whom were associated with the company from the inception to date. Such an exercise enabled him to appreciate the success story of GPIC which commenced with a share capital of USD 159 million in 1979 and has to date cumulatively distributed more than \$2.3 billion as dividend to its shareholders, while also addressing its environmental and social responsibility.

The researcher has demonstrated in this chapter evidences and examples of policies, procedures and practices implemented by GPIC to integrate internal stakeholders in the management of environmental and social risks in the light of the conceptual framework.

Measures quoted in the Chapter demonstrate a close alignment with each segment of the conceptual framework propounded in the thesis.

1. Assessment, identification, analysis and management of risks:

- a. During the pre-commissioning phase, under overall guidance of the first chairman and managing director, financial risks arising from funding the project were managed in terms of broadening the borrower base, interest and currency hedge. The marketing risks arising from a lack of competitive ability in the face of global market leaders in the region, were met through strategic alliances for offtake and distribution arrangement with these leaders. Technological risks were met by ensuring a robust complex by tie-ups with the global leaders in licensing, designing and construction of plants in the complex.
- b. Early commissioning days coincided with a crash of product prices in the global market which were below GPIC's cost of production, leading to a situation where GPIC was unable to meet its debt obligations. Under the stewardship of Dr. Al Sayed, GPIC worked out a rescue package with the lenders, who imposed stringent conditions. The key to meeting these conditions was to demonstrate a very high level operational efficiency and this was achieved through "MOSIF", a strategy conceived by Dr. Al Sayed for identifying the measures and integrating them in the management processes, whereby GPIC became the most efficient and lowest cost producer in the region. This enabled GPIC not only to survive in the tough market conditions, but generate adequate cash-flows to settle the lender dues. Again during Dr. Al Sayed tenure, an enormous tragedy occurred in the Union Carbide plant in Bhopal that had disastrous consequences. GPIC decided to learn from the experience and Dr. Al Sayed oversaw the plan to devise implement an operational safety and environment strategy to prevent recurrence of such failures.
- c. Thereafter, GPIC enjoyed a long period of operational and financial success. When Dr. Jawahery took over as President, he realised that it was not enough just to meet the aspirations of only the shareholders, employees and banks. In order to ensure sustainability of an organisation, it was essential to engage with external stakeholders, not just the one with whom it has transactional relationship but whose actions can have a favourable /unfavourable impact on the entity. Accordingly, a team was created comprising managers and other

key personnel to implement a strategy for identifying the key external stakeholders and the manner and extent of engagement with the special objective of managing financial, operational, societal and environmental risks.

The strategy included measures in four directions, which have elaborated in the chapter:

- a. Plant / profit (conduct manufacturing operations in safe, reliable and efficient manner, so as reward shareholders with profits, whilst ensuring a safe workplace for employees) – example, introduction of ISO Quality, ERP and ERM systems as well as enhancement of in-house training facilities;
- b. People / staff (ensuring workers loyalty and enhanced job satisfaction, through economic pay package, liberal perquisites like life and health insurance benefits and a fair work/leisure balance;
- c. Partnership with society – CSR measures were undertaken keeping in mind the safety and welfare of the community that is located adjacent to the plant as well as the fragile landscape of Bahrain. An example is the CO2 recovery project implemented to reduce emissions to prevent air pollution.
- d. Plant / environment – Establishing fish farm at the condensate water outlet and a bird sanctuary within the complex. these are projects to demonstrate that GPIC does not pollute the air and water.

2. Integration into decision making and communication

All the above measures called for an intense level of communication between the staff and the management to ensure effective implementation by incorporating the action plan in the procedures, practices for integration into the decision-making process. It also called upon GPIC's HR and Corporate Communications Department to communicate with internal and external stakeholders. Examples of communication of risks include the regularly scheduled visits to GPIC complex from schools, villages surrounding the complex, government representatives, media representatives, parliament members and other community representatives

to demonstrate the social and environmental projects and risk management practices to them.

Examples of identification and assessment of risks and integration into management processes include GPIC's strategy to reduce the number of unplanned shutdowns to the very minimum through planned operations and effective maintenance, and conduct the turnaround in a manner so that the plants commence regular operations as soon as possible, with the objective to elongate the operating cycle as much as possible and to regularly run the plants at well above the designated capacity levels, to achieve the lowest cost of production per tonne.

3. Commitment of resources

In the normal course, such CSR measures entail an outlay a level of cost and other resources that any management would not have the freedom to undertake. In case of GPIC, the management could make out a successful case to the top management and through them onward to the board and shareholders by demonstrating the detailed and thorough exercise they had undertaken to establish their viability and desirability. This was essential to obtain the approval of resources. Examples of commitment of resources include investing in the fish farm at GPIC water outage area to prove that the water is not contaminated, investing in greenery projects within the GPIC complex to prove that the soil is not contaminated, constructing bird sanctuary to prove that company is not polluting air and installing a CO₂ recovery plant to reduce CO₂ emissions and reduce pollution.

4. Reporting on company's risk philosophy

A good ERM framework reporting requires eliciting the company's philosophy on risk management, including the level of risk exposure derived from a logical process of identification of risk, assessment and evaluation and consequent measures to manage the risk. Based on the resources deployed and degree of risk minimisation/mitigation, the board and shareholders derive a level of comfort.

In case of GPIC, effectiveness and the detailed level of communication of each of the measures helped to shape the risk philosophy and comfort level.

Upon perusal of the data, the researcher has come to the conclusion that the success could primarily be attributed to: 1) *the commitment at the top leadership since inception of the company to risk management*; 2) *the interactive, inclusive manner in which the company managed its risks* (i.e. by engaging with workforce at all levels and at all key critical points in the evolution of the company e.g. when faced with threat of failing even before it started, i.e. 1985, with fall in ammonia and methanol prices. 3) *the way it created and sustained a supportive and rewarding culture for the workforce overtime which earned GPIC handsome returns in the form of a loyal dedicated and productive workforce. The social responsibility of GPIC did not just extend to employees, who were provided with remunerative employment and growth opportunities, but also through perquisites extended to their family including housing support, education funding for children and insurance coverages plus many other initiatives including training for their job satisfaction and social welfare. In the environmental arena, the focus on the safe operation of the plant for the health and safety of workforce was also extended to the local community near the complex through regard for the health and safety of the air and marine environment.*

The researcher also observed that once the company had reached a stage where the internal operations were optimised (with several operational validations received from several external accrediting bodies) and staff aspirations were satisfied, *the company took cognisance of developments around the world. There, was a rising need for addressing social justice, human rights and the need to reverse the looming ecological disaster.* The agitational power of rapid technological developments in the social media could boost or ruin a corporation or for that matter an entire industry. *With the objective of ensuring sustainability, the GPIC management took a strategic decision to address the societal and environmental risks that could detrimentally impact the company and crafted a deliberate strategy to provide collateral benefit to the ecology and the society at large. (e.g. the fish farm that the company constructed to demonstrate the safety of water for the local fishing community; the green wave initiative in collaboration with UN in 2015, to*

plant local trees at public schools for creating awareness of the importance of biodiversity).

There are overlapping issues relating to risk management that concern both internal and external stakeholders. Accordingly, when the researcher interviewed senior managers of the earlier period, when questioned on the subject of third party liability insurance, the decision for expending on the policy was justified on the grounds that in the event of a disaster, GPIC may be required to payout damages for loss of life to the persons of the workforce and others present in the complex. The payout would serve to compensate for human life, at the same time overcome the company cash-flow issues that could jeopardise the very existence of the company. This is a good example to demonstrate how the management took care of shareholder (internal stakeholder interest) as well as the community (external stakeholder) interests. The same holds true, when GPIC made special efforts to allay the concerns of the community, when they invited them to the complex to demonstrate the costs incurred while deriving benefits of installing pollution abatement equipment to cut toxic effluents from flue gas. Again, when these community representatives (who are engaged in fishing for their livelihood) are invited to the complex and shown the thriving of endangered species of fish at the firm farm located near the condensate water outfall into the sea, there is a clear demonstration of the resources spent by GPIC to ensure that marine life is not adversely affected.

Similarly, when GPIC spends on training and higher education of its workforce, it is not merely to seek loyalty, but also to create a skilled and educated workforce at the national level. Further, staff allowances to reimburse cost of children education at school and university level is also a demonstration of corporate social responsibility by creating a whole new class of educated level in the society that would work for the benefit of the nation.

GPIC runs continuous programs to educate their staff on health and safety matters. The objective is not merely to ensure safety at the workplace, but also to inculcate behavioural health and safety norms at their homes and with their families.

While the researcher learnt about the above measures and their rationale during the course of the in-depth interviews with internal stakeholders, he did not structure the

interview with a list of questions to allow free flow of responses. However, when he planned to interview the external stakeholders, it was necessary to structure the interview to ensure that the discussions remained on track and in focus.

In fact, these interviews underscored the importance of communication with external stakeholders on the topic of risk management to ensure feedback to complete the loop

The interviews of internal stakeholders revealed that over time there was a shift in GPIC's risk management strategy, wherein there was a deliberate attempt to engage with external entities such as local community representatives, customers who were the mainstay of their revenue, suppliers who were essential to the continuity of reliable source of goods and services, bankers who would facilitate smooth financial transactional relationships, and the environmental and legal regulators with whom they needed to sustain their compliance relationship, and NGOs. This is the topic that I turn to in the following chapter.

The next chapter will discuss the results of interviews with GPIC's external stakeholders and review of archival records relevant to disclosures, social risks and environmental risks pertaining to external stakeholders.

5. GPIC external stakeholders

5.1 Introduction

This study focuses on historical evolution of risk and risk management at an oil and gas sector company. It is based on a critical review of the academic and practitioner literature, the resultant proposed conceptual framework, review of archival documents and the actual narratives from the corporation's stakeholders- both internal and external. namely GPIC. The emphasis of the exiting ERM frameworks as identified from the literature review is inward looking and has a bias towards the company's business, manufacturing and marketing operations and its internal stakeholders. The conceptual framework of this study addresses identified gap.

Thus, drawing on the proposed framework, the objective of this chapter is to understand and assess when, why and how GPIC has engaged with its key external stakeholders.

Based on the literature review and proposed framework, the researcher has noted that the ambit of stakeholders in risk management needs to be widened to take care of the current business environment of fierce competition, bargaining power of clients, dependence on the supply chain, digital/internet and technological advances, enhanced regulatory requirements and the increasing expectations of society. In short, the researcher felt that the recognition and participation of "external stakeholders" such as customers, suppliers, regulators, local community, society, governments and NGOs in the risk management process at GPIC was important.

The conviction stemmed not just from the academic literature, but from the events that were unfolding in the past few decades, where the business community was found guilty of causing immense damage to the environment and disturbing the ecological balance as well as harming the social fabric and causing huge imbalance between 'haves' and 'have nots' in society. There is a growing realisation among businesses that these adverse environment and social impacts need to be addressed. Failure to do so could result in the demise of the corporations and economic collapse. In short, environmental and societal risks had to be addressed by incorporating them in the ERM framework.

A stakeholder as mentioned earlier, can be defined as an individual or a group that has an interest in the success or failure of an entity or a proposed project. Shareholders and business owners have a financial stake and hence have an interest in the entity's success to ensure safeguarding their capital / investment and obtaining maximum returns on their investments. The managers, and workforce also have an interest in the entity's success through efficient operational performance to ensure receipt of their remuneration and bonus. These two groups form the inner core of stakeholders and hence termed as internal stakeholders. But there are other groups who may not have a direct financial stake in the organisation / project or the financial returns from the organisation / project, but still hold some interest or stake in the corporation's operations. These groups through their actions/opinions/cooperation or lack thereof can influence the success or failure of the organisation. These groups constitute external stakeholders and comprise entities such as suppliers, customers, local community, various types of accreditation agencies, regulators, government, competitors and even shareholders especially in a public limited company. For example, suppliers look to an organisation's smooth operations for continuity of steady orders for their products and timely settlement of dues. If organisations behave unethically or unfairly, suppliers can interrupt the critical supply of goods and services. Customers rely upon the organisation for assured and uninterrupted supply of goods of requisite quality at a fair price. Here again, if the organisation behaves unethically by supplying sub-standard goods or in today's climate very environmentally harmful goods (like coal powered electricity) consumers can boycott the organisation.

Local communities look to organisations to ensure that their health, safety and livelihood is not adversely impacted by business operations (e.g. leather, a highly polluting industry) or else they can resort to campaigns that would adversely affect the business's reputation and subsequently its profitability and market value. Governments are interested to ensure that the organisation does not pollute the environment, provides employment opportunities for its citizens, provides tax revenue and generates foreign exchange, etc. Regulators look for regulatory compliance in different areas including the natural environment and failure to do so could result in stoppage or suspension of business. Accordingly, all these entities can be supportive, if engaged properly or disruptive if not handled well. This situation calls for a skillful management of a large array of external

stakeholder related risks, all of which need to be covered and managed under an expanded ERM framework such as that proposed in this study.

The researcher will thus illustrate in this chapter, evidences and examples of policies, procedures and practices implemented by GPIC to integrate external stakeholders in the management of risks including environmental and social risks in the light of the conceptual framework.

Drawing upon archival data, experiences narrated by GPIC's past and present executives, as well as interviews of a number of key external stakeholders (all of which help to triangulate the evidence and findings discussed below), in this chapter, the researcher aims to answer the second research question:

RQ2: How is GPIC integrating its external stakeholders in the management of its risks, including environmental and social risks?

As mentioned in previous chapter based on the knowledge of several case histories where international profit generating companies have ceased to exist, realisation had dawned early on, on the top leadership of GPIC, that merely optimising its operating performance would not be sufficient to ensure sustainability over a long period of time. Examples of actions taken, proved that benefits accrued to GPIC when it engaged with its external stakeholders, such as its customers, suppliers, regulators, etc., to manage social and environment risks, in addition to the business risks. In this chapter I will thus discuss in detail, the actions of GPIC in this regard, illustrate its external stakeholder engagement practices to mitigate external risks, and also discuss the views and perceptions of external stakeholders regarding these.

5.2 Identification of relevant external stakeholders and related risks

As mentioned by Mr. Mistry (a retired GPIC executive who had a vital role in the introduction of ERM at GPIC), when Dr. Jawahery (GPIC's current President) took over from Dr. Alsayed, he was aware that GPIC was operating at efficient levels to ensure optimal results and could continue to do so in the near future. But Dr. Jawahery reasoned that if the operations had to be sustained over a longer period of time, GPIC could do so only if they replaced the entire plant and machinery with new advanced technology, which

was not affordable. Under the circumstances, GPIC had no choice but to continue operating the existing complex efficiently and without interruptions. *He envisioned that while internal issues affecting technical efficiencies could be managed, GPIC would find itself under dire circumstances if adverse situations arose from external sources. The management devised a strategy to identify the external sources from where possible risks could arise which could threaten GPIC* (interview with Mr. Percy Mistry) *(an example of identification of risks)*.

Based on the knowledge derived from academic literature relating to the industry, media sources and peer companies in the Arab Gulf region, certain entities were identified. These included shareholders, customers, suppliers, regulators and local community.

GPIC's actions fit into the pattern displayed in the conceptual framework, namely:

Identification of risks

When Dr. Jawahery convened a meeting of senior staff to identify the key entities among the external stakeholders – customers and suppliers – they honed in on Bahrain Petroleum Company (BAPCO) (sole supplier of natural gas, the main raw material), Saudi Basic Industries Corporation (SABIC) and Petrochemical Industries Company (PIC) (the customers who are obliged to undertake the entire off-take of GPIC products).

Analysis and assessment of risks

The researcher took the opportunity to review archival data and interview senior executives of these entities to elicit the nature of risk management aspect of their relationship. The researcher observed that these entities had always existed since inception and GPIC had always interacted with them. But the early interactions had always been of a lateral and transactional nature, namely one party offers goods and services, and the other party accepts them at a price that is settled between the two parties. Then, the researcher found the measures undertaken by them to explore their perception of risk management, and identify areas where they could collaborate to minimise risks to themselves and the adjoining community.

Communication of risks

In case of BAPCO, a formal protocol was established where periodical meetings were held at appropriate levels to tackle issues such as avoiding leaks in the pipelines supplying gas from the BAPCO refinery to the GPIC complex, the feasibility of a cooperation for fire drills and mutual fire brigade aid in an emergency.

In case of SABIC and PIC, a protocol was drawn up to assess the level of ultimate customer satisfaction and avoid disgruntled/dissatisfied customers in terms of adherence to delivery schedules and maintenance of quality specs. A coordination plan was set up to determine the planned shipments to ensure that at no time GPIC was obliged to suspend production of methanol in the event the methanol tanks were filled to capacity due to non-availability of ships for offtake.

Integration into decision making

The decisions taken with these stakeholders were integrated into GPIC's processes through incorporation in their SOPs and guidelines based on requisite management approvals.

Commitment of resources

Implementation of some of the measures involved expenses and deployment of equipment and other resources. Through an appropriate level of communication with the senior management, necessary commitment for resource was procured.

Communication and reporting on company's philosophy on risk management

At the end of the day, the conscious measures implemented by GPIC resulting from engagement not just with the above stakeholders, but also other external stakeholders, such as bankers, local community and environmental regulators, got integrated with the thinking and action throughout the organisation, became part of the GPIC risk management philosophy.

The above is a demonstration of how GPIC's actions aligned with the conceptual framework drawn by the researcher. Detailed discussions of the results of the exploratory interviews and review of archival data are in the following sections.

5.3 Customers and related risks

GPIC has a marketing agreement with its shareholders Saudi Basic Industries Corporation (SABIC) and Petrochemical Industries Company (PIC) where both shareholders are obligated to offtake GPIC's products. Hence, both shareholders are considered to be GPIC's primary customers. (as per PIC and SABIC transcribed interviews and as per the Finance and Marketing Department archival records).

These primary customers serve as the launching pad from where GPIC's products are sold to ultimate customers. *GPIC realised that a major risk could arise from a dissatisfied or disgruntled final customer to whom SABIC and PIC may sell the products (an example of identification of risks).*

As a result of the review of archival data, the researcher determined the following:

In case of methanol, a majority of GPIC's bulk methanol shipments would mostly end up in common methanol tanks in Rotterdam or Singapore, from where SABIC sells in the retail spot markets all over Europe and Asia. *If it was determined that GPIC's methanol was contaminated, it would have repercussions in terms of boycott of GPIC's methanol in Europe or Asia resulting in massive losses.* In order to mitigate this risk, GPIC took the initiative *to engage* with SABIC to undertake measures for avoiding occurrence of such an eventuality by incorporating stringent and additional quality inspections. The researcher noted from the Finance & Marketing Department archival records the below sequence of events from production until delivery to the final customer which are applied by GPIC and SABIC to verify, maintain and sustain the quality of GPIC methanol product *(an example of identification of risks and integration into management processes):*

Production (steps taken by GPIC Lab):

1. A sample of the final Methanol product is collected three times a day by the Lab from the Intermediate Tanks before sending it to the Main Storage Tanks, to check parameters (pH, H₂O, CH₃OH, C₂H₅OH, Acetone, Acidity, Alkalinity, Specific Gravity, Color, PFT, Odour, TMA, Conductivity & Water Miscibility Test).

2. Then, a sample of the final Methanol product is collected from the Main Storage Tanks after completion of 6 hours circulation, to check more parameters (Appearance, Methanol, Water, Acetone, Acidity as CH₃COOH, Alkalinity as NH₃, Non Volatile Content, Ethanol, Total Iron, Color, Distillation Range, Specific Gravity, Permanganate Time, Carbonizables, Chloride, aldehydes & Ketones, Water Miscibility & Odour)

Shipment from Bahrain (steps taken by GPIC Lab):

1. A sample of the final Methanol product is collected from the Main Storage Tank from which Methanol is transferred for ship loading at the wharf, which is known as First Foot analysis, to verify to parameters (Appearance, Methanol, Water, Acetone, Acidity as CH₃COOH, Alkalinity as NH₃, Non Volatile Content, Ethanol, Total Iron, Color, Distillation Range, Specific Gravity, Permanganate Time, Carbonizables, Chloride, aldehydes & Ketones, Water Miscibility & Odour).
2. This is done for the initial small portion of loaded Methanol into a ship before commencing the main loading *to verify the quality of the product from the storage tank and the cleanliness of the compartment of the ship*. Then, Product Shipment Quality Certificate is issued on methanol spec based on the International Methanol Producers and Consumers Association (IMPCA) Standard.

Shipment from Bahrain (by 3rd party surveyor):

1. Before loading, End Shore line sample and each individual ship tank wall wash sample is to be tested for key specs by SGS at GPIC lab.
2. During loading, first foot sampling of all nominated ship tanks is performed and tested at GPIC lab.
3. Loading will be suspended during first foot sampling/testing. *If first foot fails, re-sample failed tanks and test, if again fails then a Letter of Protest is issued to vessel, and the tank is rejected for methanol loading, or as further directed by GPIC.*

4. After loading, sampling of each individual Ship tank is performed and tested for key specs by SGS at GPIC lab.

Discharge from SABIC tanks

1. The methanol directly shipped to final customers gets checked for quality *by a third party* at the discharge port before it is unloaded to the shore tanks of the customers.

By undertaking the above steps in conjunction with SABIC, GPIC's aims to assure the consistent high quality of its product.

Similarly, GPIC sells its Urea through PIC. Australia, which was a key end customer for GPIC's granular urea, *has very stringent maritime laws regarding entry of food fertilisers*. Normally ships carrying such products were required to be quarantined outside their territorial waters till the Australian authorities conducted tests to ensure that the ship and cargo were safe to unload in Australian harbours. GPIC went the extra mile to understand the Australian regulations, take abundant precautionary measures and then invite Australian representatives to inspect their facilities and the export protocol. *By doing this GPIC succeeded in obtaining their certification that GPIC shipments satisfied the stringent Australian maritime conditions (Products Handling and Export Section archival records) (an example of assessment, identification and analysis of risks and integration of risk management into decision making, management processes, commitment of resources and communication).*

The researcher also found that GPIC *had made efforts to build better relationships with its customers*. In this regard, the researcher found that the GPIC Marketing Department had *sent out questionnaires to all its ultimate customers seeking their honest response on issues such as the quality of product, adherence to terms of delivery, pricing, ethical conduct etc*. Although GPIC was confident of positive responses (which it did indeed receive), the exercise was a demonstration that GPIC *sought a better engagement with its customers* (Finance & Marketing Department archival records) *(an example of engaging with stakeholders to identify risks)*.

The researcher concluded that such steps are a demonstrable evidence of the manner in which GPIC engaged with customer-oriented risks.

5.4 Suppliers and related risks

In terms of suppliers, GPIC's biggest vendor is BAPCO with whom it has contractually negotiated to buy natural gas that serves as GPIC's basic raw material and source of fuel. BAPCO supplies the gas from its own fields (and now from its associate company TATWEER). Interview with BAPCO's Deputy CEO, revealed that in both cases BAPCO has taken adequate measures to check that the quality of gas meets the stringent standards compatible for GPIC's final products. Hence both companies, BAPCO and GPIC *continuously collaborate to ensure the quality of the supplied gas*. Further, the BAPCO refinery and GPIC complex are located in close vicinity. The gas pipeline that runs between them passes through local villages. *Both companies have co-ordinated measures to ensure that there are no leaks or accidents that could harm the local community that resides in these villages*. Similarly, both BAPCO and GPIC *share common export facilities and both have coordinated safety measures to ensure that there is no damage to the marine environment in the event of an accident such as a spill of Ammonia or Methanol while loading the ships* (interview with Mr. Ebrahim Taleb, BAPCO DCEO) *(These initiatives are clear demonstration of GPIC's commitment to identifying, assessing and managing environmental risks related to its operations by engaging with relevant external stakeholders namely suppliers)*.

GPIC needs to purchase spares and equipment for the plants in the complex. In most cases, it procures them from the foreign parties from whom they have purchased the original machinery. Whenever they need to buy them locally, they have engaged with suppliers and registered them only after ensuring that they have ISO and other measures in place to deliver quality products. On their part, *the suppliers are also aware of GPIC's pursuit for safety and environment and react responsibly by making sure that they source their materials, not from export houses, but from original equipment manufacturers*. However, the suppliers aim to sell their products and they don't seem to be very interested in GPIC's environmental and social risk management policies, performance, practices, and procedures (Interview with Oilfield and Technical Supplies Centre (OTSC)).

GPIC pursues a proactive environmental risk management strategy. In its pursuit of high levels of safety and environmental risk management, GPIC had devised its own rules and protocols *based on the ones applied by its partners and peers in the Arab Gulf (as well as globally) and those prescribed by reputed international agencies such as the Royal Society for the Prevention of Accidents (ROSPA), the British Safety Council, the National Examination Board in Occupational Safety and Health (NEBOSH), the National Safety Council, the Global and Gulf Petrochemicals and Chemicals Association (GPCA). This was done before the Supreme Council for Environment (SCE) was even set up (evidence of proactive approach to environmental risk management by GPIC).* GPIC's standards far exceed those laid down by the Council, yet GPIC actively engages with the Council and provides data to them to ensure compliance (Interview with SCE) *(an example of integration of risk management into management processes and communication).*

5.5 Relationship with creditors

During the past decade, GPIC has been in a fortunate position to have a comfortable cash flow cushion to undertake major capex projects without resorting to borrowing from banks. Yet before embarking on each of the capex projects, *GPIC invited its key bankers to share details of the benefits of the projects and more importantly, the cash flow projections during and after the implementation to assure them that there would be no adverse impact that would jeopardise the financial stability of GPIC. GPIC recognises its bankers as key stakeholders, who had stood by the company in times of grave adversity during 1985-86 and has continued to engage with them by sharing its financial statements with them on a regular basis, even during normal times.* This period coincided with the fallout arising from the disintegration of the Soviet Empire. At that time, the international prices of ammonia and methanol had crashed to such an extent that GPIC's cash flow projections indicated that it would be unable to generate sufficient inflow of funds to purchase natural gas for raw material and power or pay salaries, let alone repay bank loans. GPIC had no alternative, but to seek re-scheduling of the loans. From the bankers' point of view, the turbulent period of cash flow deficits must surely have posed doubts as to GPIC's ability to service its original US\$300 million debt. However, the debt rescheduling exercise gave them confidence that with GPIC's management style and organisational culture, GPIC would honour its obligations. GPIC not only repaid its debts

on the rescheduled dates, but whenever the cash flows permitted, prepaid a portion of the debts (again evidence of risk aversion and mitigation). This financial prudence and professionalism has enhanced the credibility of GPIC in the banking community. This later stood GPIC in good stead when it approached the banking community to seek a US\$ 110 million facility to finance the Urea project in 1995. Bankers were amenable to lending *on terms favourable to GPIC. When the company has repaid the entire loan, these bankers have indicated their keen interest in financing any proposed expansion or diversification project of GPIC* (evidence of positive perception of GPIC among its creditors). (Finance and Marketing Department archival records). *Another example of GPIC effectively identifying, assessing and managing its external risk – in this case that of worsening credit relations and terms with lenders, due to information asymmetry between the GPIC and its bankers. By providing regular information to its bankers, GPIC maintains good relations with them.*

5.6 Engaging with insurers

GPIC has always worked in close liaison with its insurers and re-insurers. *Over the years GPIC has demonstrated its ability to operate and maintain the plants and facilities in the safest and most reliable manner, while caring for and protecting all personnel as well as the environment. This approach has enabled the company to gain the confidence of the insurance establishments. This in turn has led to their offering lower rates and at times even reductions in insurance premiums (an example of communication of risk management practices to insurance companies).*

5.7 Engaging with local communities

GPIC operates in an environmentally sensitive industry and its operations could potentially have a negative impact on local communities *risking their back lash and subsequent loss of reputation and/or disruption of smooth operations.* GPIC thus recognises the importance of the cooperation of local community of villages that surround the complex. *It engages with them by inviting the community representatives to the GPIC complex to explain to them the safety features and environmental care measures undertaken by GPIC.* For example, Sitra Village shares the same coastline as the GPIC complex and draws its livelihood from fishing. *It is essential for GPIC to convey to them*

that it takes precautions not to pollute the sea waters that could jeopardise their livelihoods derived from their fishing industry. A key on the ground evidence of this commitment and actions, is the fish farm located within the complex where local endangered fishes are thriving. Another matter of concern to the village community is the air quality, especially the foul smell that emanates when GPIC vents its residual gases from vessels at the time of shutdown. The concern is allayed by explaining to village representatives which are mostly from charitable and non-governmental organisations (NGOs) that the level of toxicity is regularly monitored and is minimal and that when the plants are operating normally, stringent measures are in place to combat pollution (GPIC visitor itinerary record) (an example of assessment, identification and analysis of risks and integration into management processes, commitment of resources and communication).

Another initiative that demonstrates GPIC's commitment to combat possible environmental damage beyond the vicinity of its complex: GPIC used to depend on import of Urea Formaldehyde (UF85) (an essential ingredient for manufacture of granulated urea), overland from Saudi Arabia and overseas from Oman. *In order to prevent environmental damage from accidental spillage during transit, GPIC decided to manufacture UF85 within its complex premises, even though it was not economically attractive to do so (these examples clearly demonstrate GPIC's commitment to proactively identifying, assessing, and committing resources to manage effectively its external -stakeholder related risks).*

During the interview with Mr. Mistry, he narrated 2 anecdotes that emphasised the importance of community engagement. During the early struggling days of establishing Ben and Jerry Ice cream in the United States, the 2 brothers had made special efforts to approach the residential community of Vermont to demonstrate their locally made ice cream using quality ingredients locally, thereby they gained a loyal community customer base. When Pillsbury entered the market, they offered substantial discount on their product range to retailers who agreed not to stock and/or display Ben and Jerry ice cream. When Vermont's local community threatened to boycott Pillsbury in retaliation for harming their local ice cream brand, Pillsbury was forced to move out. Again when the

multinational corporation Unilever decided to buy out Ben and Jerry, the locals protested the legality of the acquisition that would eliminate a local brand. Although Unilever won the legal battle, they agreed on a compromise whereby a sub-committee comprising locals on their board was created to ensure that ingredients for the ice cream would be procured locally and the integrity of the local manufacturing process would be maintained (derived from interview with Mr. Percy Mistry).

Another anecdote related to mining giant Rio Tinto, who was legally challenged for disregarding the environment in Papua New Guinea, during the course of mining for bauxite. While Rio Tinto challenged the suit by stressing that they had not contravened any law of the land, they conceded and agreed to take corrective steps, when the local community of Papua New Guinea threatened to malign Rio Tinto's reputation by taking the matter to the international media (interview with Mr. Percy Mistry). These examples illustrate how local communities can retaliate if they suffer or feel the threat of suffering environmental injustice. They provide insight into the mind set of GPIC's early executives and the culture they created within GPIC that stresses risk management from the outset and at all levels - both internal and external.

5.8 Developing local human resources – managing S risks

Bahrain was one of the first Arabian Gulf Countries to discover oil. The first well was drilled at the foot of Jebel Dukhan in 1931 and oil gushed on 2nd June 1932, producing 400 barrels a day. Bahrain's proven oil reserves are limited in comparison with the extensive oil fields of Kuwait and Saudi Arabia.

The limited oil reserves encouraged the government to embark on a programme of diversification of the economy in the early 1970's. A major element of the government's diversification strategy has been the focus of utilisation of hydrocarbon products. This has led to investments in capital and energy intensive industrial projects such as the oil refinery (BAPCO), aluminum smelter (ALBA), gas production unit (BANAGAS), petrochemical complex (GPIC), ship building and repair yard (ASRY), and aluminium intermediate industries such as extrusion (BALEXCO), rolling (GARMCO) and powdering (BAHRAIN ATOMIZER).

As far as the Kingdom of Bahrain is concerned, GPIC was established with the primary purpose of using its natural gas resources to add value and boost exports to earn valuable foreign exchange revenues for the country. GPIC has met this objective. From inception GPIC added value to the natural gas supplied to it by converting it into Ammonia, Urea and Methanol, and earning a tremendous amount of revenue. Since virtually all revenues resulted from exports, this amount was a significant addition to Bahrain's foreign exchange reserve.

The secondary but important purpose of establishing GPIC was to provide employment opportunities for the local workforce. During the turbulent period 1985-86, the proportion of Bahraini employees was very small (47% as at end 1986). However, subsequent to the company's economic turnaround, *Bahrainisation* was given a thrust and to date local employees constitute around 95% of the workforce. This Bahrainisation factor should be viewed not merely as statistics, but also in terms of the quality of social development input in the form of training and expertise provided by GPIC which has given GPIC, the highest calibre of satisfied Bahraini employees who take pride in their employer.

Further, the successful GPIC operations and expansion *have generated substantial opportunities and business for the local economy. This has not only boosted trade and commerce in Bahrain, but has also indirectly generated incremental employment of Bahrainis through contractors and suppliers.* This demonstrates the extent to which GPIC has contributed to the economy of the Kingdom of Bahrain (*an example of integration into management processes*).

As mentioned, during the initial phase of GPIC, there were no locals qualified or experienced to run the plants, and so GPIC had to resort to skilled, qualified and experienced expatriates in their workforce. Through passage of time and an appropriately crafted strategy for training, job enrichment and skill development, the expatriate workforce was gradually replaced by locals. *This was however done in a calibrated manner so as not to jeopardise the safety and smooth functioning of the plant. This measure was directed at the social fabric of Bahrain by creating a talent pool within the citizens of the country.* Over the years, GPIC has also provided school fees to its employees' children to enable them to pursue basic and higher education, thereby

creating an entirely new generation of educated children. Similarly, GPIC actively engages with INJAZ, a programme dedicated to sharpen skills and encourage a select set of the brightest school kids to reach a higher station in life. *By providing house rent allowance and housing loan assistance, GPIC has raised the living standards of the local workforce. These and similar other measures have won GPIC plaudits from the Bahrain Government and its citizens* (Human Resources and Corporate Communications Department archival records) *(an example of integration of social risk management into management processes and commitment of resources).*

5.9 Seeking external validation and E & S risk management

5.9.1 S risk management and its validation

During the review of archival data, the researcher found that during its organisational evolution, when GPIC had felt that it had taken appropriate measures to optimise its operational and maintenance tasks i.e. its operational safety risks, GPIC decided to validate the same by subjecting itself to scrutiny conducted by internationally reputed bench marking agencies including: the Royal Society for the Prevention of Accidents (ROSPA); the British Safety Council; the National Examination Board in Occupational Safety and Health (NEBOSH); the National Safety Council; and the Gulf Petrochemicals and Chemicals Association (GPCA). GPIC received recognitions and prestigious awards from all of these independent reputable agencies. *This was done to obtain an objective validation and, to improve and sustain GPIC's high health and safety standards* (Management Systems Section archival records) *(an example of analysis, assessment and communication of risks and commitment of resources).*

GPIC has a robust and internationally recognised health, safety and environmental (HSE) Management System. The company has won many accolades including the Sir George Earle Trophy from ROSPA, UK and the R.W. Campbell Award from the National Safety Council, USA for excellence in HSE management systems. Through these effective management systems, the company has received many accreditations including ISO 9001, ISO 14001 and ISO 18001. These management systems have been fully integrated into every-day operations. GPIC also complies with the guidelines of ISO 31000 which

deals with Enterprise Risk Management (*an example of integration into management processes and commitment of resources*).

The researcher reviewed archival data in the form GPIC's HR policy, guidelines, procedures and HR benchmarking studies conducted by independent consultants and found that the underlying philosophy has been to uphold dignity of labour, by ensuring there is no discrimination – whether in terms of denomination of gender, nationality or religion. There is documentary evidence to denote that in terms of structure of grades, salary scales and perquisites, GPIC was, if not better but at least on par with major companies in Bahrain. This was essential from the social risk point of view that staff members were crucial stakeholders who needs required to be addressed (*an example of integration of social risks into management processes*).

GPIC also decided to seek external and objective review of their enhanced scope of ERM framework that included management of E and S risks. With the aim of validating its ERM framework in use at the time namely ISO 31000, GPIC had engaged KPMG, leading consultants on risk management to review it. There is confirmation from the interview with Mr. Ramesh of KPMG, who conducted the actual review, wherein he has asserted that GPIC is one of the few entities in Bahrain who have established and documented in detail, policies and procedures as well as appointed people trained to implement the processes that include management of E and S risks (interview with KPMG). This is a clear demonstration of GPIC's commitment to manage all its operational risks including E and S risks (an example of analysis and assessment of risks and integration into management processes and commitment of resources).

5.9.2 E risk management and its validation

GPIC considers itself a role model in the protection of the environment. GPIC's process plants were designed to meet the most exacting environmental standards. GPIC does not just meet the strictest international standards of emission levels but goes way beyond. A constant investment in reliability ensures that these high standards are monitored and adhered to, for the protection of the air, sea and land within and surrounding the complex. This bill of health is directly endorsed by nature through innovative projects where, over the years, GPIC has pioneered fish farming to protect and propagate endangered species

of fish (to demonstrate a safe marine environment) and a bird sanctuary that has become the resting/breeding ground for migrating birds. It also has a healthy plantation of date palm trees on its plant site and maintains a medicinal herbal garden (to validate the quality of air); the latest addition is the olive garden. These projects are not just a verbal but a physical and factual validation of GPIC's commitment to protecting natural environment (an example of integration of risk management into management processes and commitment of resources).

The challenges of regional and global climate change have always been at the forefront of GPIC's strategies. It was with this key focus and, *to manage green-house gas emissions, the company commissioned the first Carbon Dioxide Recovery (CDR) unit in the Middle East which captured CO₂ not only to enhance its product volume, but also to reduce the emission. This project deservedly won the 2011 Middle East Economic Digest (MEED) Award for Environmental Excellence (an example of identification of risks, commitment of resources and communication).*

The documents revealed that there was detailed deliberation about the proposed site on which the plant was built. Bahrain is a small island in the Arabian Gulf and it was decided to preserve the frail ecology of the island and the community that resided there. *Despite the additional capital cost involved, it was decided to construct the plant on a reclaimed site away from the mainland. A detailed study of the past metrological data took into account the wave heights and wind directions and led to the exact location of the plant site (an example of identification and assessment of risk and commitment of resources).*

When the researcher perused archival data along with discussions with technical staff, it revealed that GPIC was concerned not to pollute the environment, but also committed to providing a congenial atmosphere to its employees and visitors alike. Sufficient attention was paid to aesthetics – ergonomic building design, lighting and landscaping, in addition to maintaining a high level of housekeeping throughout the plant. There were features in the original design that took into account optimisation of energy utilisation, minimisation of effluence to ensure cleaner environment *(an example of integration of S and E risk management into management processes and commitment of resources).*

Once the project was commissioned in 1985, the engineering staff opined that the design had some areas of flab. The top management decided that the plants should be permitted to run smoothly before any debottlenecking could be considered. The debottlenecking and other subsequent capital projections undertaken had incorporated numerous initiatives related to energy efficiency and conservation.

There has been frequent outcry on the international stage about the extent of pollution caused to the seas and the marine life as a result of effluents released by petrochemical industries. The researcher examined the data for the steps taken by GPIC to minimise this environmental risk while keeping in mind the principle of optimisation of capital and operating costs e.g.:

1. Ammonia production, storage and marketing is hazardous. The storage tanks and pipelines were insulated and refrigerated to convert ammonia at -32 degrees in liquefied form to reduce the hazardous impact upon accidental release of ammonia gas. However, during 1990 Gulf War there was imminent danger for major pollution catastrophe in and around Bahrain if there is a leak in the ammonia tanks or production facility. GPIC decided to set up a plant to divert carbon dioxide and convert a large portion of ammonia to manufacture urea, which was safer to store, handle and ship in bulk carriers. Consequently, commissioning of the urea plant, greatly helped in reduction of hazards associated with ammonia, cutting down the emission of greenhouse gas, as well as contribute to the operating profitability of the company.
2. GPIC kept a stringent monitoring of the flue gas emissions and in order to cut carbon dioxide released from the methanol reformer flue gas stack, as soon as a commercial and technologically viable technology became available, GPIC installed a CDR plant, which reduced emission as well as boosted methanol plant capacity by 120 m tons per day.
3. Pressure Swing Absorption (PSA) unit was installed to recover hydrogen from tail gas of ammonia plant and purge gas of methanol plant. This resulted in boosting of ammonia production by 170 mtpd.

4. Installation of ammonia venting system for safe disposal of residual ammonia left in the various vessels of the ammonia synthesis loop prior to transfer of ammonia to storage tanks during shutdown.
5. Dedicated flare system for the urea plant to ensure safe diversion of ammonia bearing streams (during normal operations) for combustion before letting out to the atmosphere.
6. Installation of centralised fume extraction system in fabrication workshop.
7. Replacement of all R22 refrigerant ACs with environmentally friendly ACs.
8. Abatement of gaseous emissions from process condensate stripper by installation of MP stripper within ammonia plant battery limit.

Apart from the aforesaid measures that GPIC has taken to manage environment risk in terms of abatement of atmospheric pollution, the researcher saw enough archival data revealing the design and operating philosophy regarding marine pollution. The specific steps were:

1. Biological treatment of sanitary water, by subjecting it to an aerobic oxidation system. The effluent treatment has a 98% reduction in suspended solids. The resultant sludge can be used as high-quality bio-fertiliser.
2. The spent acid and alkali arising from regeneration of cation and anion resins during the running of the demineralisation unit, is made to neutralise each other in the neutralisation pit. There the PH is adjusted and only then it is released in the sea.
3. Waste lube oils, seal oils, etc are drained to oil separators located in individual plant areas. The oil is then skimmed by oil separators designed to ensure that the skimmed water contains less than 20 mg oil per litre of water.
4. In addition to the above measures, an additional measure was undertaken by creating a holding pit wherein all treated effluents are held prior to being pumped into the sea.
5. Ammonia contained in purge gases are scrubbed with water and then ammonia is recovered by distillation. The waste water is recycled back for reuse, thus ensuring no ammonia goes to the sea water outfall.

The above steps and examples are clear demonstration of GPIC's commitment to the assessment, identification and analysis of risks and the integration of the environmental risk management into GPIC's decision making, management processes and commitment of resources.

The Arab and Persian Gulf region is renowned for its massive fossil deposits which, apart from other industrial uses, provide the lifeline for energy. Besides the depleting sources of fossil fuel, these fuels used to provide energy, are a major source of pollution and climate change.

Accordingly, there is a world-wide surge to conserve energy. The researcher has reviewed archival data to evidence that GPIC too is committed to reduction in energy consumption and by increasing efficiencies within the company by the following measures *(an example of integration of risk management into management processes and commitment of resources)*:

1. Tapping solar energy, wherever possible, to provide renewable energy within the process area;
2. Reformer tubes in the ammonia and methanol plants and urea stripper have been replaced to reduce specific energy consumption/
3. Converter basket in ammonia synthesis converter was replaced;
4. Boiler b 5201 was refurbished;
5. Secondary reformer was replaced
6. Outside the process area, all old type electric bulbs have been replaced.

While it was evident that every opportunity had been exploited to seek optimum energy efficient solutions, *the researcher found that GPIC did not have the culture to rest on its past laurels or achievements. Since decades, GPIC has resorted to participating in benchmarking exercises conducted by independent internationally reputed agencies.*

The researcher took the opportunity to peruse data of the recently concluded IFA (International Fertilizer Association) Environment Performance Benchmarking study based on a third-party survey conducted by the globally reputed IDA Consulting. The

participation from the survey was from 58 companies and 162 production sites located in 32 countries around the world, relating to the following parameters:

1. Emission to air
 - a. Ammonia to air
 - b. Nox to air
 - c. Co2 flue gas in ammonia plants
 - d. Dust to air in urea plants
 - e. Fluoride to air
2. Emission to water
3. Emission to land

GPIC's data was provided to compare the unit's performance related to BAT (best available technics) metrics for each of the parameters set for fertiliser production.

In summary, most of the emission and parameters for GPIC were below those that the global average specified under BAT metrics. However, for some parameters, it was higher than the best in class averages for emission to air (*an example of communication of risks and feedback*).

When GPIC provided data for assessing conformance to World Bank IFC emission guidelines, in all parameters relating to emissions to air and water, GPIC's average values were lower than the global average values (*an example of communication of risks and feedback*).

5.10 Corporate communication and ERM

By signing up to the Global Reporting Initiative (GRI), aligning its operations with the Sustainability Development Goals (SDGs), and publishing its sustainability, annual reports, policies, code of ethics handbook, CSR programmes on GPIC's website to demonstrate the same, GPIC has communicated to the world its commitment to mitigate the S and E issues related to its operations (GPIC Sustainability Reports). GPIC's reports are also cited in the United Nations GRI website and database (<http://database.globalreporting.org/organizations/4514/>).

In addition, hosting VIP delegations and visitors from clubs, professional associations, charities, schools and various spectrums of the society and presenting to them the company's vision, mission, principles, achievements and social and environmental initiatives is a form of corporate communication (*an example of communication of risks*).

5.11 Summary of key findings in the light of the conceptual framework

The researcher has demonstrated in this chapter evidences and examples of policies, procedures and practices implemented by GPIC to integrate external stakeholders in the management of risks including environmental and social risks in the light of the conceptual framework.

Examples of identification, assessment of risks and integration into management processes includes the risk of dissatisfied or disgruntled final customer to whom SABIC and PIC may sell the products and the detailed steps applied by GPIC and its marketers from production until delivery to the final customer to verify, maintain and sustain the quality of GPIC products.

Other examples include BAPCO and GPIC coordinated efforts to ensure the quality of the supplied gas, to ensure that there are no leaks or accidents that could harm the local community that resides in these villages and to ensure that there is no damage to the marine environment in the event of an accident such as a spill of Ammonia or Methanol while loading the ships.

Examples of communication of risks include publishing GPIC sustainability, annual reports, policies, code of ethics handbook, CSR programmes on GPIC's website and also citing GPIC's sustainability report in the United Nations GRI website and database to demonstrate the world GPIC's commitment to mitigate the S and E risks related to its operations.

The review of the archival data and responses received from the interviews, do illustrate that in terms of risk management, GPIC has been quite proactive and has over the years shifted its focus from inward looking (i.e. enhancing shareholder value by optimising operations) to outward looking (by engaging with external stakeholders to manage E and S risks)., Scope however exists for further improvement in communicating its risk

management policies and practices to external stakeholders. This, despite many initiatives implemented by GPIC such as publishing its sustainability report and participating in international awards and benchmarking studies.

A key shortcoming that emerged from the foregoing analyses and interviews of external stakeholders was the lack of regular communication with these stakeholders. The following examples illustrate this point:

- a) In case of Oilfield and Technical Supplies Centre (OTSC), GPIC's supplier of spare parts claimed that they were not officially communicated of the social and environmental risk management practices and policies. They learnt about it from the local media.
- b) OTSC interviewees also claimed that despite their long relationship with GPIC, they had never visited the company. They also mentioned that the earlier generation of OTSC executives visited the GPIC frequently; hence, they were more familiar with GPIC's social and environmental risk management initiatives, practices and policies.
- c) Similarly, in case of BAPCO, the key provider of raw materials, complained that though there was a close collaboration between them and GPIC, there is no established official protocol to communicate risks on a periodic basis.
- d) BAPCO's Deputy CEO kept emphasising during the interview that despite the collaboration between many departments in both companies, collaboration at the leadership level needed to improve.
- e) PIC Kuwait which is GPIC's primary customer for ammonia and Urea, also made claim that while they were aware of GPIC's E and S risk management initiatives through their extremely close ties with GPIC, they did not get any official communication from GPIC about these to which they could offer feedback.
- f) The Supreme Council for Environment also mentioned that apart from receiving the compliance reports, they were not officially communicated about the E and S initiatives of GPIC.

From the above analyses, the researcher has concluded that while GPIC has taken adequate actions to mitigate its external including E and S risks; it has not as yet taken

adequate measures to communicate these initiatives to relevant stakeholders. Local media cannot be deemed to be a substitute for direct corporate communication because the media could be manipulated through biased/ non-factual releases.

Importantly, non-communication with external stakeholders shuts the door to *feedback*. As the conceptual framework illustrates, feedback is an essential ingredient of communication. It promotes an iterative cycle, whereby GPIC tells the relevant stakeholder what it is doing in the space of risk management including E and S risks, thereby seeking their feedback and cooperation. This in turn helps improve the risk management process in the light of stakeholder feedback. Moreover, the entire risk management exercise could be rendered futile if the key entities benefitting from the risk management practices were not apprised and/or kept in the loop.

There is a dictum in judiciary that “*justice must not be done but also be seen to be done*”. Similarly, in terms of ERM frameworks, an entity must not just engage with internal and external stakeholders, but must also be seen to engage with them and do so on a continuous basis.

The findings also suggest that GPIC policies covering Health, Safety and Environment (HSE), ERM and responsible care, together with its procurement and customer care policies need to be widely circulated to its suppliers and customers. It is not sufficient that these be in the public domain, these must be delivered to them at frequent and regular intervals, to ensure that the stakeholders are made aware, thereby enabling them to cooperate and assist GPIC in implementing them as well as to provide them with the opportunity to offer feedback. As Lotti (2015), also in his article “A maturity Model of ERM” points out, as a firm increases involvement and engagement with a wider group of stakeholders including external stakeholders, it moves to a higher level of maturity in its ERM.

6. Conclusions: Contributions, discussion and limitations

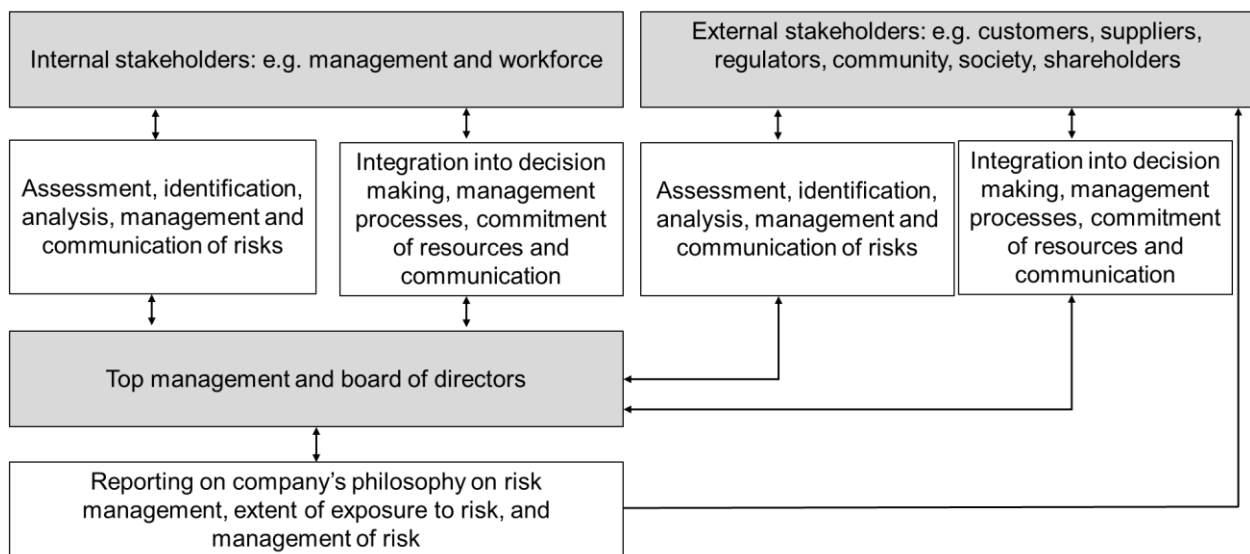
6.1 Contributions

This study makes two important contributions to the literature on enterprise risk management. First, drawing on the literature on ERM, corporate governance, corporate social responsibility and stakeholder theory, it develops a conceptual framework for ERM that is underpinned by sound relevant theoretical concepts. In doing so, it addresses a key short coming of existing ERM frameworks like COSO and ISO 31000 that are developed by practitioners and have been criticised by scholars as being fragmented in terms of components (like actors, their roles) and the links between these (Lundqvist, 2015). The researcher found, as also observed by other scholars that both COSO and ISO 31000:2018 had rather limited and fragmented guidance on external stakeholders and their role in ERM (Hayne and Free, 2014; Marks, 2010). The framework developed in this study not only identifies the key actors/stakeholders in the risk management process but also clearly articulates the potential role of these stakeholders. In doing so, it also clearly identifies and articulates the importance and role of external stakeholders in business risk management. Second, the research draws on this framework to understand how risks (including S and E risks) are managed at Gulf Petrochemical Industries Company (GPIC). In doing so, the study critically analyses the risk management practices at GPIC highlighting the strengths and weakness in its practices. This also provides some illustration of the framework in action. It thus addresses another gap in ERM literature, that is related to lack of adequate guidance on how ERM frameworks can be implemented in practice (Purdy, 2010). Below I summarise and discuss these contributions.

6.1.1 The conceptual framework

First drawing on the relevant academic and practitioner literature particularly that related to ERM; corporate governance, specifically the function of the top leadership in risk management and its communication; literature on CSR particularly that related to the importance of CSR as a risk mitigation strategy; and stakeholder theory particularly that related to the role and importance of external stakeholders in managing environmental and social risks, the researcher has proposed a theoretical as well as practical conceptual

framework that can guide both scholars and practitioners in researching and undertaking effective, comprehensive business risk management respectively. The framework makes explicit the role and functions of all corporate stakeholders in the risk management process so that it becomes easy to understand and implement. Further, the conceptual framework integrates and clearly specifies the role that external stakeholders, like customers, suppliers, regulators, and communities can play in the enterprise risk management process. Finally, by describing and analysing the risk management practices at a specific oil and gas sector company namely GPIC, and highlighting its strengths and weaknesses in the light of this framework, the study also illustrates a possible approach to risk management. Below I reproduce the diagrammatical representation of this framework which is motivated, developed and explained in detail in chapter 2:



Second, in the light of the gaps identified in the literature and the conceptual framework developed, the researcher explored the following two key research questions in the context of GPIC:

RQ1: How is GPIC managing its risks, including environmental and social risks?

RQ2: How is GPIC integrating its external stakeholders in the management of its risks, including environmental and social risks?

To explore the answers to the above research questions, the researcher drew extensively from GPIC's archival data and documents, and conducted interviews of a number of key internal and external stakeholders. The specific interview questions were developed as per insights from the literature review, conceptual framework and archival documents of GPIC. Below I discuss the key insights from the analysis of GPIC's risk management practices linking these to existing literature.

6.1.2 Discussion of findings and contribution to academic literature

An important insight gained from exploring the risk management practices of GPIC is the importance of being on a sound financial footing i.e. attain economic legitimacy before the company embarks on a programme to attain what Deegan (2002) terms as environmental and social legitimacy. When the researcher traced the chronological evolution of risk management in GPIC, especially the interviews with the lead senior management, he found that the earlier management was concerned and focused on the viability of the company and all its efforts were focused on ensuring optimisation of operations to ensure adequate cash-flows to remain afloat, thereby safeguarding shareholder value. For example, during the period of recommissioning of the complex, the focus was on internal risks of finance, marketing, technology and project management. This was done via active involvement of the workforce at all levels, to ensure the safety of the plants and the optimising of the efficiency of the plants through management of operational risks. Hence, the initial focus was "inward looking", and on shareholder value creation, a focus which is consistent with traditional corporate governance literature and agency theory predictions (Jensen and Meckling, 1976).

However, as time elapsed, and GPIC found itself to be in a sound financial condition, Dr. Jawahery took over at the helm. His earlier contacts and interactions with personalities from international bodies led him to believe that this status quo derived from inward looking engagement with internal stakeholders particularly the shareholders was not adequate. Thus, under Dr. Jawahery's tenure, the ambit of ERM was widened and GPIC focused on including external stakeholders in its scope of risk management, including management of social and environmental risks. He realised that any company could be derailed if it did not take care of the entities who may not be directly integral, yet be very

important to the long-term interests of the company. The stress was that these external entities may not have a direct stake in the ownership or profitability of the company, but in view of their regular transactional relations with the company, they have vital interests in the company's operations which could influence the sustainability of the company. Thus, any company's operations could be disrupted or ruined by the society and communities within which the entity operated (*identification and analysis of risks*). This posed a major external risk to the company, if the society or the community realised that the organisation's practices were harmful to their interest either in the form of harm to health, damage to the ecology or destruction of the environment (*assessment of risk*).

In order to preserve and enhance these vital interests, it was deemed essential to have a deeper engagement with this class of stakeholders (particularly customers, suppliers, community, regulators, etc.). Hence, GPIC over time gradually moved from agency theory based focus (Jensen and Meckling, 1976) to what Jensen (2002) terms as enlightened shareholder theory based focus. This change in tack, was in fact a game changer for GPIC, which drew appreciation not just from the GPIC board of directors, but also its shareholders as well as government agencies, peer companies and other stakeholders.

Lundqvist's (2015) findings imply that firms are implementing ERM in accordance with stakeholders' desires for better governance of the risk management process. However, while she highlights the importance of risk governance at the top level in a firm, she does not actually interview any top level managers to understand the role the top leadership can and do play in governing and managing risks. In this study, the researcher has conducted interviews with key personnel including the current and past top leadership at GPIC to understand what role top leadership has played and how the top management has governed and managed business risks at GPIC. The findings highlight the importance of commitment at the top from the outset as has been the case at GPIC, for an organisation to effectively identify and actively take steps to mitigate all risks.

The researcher had noted from the work of Marks (2011), Purdy (2010), Oliva (2016), Kytte and Ruggie (2005), Godfrey (2005), and Rindova and Fombrum (1998) some mention of the role external stakeholders in the overall risk management process. However, the researcher noticed that while the relevant research papers, including those

by Oliva (2016) and Lundqvist (2015) had specifically stressed upon the role of external stakeholders as an essential constituent of a sound ERM framework, these stakeholders and their role was inadequately articulated in both the academic as well as practitioner literature on ERM.

Oliva (2016) for example highlighted that enterprises regularly interact with entities such as customers, suppliers, government and other bodies for procurement of goods and services, production and marketing of their finished products in the conduct of their business. According to him, the environment of such entities consists of forces and influences that are beyond organisational boundaries, yet they have potential for influencing firm operations including its risks.

However, in his research while he highlighted the importance of external stakeholders, there is no clear evidence that he conducted interviews with these. An important contribution of this research is to draw on relevant academic literature particularly that related to CSR and stakeholder theory and articulate the role that external stakeholders can play in enterprise risk management. The researcher then also conducted interviews with a number of external stakeholders of GPIC including customers and suppliers. These interviews helped identify how GPIC has interacted with its external stakeholders in managing its risks including environmental and social risks. These interviews also highlighted the weaknesses in this process particularly the lack of adequate two-way communication with these stakeholders in risk management process.

In terms of social risk management, the researcher noted that GPIC sustained a supportive and rewarding culture for the workforce over a period of time which earned GPIC handsome returns in the form of a loyal dedicated, productive and creative workforce (*integration into decision making, management processes and commitment of resources*). According to Godfrey (2005, p. 786) '*many of a firm's resources are relation based, because the earning potential of these assets depends upon the relationships a firm has with its stakeholders*' such as employees' loyalty through affection and attachment to the organisation.

In terms of environmental risks, GPIC realised that it needed to safeguard against eventualities that may worsen its relations with local communities thus threatening the

continued operations of the business. This called for a dedicated effort to undertake CSR and other measures to effectively and efficiently engage with external entities in the management of environmental and social risks (*analysis of risks and management commitment*). These measures entailed additional resources to be deployed, both monetary as well as human resources, both of which could impact the bottom line of the company (*allocation of resources*). For example, GPIC invested in environmental projects within its complex such as the fish farm, the bird sanctuary, the carbon dioxide recovery plant and many greenery projects as demonstrable evidence that GPIC is not polluting air, water and soil. These were not directly connected with the products it manufactured. The company continues to host many visits and arranges tours to the plants and the various environmental projects to visitors from the government, representatives of the local community, esteemed VIP delegations and visitors to Bahrain, schools' students and others (*communication of risk mitigation practices to external stakeholders*).

GPIC's strategy is in line with Kytle and Ruggie (2005) study which emphasises the necessity to listen to corporate stakeholders' perspectives on social issues and the need to embed social risks in corporate strategy. The long term investments in environmental risk management helped GPIC in ensuring long term sustainable returns. Sharfman and Fernando (2008) mentioned that when a firm makes strategic investments that reduce emissions and pollution, they reduce the risk of litigation and the reputational impact of negative media coverage which is likely to be rewarded by the market in terms of improved risk perception of the company from an investment standpoint.

6.2 Conclusions and recommendations

The above summary in addition to the detailed findings in chapter four and chapter five, clearly demonstrate how risk management including the assessment, identification, analysis and management of environmental and social risks are integrated into GPIC's decision making, management processes, commitment of resources and communication of internal and external risks. Collectively these provide evidence of how the conceptual framework developed in this study could be implemented in practice to manage different types of risks including environmental and social risks. In doing so, the study addresses

another limitation identified in the ERM literature namely the lack of guidance as to how an ERM framework can be implemented.

It is worth noting however, that despite its many efforts to integrate its external stakeholders in the management of its environmental and social risks as discussed in chapter 5, room for further improvement exists *if GPIC focuses on obtaining feedback from external stakeholders by enhancing communication with them* to ensure that they receive information that is relevant to their needs and to build a positive attitude towards GPIC. Improvements in communication of risk management will further help GPIC in its continuous endeavours in building positive relationships with external stakeholders. GPIC could set up mechanisms inviting external stakeholders' feedback in order to gain a better understanding of external stakeholders' interests and attitudes so that GPIC can fine tune its communications. GPIC must also focus on improving the communication with external stakeholders who have the greatest influence on its success. For example, BAPCO's Deputy CEO (supplier of GPIC's key raw material and owner of a jetty that is used to export two GPIC products) kept emphasising during the interview that despite the collaboration between many departments in both companies, collaboration at the leadership level must improve (*communication of risks*).

According to Purdy (2010) consultation, communication and risk reporting / disclosures promote stakeholder engagement and corporate transparency which in turn help build trust with the corporate stakeholders. Trust leads to cooperation which is essential for achieving corporate objectives – the key goal of risk management. Blakely (2009), Drew and Kendrik (2005), Kirkpatrick (2008), and Stulz (2008), all emphasise the importance of setting-up, communicating and understanding the firm's structure, business environment and philosophy of BRM and risk appetite. According to Godfrey (2005; p. 795), transparency '*means that the firm discloses its activities as they occur, thus allowing stakeholders to create a stock of positive moral capital*'.

Although GPIC has always strived to be a leader in all social and environmental aspects, an important reason for recommending a voluntary improvement in communication with external stakeholders is the insufficient and lack of clear guidelines, regulations and defined metrics by governments and international standards for corporate risk reporting

for public and private companies. Hence, by undertaking such voluntary communication GPIC can significantly enhance its moral capital with its relevant external stakeholders.

6.3 Limitations and future research directions

First, the researcher's analyses and conclusions are derived from a single case study. However, the case study provided a rich insight into the process and practice of risk management including the E and S risk management at a company that has won several accolades for its risk management.

Second, being GPIC's secretary to the board and chief internal auditor (an insider), the researcher may not be considered completely independent and could have biased views. However, the researcher triangulated the knowledge and insights gained by relying on multiple sources of data including archival documents containing factual data and interviews. On the flip side, the familiarity of the researcher with GPIC's business environment and culture as well as the access to the company's information and personnel, helped the researcher gain much a deeper understanding about the issues being studied, in a manner an independent outsider would never have managed. It helped the researcher to approach participants with ease and extract rich data from them.

The novel interface between ERM, corporate governance and CSR that has been theoretically argued and conceptually proposed in this research can be used by future research to investigate and understand better the role of top leadership and external stakeholders in business risk management. Future academic research can also draw on this framework to study, understand and identify the key strengths and weaknesses of risk management in other companies in different countries and contexts. This would thus help build and extend the body of knowledge on sound enterprise risk management.

The framework and the rich, in-depth description and analysis of the risk management practices and process at GPIC (a company that has won several external accolades for its risk management practices) can also guide practitioners in evaluating, as well as developing and implementing their own models of risk management in their companies.

The findings of this study, highlight the importance of engagement with not only the internal but also and external stakeholders. By doing so, an organisation can move to a

higher maturity level of ERM as suggested by (Oliva, 2016), one that promotes not only organisational profitability but also organisational sustainability.

In an ever-evolving business world, the ultimate aim of any growing organisation is to survive and sustain. While the literature has identified external stakeholders, societal and environmental risks as key factors neglected in ERM frameworks, the business community, the economists and academicians need to gaze into their crystal balls to identify further sustainability risks with the aim of hitting the bulls eye of the “sustainability sweet spot through performance with purpose” (Nguyen and Slater, 2010). This need to be done before the hazards actually occur. The current pandemic is a case in point, where most organisations were caught unprepared and had to adapt swiftly to the practice of doing work away from the workplace. This may lead to lasting changes in workplace dynamics, leading to the rise of new types of social and perhaps even environmental risks – issues that future research can examine.

References

- Abrams, R. (2017) 'Walmart Is Accused of Punishing Workers for Sick Days', The New York Times, 1 June. Available at: <https://www.nytimes.com/2017/06/01/business/walmart-workers-sick-days.html> (Accessed: 03 November 2018).
- Al Sayed, M. (2000) *The successful management of a state-owned company - a case study of Gulf Petrochemical Industries Co. (GPIC)*, PhD thesis, London School of Economics and Political Science, London, viewed 15 December 2019, <<http://etheses.lse.ac.uk/2244/>>.
- Atkins, B. (2006) 'Is corporate social responsibility responsible? NACD Directorship', 32(10), pp. 33-33.
- Arena, M., Arnaboldi, M. and Azzone, G. (2010) 'The organizational dynamics of enterprise risk management'. *Accounting, Organizations and Society*, 35, pp. 659-675.
- Arena, M., Arnaboldi, M. and Palermo, T. (2017) 'The dynamics of (dis)integrated risk management: a comparative field study'. *Accounting, Organizations and Society*, 62, pp. 65-81.
- Asher, C., Mahoney, J. and Mahoney J. (2005) 'Towards a property rights foundation for a stakeholder theory of the firm'. *Journal of Management and Governance*, 9, pp. 5-32.
- AS/NZS 4360, Risk Management (1995, 1999). Standards Australia.
- Ax, C., and Bjornenak, T. (2005) 'Bundling and diffusion of management accounting innovations - the case of the balanced scorecard in Sweden'. *Management Accounting Research*, 16(1), pp. 1-20.
- Babbie, E. (1990) *Survey Research Methods*. California: Wadsworth Publishing.

- Bahrain's Corporate Governance Code (2018). Available at: <https://www.moic.gov.bh/en/FAQ/Documents/Corporate%20Governance%20Code.pdf> (Accessed: 5 March 2021).
- Beasley, M., Clune, R. and Hermanson, D. (2005) 'Enterprise risk management: an empirical analysis of factors associated with the extent of implementation'. *Journal of Accounting and Public Policy*, 24(6), pp. 521–531.
- Beasley, M., Pagach, D. and Warr, R. (2008) 'Information conveyed in hiring announcements of senior executives overseeing enterprise-wide risk management processes'. *Journal of Accounting, Auditing and Finance*, 23(3), pp. 311–332.
- Beasley, M., Branson, B. and Hancock, B. (2010) 'COSO's report on ERM—current state of enterprise risk oversight and market perceptions of COSO's ERM framework'. ERM initiative at North Carolina State University, Raleigh.
- Bernstein, P. (1996) *Against the Gods: The remarkable story of risk*. New York: John Wiley & Sons.
- Beurden, P. and Gössling, T. (2008) 'The worth of values – a literature review on the relation between corporate social and financial performance'. *Journal of Business Ethics*, 82, pp. 407–424.
- Blakely, K. (2009) 'Set your risk appetite and stick to it'. *The RMA Journal*, 91, pp. 1-2.
- Bowling, B. and Rieger, L. (2005) 'Success factors for implementing enterprise risk management'. *Bank Accounting and Finance*, 18(3), pp. 21–26.
- Bowen, H. (1953) *Social Responsibilities of the Businessman*. New York: Harper.
- Blaikie, N. (1993) *Approaches to Social Enquiry. First edition*. Cambridge: Polity Press.
- Bromiley, P. and Rau, D. (2016) 'A better way of managing major risks: strategic risk management', *IESE Insight*, 28, pp. 15-22.

- Business Ethics (2012), Available at: <https://2012books.lardbucket.org/books/business-ethics/index.html> (Accessed 05 June 2019).
- Callahan, C. and Soileau, J. (2017) 'Does Enterprise risk management enhance operating performance?'. *Advances in Accounting*, 37, pp. 122-139.
- Cambridge Dictionary, *Risk*, Available at: <https://dictionary.cambridge.org/dictionary/english/risk> (Accessed 05 Feb. 2019).
- Camic, P., Rhodes, J. and Yardley, L. (2003) *Qualitative research in psychology: expanding perspectives in methodology and design*. Washington DC: American Psychological Association.
- Campbell, K., Sefcik, S. and Soderstrom N. (1998) 'Site uncertainty, allocation uncertainty, and superfund liability valuation'. *Journal of Accounting and Public Policy*, 17(4–5), pp. 331–367.
- Carroll, A. (1979) 'A three-dimensional conceptual model of corporate performance'. *Academy of Management Review*, 4(4), pp. 497-505.
- Chen, K. and Metcalf, R. (1980) 'The relationship between pollution control record and financial indicators revisited'. *Accounting Review*, 55(1), pp. 168–177.
- COSO Internal Control – Integrated Framework (2013). Committee of Sponsoring Organizations of the Treadway Commission (COSO).
- Davenport, E.W. & Bradley, L.M. 2001. Enterprise risk management: A consultative perspective. Retrieved from <http://www.casact.com>.
- Deegan, C. (2002) 'Introduction: The legitimising effect of social and environmental disclosures – a theoretical foundation'. *Accounting, Auditing & Accountability Journal*, 15(3), pp. 282-311.
- DeLoach, J. (2000) *Enterprise-wide risk management*. England: Financial Times/Prentice Hall.

- Donaldson, T. (1995) 'The stakeholder theory of the corporation: concepts, evidence, and implications'. *Academy of Management Review*, 20(1), pp. 65-91.
- Drew, S. and Kendrick, T. (2005) 'Risk management: The five pillars of corporate governance'. *Journal of General Management*, 31, pp. 19-36.
- Eisenhardt, K. (1989) 'Building Theories from Case Study Research'. *Academy of Management Review*, 14(4), pp. 532-550.
- Enterprise Risk Management — Integrated Framework (2004). Committee of Sponsoring Organizations of the Treadway Commission (COSO).
- Enterprise Risk Management: Integrating with Strategy and Performance (2017). Committee of Sponsoring Organizations of the Treadway Commission (COSO).
- Fernandez, M. and Schwartz, J. (2013) 'Plant explosion tears at the heart of a Texas town', *The New York Times*, 18 April. Available at: <https://www.nytimes.com/2013/04/19/us/huge-blast-at-texas-fertilizer-plant.html> (Accessed 03 November 2018).
- FRC (2018). UK Corporate Governance Code 2018. Available at: <https://www.frc.org.uk/getattachment/88bd8c45-50ea-4841-95b0-d2f4f48069a2/2018-UK-Corporate-Governance-Code-FINAL.pdf> (Accessed: 05 November 2020).
- Freeman, R. and Reed, D. (1983) 'Stockholders and stakeholders: A new perspective on corporate governance'. *California Management Review*, 25(3), pp. 88-106.
- Freeman, R. (1984). *Strategic management: A stakeholder approach*. Boston: Pitman.
- Freeman, R. (1994) 'The politics of stakeholder theory: some future directions'. *Business Ethics Quarterly*, 4(4), 409–421.
- Friedman, M. (1962) *Capitalism and freedom*. Chicago: University of Chicago Press.

- Gates, S., Nicolas, J. and Walker, P. (2009) 'Perceived value of enterprise risk management: A better methodology to manage uncertainty and risk?'. Paper presented at the 29th SMS Annual International Conference, Washington, DC.
- Galbreath, J. (2010) 'Drivers of corporate social responsibility: the role of formal strategic planning and firm culture'. *British Journal of Management*, 21, p. 511–525.
- Global Reporting Initiative, sustainability disclosure database, GPIC. Available at: <https://database.globalreporting.org/organizations/4514/> (Accessed: 10 Jul. 2020).
- Godfrey, P. (2005) 'The relationship between corporate philanthropy and shareholder wealth: a risk management perspective'. *The Academy of Management Review*, 30(4), pp. 777-798.
- Godfrey, P., Merrill, C. and Hansen, J. (2009) 'The relationship between corporate social responsibility and shareholder value: An empirical test of the risk management hypothesis'. *Strategic Management Journal*, 30(4), pp. 425–445.
- Hahn, W., DiLellio, J. and Dyer, J. (2018) 'Risk premia in commodity price forecasts and their impact on valuation'. *Energy Econ*, 72, pp. 393–403.
- Hamilton, J. (1995) 'Pollution as news: media and stock market reactions to the toxics release inventory data'. *Journal of Environmental Economics and Management*, 28, pp. 98–113.
- Hayne, C. and Free C. (2014) 'Hybridized professional groups and institutional work: COSO and the rise of enterprise risk management'. *Accounting, Organizations and Society*, 13(5), pp. 309-330.
- Hoyt, R. and Liebenberg, A. (2011) 'The value of enterprise risk management'. *Journal of Risk and Insurance*, 78 (4), pp. 795-822.
- Internal Control—Integrated Framework (2012). Committee of Sponsoring Organizations of the Treadway Commission (COSO).

- ISO 31000, International Organization for Standardization (2009, 2018). Risk Management – Principles and Guidelines, www.iso.org.
- Javier, R. (2002). Enterprise-wide risk management - The driver of corporate governance. Retrieved from <http://www.pwcglobal.com/>.
- Jensen, M. (2002) 'Value maximization, stakeholder theory, and the corporate objective function'. *Business Ethics Quarterly*, 12(2), pp. 235-256.
- Jensen, M. and Meckling. W. (1976) 'Theory of the firm: Managerial behavior, agency costs and ownership structure'. *Journal of Financial Economics*, 3(4), pp. 305-360.
- Ji, L., Zhang, B., Huang, G., Xie, Y. and Niu, D. (2018) 'Explicit cost-risk tradeoff for optimal energy management in CCHP microgrid system under fuzzy-risk preferences'. *Energy Econ*, 70, pp. 525–535.
- Jones, T. (1995) 'Instrumental stakeholder theory: A synthesis of ethics and economics'. *Academy of Management Review*, 20(2), pp. 404-437.
- Kerste, M., Gerritsen, M., Weda, R. and Tieben, B. (2015) 'Systemic risk in the energy sector—is there need for financial regulation?'. *Energy Policy*, 78, pp. 22–30.
- Kirkpatrick, G. (2008) 'The corporate governance lessons from the financial crisis'. *OECD Journal: Financial Market Trends*, 1, pp. 61-87.
- Kleffner, A., Lee, R. and McGannon, B. (2003) 'The effect of corporate governance on the use of enterprise risk management: evidence from Canada'. *Risk Management and Insurance Review*, 6(1), pp. 53-73.
- Knight, K. (2006) 'Risk management a journey not a destination'. Paper presented at the Executive Meeting 2006. Hotel Do Frade & Golf Resort, Angra Dos Reis, Brazil. 20th May 2006.
- Kytte, B. and Ruggie, J. (2005) 'Corporate social responsibility as risk management: a model for multinationals'. Corporate social responsibility initiative working paper No. 10, Harvard University.

- Lai, F., Azizan, N. and Samad, M. (2010) 'A theoretical appraisal of value maximising enterprise risk management'. *International Journal of Accounting Information Science and Leadership*, 3(6), pp. 23-41.
- Lam, J. (2003) *Enterprise risk management: from incentives to controls*. New York: Wiley Finance.
- Linsley, P. and Shrives, P. (2005) 'Examining risk reporting in UK public companies'. *The Journal of Risk Finance*, 6(4), pp. 292-305.
- Linsley, P. and Shrives, P. (2005) 'Transparency and the disclosure of risk information in the banking sector'. *Journal of Financial Regulation and Compliance*, 13(3), pp.205-214.
- Linsley, P. and Shrives, P. (2006) 'Risk reporting: A study of risk disclosures in the annual reports of UK companies'. *The British Accounting Review*, 38, pp. 387–404.
- Lupton, D. (1999) *Risk and sociocultural theory-new directions and perspectives*. Cambridge: Cambridge University Press.
- Lundqvist, S. (2014) 'An exploratory study of enterprise risk management: Pillars of ERM'. *Journal of Accounting, Auditing & Finance*, 29(3), pp. 393-429.
- Lundqvist, S. (2015) 'Why firms implement risk governance – stepping beyond traditional risk management to enterprise risk management'. *Journal of Accounting and Public Policy*, 34, pp. 411-466.
- Mahapatra S. (1984) 'Investor reaction to a corporate social accounting'. *Journal of Business Finance & Accounting*, 11(1), pp. 29–40.
- Marks N. (2015) *World-Class Risk Management*. California: CreateSpace Publishing.
- Marks. N. (2011) *10 reasons not to like the COSO ERM framework – a discussion with Grant Purdy*. Available at: <https://normanmarks.wordpress.com/2011/02/21/10-reasons-not-to-like-the-coso-erm-framework---a-discussion-with-grant-purdy/> (Accessed: 26 Dec. 2020).

- McShane, M., Nair, A. and Rustambekov, E. (2011) 'Does enterprise risk management increase firm value?'. *Journal of Accounting, Auditing & Finance*, 26(4), pp. 641-658.
- McWilliams, A. and Siegel, D. (2001) 'Corporate social responsibility: a theory of the firm perspective'. *Academy of Management Review*, 28, pp. 117–127.
- Mehr, R. and Hedges, B. (1963) *Risk management in the business enterprise*. Illinois: Richard D Irwin Inc.
- Merchant, K. and Manzoni, J. (1989) 'The achievability of budget targets in profit centers: A field study'. *The Accounting Review*, 64(3), pp. 539-558.
- Miller, K. and Waller, H. (2003) 'Scenarios, real options and integrated risk management'. *Long Range Planning Journal*, 36(1), pp. 93-107.
- Monks, R. (2002) *Creating Value Through Corporate Governance*. Oxford: Blackwell Publishers Ltd.
- Mottershead, N. and Godfrey, A. (2001) *From theory to practice: evolving your organisation's risk management*. In Hunt, B. (editor) *Risk management guide 2001*. London: White Page.
- Nguyen, D. and Slater, S. (2010) 'Hitting the sustainability sweet spot: having it all'. *Journal of Business Strategy*, 31(3), pp. 5-11.
- Nocco, B. and Stulz, R. (2006) 'Enterprise risk management: theory and practice'. *Journal of Applied Corporate Finance*, 18(4), pp. 8–20.
- Oliva, F. (2016) 'A maturity model for enterprise risk management'. *International Journal of Production Economics*, 173, pp. 66–79.
- Oliverio, M. (2001) 'Internal control—integrated framework: who is responsible?'. *Critical Perspectives on Accounting*, 12, pp. 187–192.
- Olson, D. and Wu, D. (2008) *New frontiers in enterprise risk management*. New York: Springer-Verlag Berlin Heidelberg.

- Orlitzky, M., & Benjamin, J. (2001) 'Corporate social responsibility and firm risk: a meta-analytic review'. *Business and Society*, 40(4), pp. 369–396.
- Overview of Enterprise Risk Management (2003). Casualty Actuarial Society (CAS).
- Oxford Learner's Dictionaries (2019), *Risk*. Available at: https://www.oxfordlearnersdictionaries.com/definition/english/risk_1 (Accessed: 10 Jan. 2019).
- Peters, T. (2018) *The excellence dividend*. New York: Vintage.
- Porter, M. and Kramer, M. (2006) 'Strategy and society: the link between competitive advantage and corporate social responsibility'. *Harvard Business Review*, 84(12), pp. 78-92.
- Post, J. and Waddock, S. (1995) *Strategic philanthropy and partnerships for economic progress*. In R. F. America (Ed.), *Philanthropy and economic development: 65–84*. Westport, CT: Greenwood Press.
- Power, M. (2003) *Enterprise risk management and the organization of uncertainty in financial institutions*. Oxford: Oxford University Press.
- Power, M. (2007) *Organized uncertainty: designing a world of risk management*. Oxford: Oxford University Press.
- Power, M. (2009) 'The risk management of nothing'. *Accounting, Organizations and Society*, 34, pp. 849-855.
- Protiviti (2010) 'Board risk oversight: Where boards of directors currently stand in executing their risk oversight responsibilities'.
- Purdy, G. (2010). 'ISO 31000:2009 - setting a new standard for risk management'. *Risk Analysis*, 30(6), pp. 881-886.
- Remenyi, D., Williams, B., Money, A., and Swartz, E. (2003) *Doing Research in Business and Management*. London: Sage Publications Ltd.

- Rogers, E. (1995) *Diffusion of innovations: Modifications of a model for telecommunications*. Berlin Heidelberg: Springer.
- Rosen, D., and Zenios, S. (2001) 'Enterprise-wide asset and liability management: issues, institutions, and models. Cyprus: HERMES Center on Computational Finance & Management'. University of Cyprus.
- Sapsford, R. (2007) *Survey research. Second edition*. London: Sage Publications Ltd.
- Saunders, M., Lewis, P. and Thornhill, A. (2019) *Research methods for business students. Eighth edition*. London: Pearson Education Limited.
- Savitz, A. and Weber, K. (2006) *The triple bottom line*. California: Jossey-Bass.
- Sharfman, M. and Fernando, C. (2008) 'Environmental risk management and the cost of capital'. *Strategic Management Journal*, 29, pp. 569-592.
- Slagmulder, R. and Devoldere, B. (2018) 'Transforming under deep uncertainty: A strategic perspective on risk management'. *Business Horizons*, 61, pp. 733-743.
- Smith, C. and Stulz R. (1985) 'The determinants of firms' hedging policies'. *Journal of Financial and Quantitative Analysis*, 20, pp. 391–405.
- Sobel, P. and Reding, K. (2004) 'Aligning corporate governance with enterprise risk management'. *Management Accounting Quarterly*, 5(2), pp. 1-9.
- Soin, K. and Collier, P. (2013) 'Risk and risk management in management accounting and control'. *Management Accounting Research*, 24(2), pp. 82-87.
- Spicer, B. (1978) 'Investors, corporate social performance and information disclosure: An empirical study'. *Accounting Review*, 53(1), pp. 94–111.
- Stein, V. and Wiedemann, A. (2016) 'Risk governance: Conceptualization, tasks, and research agenda'. *Journal of Business Economics*, 86(8), pp. 813-836.
- Stulz, R. (2008) 'Risk management failures: What are they and when do they happen?'. *Journal of Applied Corporate Finance*, 20, pp. 39-48.

- Shedd, W. (1894) *The best quotations*. Available at: <https://best-quotations.com/authquotes.php?auth=5247> (Accessed: 01 Jan. 2019).
- Trochim, W. (2020) *Research methods knowledge base*. Available at: <http://www.socialresearchmethods.net/kb/> (Accessed: 10 July 2020).
- Turban, D. and Greening, D. (1997) 'Corporate social responsibility and organizational attractiveness to prospective employees'. *Academy of Management Journal*, 40, pp. 658–672.
- Walcott, H. (1994) *Transforming qualitative Data: Description, analysis and interpretation*. California: Sage Publications Inc.
- Ward, S. (2003) 'Approaches to integrated risk management: A multi-dimensional framework'. *Risk Management*, 5, pp. 7-23.
- Ward, S. (2013) 'Performance uncertainty management is a more effective approach than risk management'. University of Southampton School of Management, Risk SIG Conference. <https://www.slideshare.net/assocpm/stephen-ward-performance-uncertain>.
- Wegner, J. (2008) *Research design*. New York: ACM Press.
- YIN, R. (2009) *Case study research: Design and methods. 4th edition*. London: London: Sage Publications Ltd.

Appendix 1: Participant information sheet



PARTICIPANT INFORMATION SHEET

Study title: Corporate stakeholders, environmental and social risks, and enterprise risk management: towards an integrating framework

Invitation

You are being invited to take part in a research study. Before you decide, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask me if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part.

Thank you for reading this.

Purpose of the study

The thesis seeks to delve into various perspectives of traditional ERM frameworks and their gaps and also into the new perspectives arising from environmental and social risk management; consequent issues such as stakeholders, CSR and sustainability theories impacting corporate behaviour.

Why you been invited to participate?

The researcher is of the opinion that in the recent years, various stakeholders, other than the shareholders, are also impacted by enterprise risk management initiatives. Since you

as, ----- (employees, customers, vendors, community member, regulator), fall within the category of stakeholders, the researcher seeks to elicit your views and test to what extent, these responses align with the academics and researcher's views.

Do you have to take part?

As participation is entirely voluntary, it is up to you to decide whether or not to take part. If you do decide to take part you will be given this information sheet to keep and be asked to sign a consent form. If you decide to take part you are still free to withdraw at any time and without giving a reason. The right to withdraw at any time from the project will in no way influence or adversely affect you.

What will happen if you take part?

- An honest and detailed response should not take more than 45 minutes of your time
- The entire research study, including tabulation of responses and drawing of conclusions is expected to be completed in the next 18 months.
- The candidates will be required to respond to interview questions.
- The participant is required to give an honest response to each question without fear or favour.
- The participant is given an assurance of extreme confidentiality.

What do you have to do?

No preparations are required. Only relevant professionals and stakeholders will be approached and will be required to give honest responses.

What are the possible disadvantages and risks of taking part?

There are no risks of taking part.

What are the possible benefits of taking part?

The study is aimed to pursue a pure academic objective and hence no direct benefit is promised to the participant or his/her organisation, except to enhance academic insight into the subject of research.

Will my taking part in this study be kept confidential?

All information which is collected about you during the course of the research will be kept strictly confidential. Any information about you which leaves the entity/premises, etc., will have your name and address removed so that you cannot be identified from it, unless specific consent has been obtained.

What will happen to the results of the research study?

The responses received will be collated and meaningful conclusions drawn. These conclusions will be tested to ascertain the extent to which they align with or differ from the researcher's views derived from academic research.

Who is organising and funding the research?

The entire research is a self-funded exercise to enhance the researcher's perspective on the subject matter.

Who has reviewed the study?

College of Business, Arts and Social Sciences Research Ethics Committee.

The University's commitment to the UK Concordat on Research Integrity

Brunel University is committed to compliance with the Universities UK Research Integrity Concordat. You are entitled to expect the highest level of integrity from our researchers during the course of their research. Further information can be found on the Brunel University London research integrity webpage.

Contact for further information and complaints

Professor David Gallear

Chair

College of Business, Arts and Social Sciences Research Ethics Committee

Brunel University London

Email: david.gallear@brunel.ac.uk

Tel: +44 (0)1895 267077

You will be given a copy of the information sheet and a signed consent form to keep.

We sincerely thank you for taking part in this study.

Appendix 2: Sample consent form



RESEARCH CONSENT FORM

The participant should complete the whole of this sheet

Please tick the appropriate box

| | YES | NO |
|--|-------------------------------------|--------------------------|
| Have you read the Research Participant Information Sheet? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Have you had an opportunity to ask questions and discuss this study? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Have you received satisfactory answers to all your questions? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Who have you spoken to? <i>Omer</i> | | |
| Do you accept to be referred to by name in any report concerning the study? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Do you understand that you are free to withdraw from the study: | | |
| • at any time? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| • without having to give a reason for withdrawing? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| • (where relevant, adapt if necessary) without affecting your future care? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| (Where relevant) I agree to my interview being recorded. | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| (Where relevant) I agree to the use of non-attributable direct quotes when the study is written up or published. | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Do you agree to take part in this study? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Signature of Research Participant: <i>[Signature]</i> | | |
| Date: 15 December 2019 | | |
| Name in capitals: YASSER ABDULRAHIM ALABBASI | | |
| <u>Witness statement</u> | | |
| I am satisfied that the above-named has given informed consent. | | |
| Witness signature: <i>[Signature]</i> | | |
| Date: 15 December 2019 | | |
| Name in capitals: DR. ABDULRAHMAN JAWAHERY | | |

| | |
|------------------------------------|-------------------------------|
| Researcher name: Omar Albasteki | Signature: <i>[Signature]</i> |
| Supervisor name: Dr. Amama Shaukat | Signature: <i>[Signature]</i> |

Appendix 3: Interview protocol with GPIC's external stakeholders

1. What is your relationship with GPIC?
2. Are you familiar with GPIC's Environmental (E) and Social (S) risk management policy, practices, initiatives?
A follow up question if required - How did you find out about it?
3. Why does E & S risk management by GPIC matter to your organisation?
4. Has GPIC ever consulted with you in identifying and/or managing its E & S risks that are relevant to your organisation?
5. Does the company seek your organisation's feedback to support in decision making relating to E and S risks?
6. Is GPIC communicating E &S risk management initiatives to your organisation?
What does it communicate and how?
Note: This question is only relevant to stakeholders to whom GPIC has an obligation to report the E&S initiatives. (Also find out why it is obligatory for GPIC to report its E or S risk management to this entity?)
7. What type of information regarding E & S risk management would you like GPIC to communicate to you? And how? To those who it already communicates, ask if there is any additional E and S information from GPIC that they would like to know about.
8. Why do you need E&S risk management initiatives to be communicated to you by GPIC?

9. Overall, what is your view of GPIC's E & S risk management practices? In other words, what do you think we do well and where can we improve and how?

10. How would you compare GPIC E & S practices with other similar companies in the region?

Appendix 4: Sample transcribed interviews with external stakeholders

Interview with the supplier of raw material

Interviewee name : Mr. Ebrahim Talib
Company : BAPCO
Interview Date : 14 September 2020
Audio length : 00:42:21

Interviewer: Thank you Your Excellency for accepting the interview. I'm doing my PhD at Brunel University, London and your participation in the interview will help me in finalising my research. The key topic of my research is Enterprise Risk Management. My research will be a case study on GPIC and I'm studying how the ERM can extend beyond the internal stakeholders by including external stakeholders and specifically for managing social and environmental risks. Shall we start the interview?

Interviewer: What is your relationship with GPIC?

Interviewee: There are a number of factors.

Firstly, GPIC and Bapco are both owned by a common shareholding co., NOGAHOLDING. Secondly, GPIC is in our closest proximity compared to other major industries in Bahrain. Thirdly, GPIC is one of the major customer of our natural gas. Fourthly, GPIC shares BAPCO's wharf facilities for export of finished products; cohabitating in a way, so our risks in terms of operational risk, environmental risks and to some extent social risks are very much overlapping. This wharf is the only export outlet for Bahrain and any impact on that will have a huge negative impact on the Kingdom of Bahrain.

Again, GPIC complex is in close proximity to the tank farm of the Sitra Marketing Terminal from where we supply fuel to the country of Bahrain. Both GPIC and BAPCO are also in close proximity to Sitra village, and we share a really huge responsibility and accountability to make sure that the risk of environmental and social impact is truly mitigated.

Our common objective is to ensure that each and every employee and contractor goes back at the end of the day to their family and loved ones safe and sound.

Thus we are putting GPIC as a key stakeholder in our development plans and in particular in our mitigation plans. ERM for us is primarily looking at three things: risks mitigation, data security and business continuity management. We have collaboration in risks mitigation and business continuity management and less in data security and we need to have more collaboration with GPIC.

On the operational side, we sell the natural gas to GPIC, and the quality of our gas dictates your emissions. However, in the recent times, natural gas which was earlier supplied from our BAPCO refinery, is now supplied from our associate company (Tatweer) and it is our responsibility to ensure the quality of gas.

Interviewer: Are you familiar with GPIC's Environmental (E) and Social (S) risk management policy, practices, initiatives?

Interviewee: We have a close collaboration but to be honest it is not close as I want to. What I mean is that we do have meetings, we have correspondence between us, but I think that neither although GPIC is primarily an operating plant we and probably nor GPIC have been as proactive as we should be in terms of approaching each other from a leadership level.

For example, we sit down, we have our risk register like everybody else, this risk register addresses financial, political, social, environmental and all of these different facets of risk management, out of these we look at highest risks and we develop our business continuity management.

I told my staff that once you have a business continuity management plan in place, you must test it. I've been informed that this has been discussed and agreed with GPIC as a stakeholder, I believe that there has been limited testing of the business continuity management with GPIC. So the answer is yes, we have some collaboration on the ERM side, on the operational level but do we have it on the leadership level which we should, I believe that there is room for improvement.

Interviewer: Why does E & S risk management by GPIC matter to BAPCO?

Interviewee: First of all, because of our physical proximity and the fact that our shareholders is the same, in your case partial shareholder and in our case a whole shareholder, and the fact that we are identified as major industries in Bahrain, I think that makes working together is extremely important. Now that collaboration, as an example whenever we plan a specific operational activity such as the shutdown and turnaround inspections, you expect some flaring, some venting, we want to see and hear this. But this is more so during these times because you're living near people. In past years, I would say probably 8 years ago, we had major issues with social perception about possible environmental accidents from the industry. We have come under scrutiny, that we could cause certain environmental damage. We have disproved it beyond any doubt and also based on the Supreme Council for Environment that these were not actually attributed to us. Why? Because both GPIC and BAPCO are very conscious of this possibility and we go out of our way to ensuring that our operations improve the environment and the society.

I want to make this point about BAPCO, to give you feel for it, this preoccupation with the social and environmental issues; in the last 10 years BAPCO spent close to \$380 million on purely environmental projects with absolutely zero return on investment. We have seen this benefit in our operations, in the improved quality of the water and even in the water the final effluent to goes to the sea has improved greatly. I've visited GPIC as well, and I am aware that they are going out of their way looking at the environmental issues in terms of their care and attention and professionalism of the people, their preparedness for the emergencies. In fact, on the social front too, their contribution to the neighboring communities is noteworthy.

Interviewer: Has GPIC ever consulted with you in identifying and/or managing its E & S risks that are relevant to BAPCO? Does the company seek your organization's feedback to support in decision making relating to E and S risks?

Interviewee: Definitely yes. I have talked with your President and I've talked with your management as well, but I know more is happening on the operational level because our people are working together in the wharf and are ensuring that we have a good understanding. As I said I think there is more collaboration in the operation and we do have very good understanding in the leadership side but I think that we can do more, probably need to do more. I've seen the risk collaboration 13 years ago when a ship collided with methanol piping and we had a leak that could have been ugly. But the collaboration at the operational level was very good. This can only happen through full leadership support. But as I said I think we can learn more from each other on a leadership level and talking with this with all major companies, we do meet each other but as I said we probably need to look at more structural and formalized collaboration. I mean today I can pick the phone to talk to any head of companies and they will provide one million percent support,

but it can be different when you put the collaboration in a more structured format.

Interviewer: Follow-up question: are there customers interested in environmental and social management practices implemented by the seller?

Interviewee: I think in the environment side, I think there is good to very good collaboration, why, because both people in operating side and HSE are close to each other, they talk to each other, and they even have a committee, I think the HSE part is very good, I'm impressed with the collaboration in the HSE and security side, they meet and I meet with them, I attend and open some of their meetings sometimes, the collaboration is really excellent on the HSE side which is the most important one frankly. And the day to day operations side, very good work, the fact that we've been neighbors for 30+ years and we have rarely seen any untoward incident. The only incident which I remember was 13 years ago there was excellent response. Now, on the social front, I think if we join forces and look at ERM from a social perspective, it will be good. When it comes to ERM, from a social point of view, we can utilise NOGAHOLDING being a common shareholder. They actually are very good in term of mitigating social risks; this is my overall view. How can we make it better, I think we need to have that structured collaboration at leadership and management levels to learn from each other, to fully understand all the risks from each other. I think for example, if we can share our risk registers, I know we're sharing business continuity management. But what we can do to make it more effective you need to plan and undertake joint exercise and gain feedback. All the feedback that I'm seeing in the different management systems in the world, being it quality, being it health, being it whatever, all centers around importance of stakeholders.

This is why it is extremely important to engage with stakeholders. This was not done in the past; why it's done now, is because we realise that people cannot work in bubbles. You need to collaborate more, you need to formalize this, and you need to know whether your assumptions are right or wrong thus learn from each other. As. On the social front, through our different social programmes we try to reflect our good image. I think GPIC's image is extremely impressive in the way that it has projected itself in the Kingdom of Bahrain. It's absolutely at the highest level, but it's not all about creating the image, it's about maintaining that image and is about going out of our way to do more for the society. But when say social risk management, it's not only about putting Princes Sabika park in Awali, and the Bahrain-Japanese Friendship Garden by GPIC, its more of the things we do and we must add to the economy of Bahrain.

Interviewer: Why do you need E&S risk management initiatives to be communicated to you by GPIC?

IGPIC has done also very well in terms of GRI sustainability reporting; it's one thing that we learnt from GPIC recently and, we are going to issue our first sustainability report in a couple of months' time and I that in itself is a good indicator not just the environmental but also the social impact of collaboration.

For more understating of risks and more insurance that we are going to do the right thing in the event of an issue. On the social side, there are a lot of good things that we both are doing, can we communicate more, I think there is room to do that for sure.

Interviewer: Your excellency, where do you think GPIC does well and where can GPIC improve and how?

Interviewee: GPIC does very well in term of projecting its image, it does very well in terms of operating the plant as well and achieving the objectives. The fact that GPIC we have not heard of any adverse operational, environmental or other issues, is a testament to the quality of the people, the leadership, the quality of the management, the quality of the people who are running facilities. Caring for employees, caring for everyone around, this is important. But I know when it comes to environment, whatever GPIC has done, it works; historically GPIC have never had any environmental issue. On the social front, GPIC image helps, I think GPIC should continue keeping the great work there, we need to learn in terms of how our joint image enhancements can be done.

But going forward, the world is different, look at the social media, look at how your image is perceived, we have started looking a fresh at ourself, and reinventing our self maybe, but also looking at our risks, the risks now are different, so reputational risk is a huge thing specially in our industry, all it takes for example one bad clip to let customers stop buying from you, all it takes is one social aspect. Look at the world around us now, I think the social aspect especially post COVID, the whole outlook needs to be redefined. So far we were in reactive mode, now we really need to be proactive. COVID is going to have big impact on our society, our social risks, the fact that we need to be more conscious of the people around us. Economic hardship as you know is engulfing the world and Bahrain is no exception, our role is more difficult going forward, its different world, the world in 2020 in so many ways is different than 2019 and earlier years

Interviewer: Based on your long experience, how would you compare GPIC E & S practices with other similar companies in Bahrain or the region?

Interviewee: I'll tell you something, most important is that you measure performance and the outcomes. I reiterate on the outcome side that although GPIC is

primarily an operating plant, environmentally GPIC have not been suffered any environmental issue or big operational issue. This is a testament, GPIC have done very well in that, whatever GPIC have done, it works. Socially, I think GPIC is extremely successful in developing high level image of themselves, and again. Although we are bigger, we can learn from GPIC and we want to see the successes.

But again, this is pre 2020, and I think there is going to be a lot of impacts, a lot of reorganization, a lot of challenges which we need to rise to. The world is different, the economic hardship is going be with us for quite some time, at least for three years and god knows what will even happen after that, so I think this is a good history lesson, this is a very solid base, operationally to continue doing excellent work but let's look forward and let's see how the world is changing and how are we going to perform this change, we have not had really the time to sit down and reflect more of a longer term strategy, I truly believe that we need to have re-calibration of our existing strategy, whatever strategy we have, we cannot just keep it unchanged, it needs to be changed, it needs to be somewhat different. Socially, we need to do more on the health side. I think we must always remember that, we in GPIC and BAPCO are the major operating companies with a common objective, so our outlook at the fundamentals must be to protect our people, employees, contractors, community and add value to the Kingdom of Bahrain, this is our main objective. Just operate right, operate effectively, and operate efficiently and according to all HSE, that's the best way of being good environmentally, socially, financially and otherwise.

Interview with the external auditor

Interviewee name : **Mr. Ramesh Gajula**
Company : **KPMG**
Interview Date : **31 August 2020**
Audio length : **00:24:46**

Interviewer: Thank you for accepting the interview. As you are aware, I'm doing my PhD at Brunel University, London. I am at the final stage of my PhD thesis and your participation in the interview will help me in finalising my research. The key topic of my research is Enterprise Risk Management. To specify my research objective, I had to review all the academic litterateur of the ERM topic and identify the gaps and limitations which have been identified by other academic researchers and build on that by selecting a key gap or limitation identified by other researchers and do a research on that subject. My research will be a case study on GPIC. Many of the researchers criticised that existing ERM frameworks are inward looking and tend to understate the role of external stakeholders of a business in the risk management process. This is a key gap and limitation identified by academic researchers. In my thesis, I attempt to address this gap and I'm studying how the ERM can extend beyond the internal stakeholders by including external stakeholders and specifically for managing social and environmental risks. I selected the social and environmental risks because there is little research done on this subject. If you see the academic research published in well known academic journals, you'll notice all of research done on the relation between ERM and economic performance, the relation between ERM and financial performance and so on and so forth, but there is little research about the environmental and social risk management, hence, I have selected this subject and I think GPIC will be a good case for this kind of a study. So this is my main objective. Shall we start the interview?

Interviewee: When I'm responding to your questions, can I quote my experience with GPIC kind of processes.

Interviewer: Yes, off course. I have interviewed the internal stakeholders of GPIC, now I'm interviewing the external stakeholders and I selected KPMG as one of the external stakeholders because currently you are the official auditors and you've been the auditors for many years in the past and because you audited the financials and reviewed GPIC's ERM in several occasions. So you are a key stakeholder and your contribution will be valuable to answer the research questions.

Interviewer: What is your relationship with GPIC?

Interviewee: When I answer this question, I will describe the audit relationship and other advisory relationship. I'm currently working as a director within the advisory practice of KPMG Bahrain and my experience with GPIC have started in around 2013 or 2014, I started reviewing the ERM framework of GPIC to provide insights and do an external assessment and benchmarking with other ERM frameworks to make sure that the ERM framework developed by GPIC is benchmarked with the industry best practices and also to identify and highlight gaps or opportunities to GPIC. Just to mention that KPMG used to be the external auditors of GPIC around that time and recently again reappointed as the external auditor for GPIC. So overall, as KPMG, we have a lot of understanding of what GPIC does when it comes to the ERM framework. So specially on the ERM framework, just to provide more insights, I have done six or seven projects with GPIC focusing on the ERM related work. GPIC had a properly established ERM framework and then subsequently when they got in touch with us, they wanted us to review it independently to provide inputs and identify improvement opportunities. Subsequently GPIC wanted also to benchmark the ERM framework with ISO 31000, to obtain a certification, although the ISO 31000 was guiding

standard but GPIC successfully got a certification by aligning their risk management procedures with the ISO 31000 standard. So overall, GPIC's ERM framework is a very well done because they involved internal stakeholders and also they engaged KPMG so we benchmark and provide our external stakeholder guide to them and they have an adequate governance framework, the policies and procedures are well defined and they have a Resilience Committee at the management level who oversees the ERM framework, they have independent audits performed on risks and controls and committee reports to aboard level committee, the Audit, Finance and Risk Committee (AFRC) and the AFRC updates the board as well.

Interviewer: Are you familiar with GPIC's Environmental (E) and Social (S) risk management policy, practices, initiatives?

Interviewee: Based on my experience, GPIC is one of the entities who established policies and procedures in detail and also the people who are operating the processes are well trained to apply and comply with the established policies and procedures. As a part of the risk management process, the ERM, the process covers all the key risks that would be affecting GPIC and they prioritize their action plans. GPIC's ERM includes the two risks mentioned above, the environmental and the social risks. GPIC has a very well-established policy when it comes to the environmental and social risks and the people are aware of what it needs to be done relating to environment or social related aspects. I think it is very relevant and important to mention that GPIC also registered for the Global Reporting Initiative where they engage external stakeholders on these kind of issues and they are independently reporting and KPMG is also involved and assisting them of what to report, how to report, how to be transparent and GPIC publishes the report once every two years.

Interviewer: Why does E & S risk management by GPIC matter to KPMG?

Interviewee: Especially when it comes to the environment and social risks, it not just matters to KPMG, but every external stakeholder. It is very very important. If GPIC doesn't manage the environmental risks properly, it can lead to bad reputation, it can lead to damage and harms people lives. For example, if there is an accreditation that takes place at GPIC, it is not just going to be limited to GPIC but it's going to have quite serious impact on the society and Bahrain as whole. So, it is critical not only for KPMG but for all other external stakeholders and the general public. It is very important that GPIC maintains the risk processes effectively.

Interviewer: Has GPIC ever consulted with you in identifying and/or managing its E & S risks that are relevant to your organisation?

Interviewee: Yes definitely. As I mentioned, as part of the ERM process, we prioritize and cover all the key risks which definitely includes environmental and social risks. GPIC always approached us whenever they want to review, update and benchmark their current practices. We assisted GPIC in doing so. Similarly, in the sustainability reporting, GPIC takes very proactive approach in being a very transparent entity. They do take our feedback and they are very active in implementing our recommendations.

Interviewer: Does the company seek your organization's feedback to support in decision making relating to E and S risks?

Interviewee: Based on the framework and working experience with GPIC, GPIC uses the risk information before making any major business decision. They apply the risk management process and then see what the potential risks are in implementing a major project or major initiative. I can say that there is an effective feedback process supporting the decision-making process.

Interviewer: Is GPIC communicating E & S risk management initiatives to your organization? What does it communicate and how?

Interviewee: When it comes to KPMG, the communication can be primarily if we are performing external audit. As part of the external audit, it is the auditors' responsibility to review the risk management processes and controls. And secondly, as auditors we get access to the sustainability report. The third aspect, GPIC engaged KPMG as advisors to review the framework in which we provide the inputs and during the review we get to know what GPIC is doing in managing the environmental and social risks in addition to other key risks they manage.

Interviewer: Would such communication affect your audit opinion?

Interviewee: Yes, off course. If GPIC does not have an effective management process, we are going to highlight that to the board and the shareholders. But this situation did not arise since GPIC has an effective ERM framework in place which is periodically reviewed and updated. The management is also required to effectively keep the audit committee and the board updated on the key risks that are being faced by GPIC and how management is controlling these risks effectively.

Interviewer: What type of information regarding E & S risk management would you like GPIC to communicate to you? And how?

Interviewee: As an auditor, we have access to your information, but when we are not auditors and there no relationship with GPIC, I see that GPIC proactively publishes its annual report, although it's a BSC closed entity, the report is publicly available and I've seen that GPIC comments on the risk management system in the annual report.

Interviewer: Why do you need E&S risk management initiatives to be communicated to you by GPIC?

Interviewee: A have already answered this. Environmental and social risks are not only important for GPIC, but for every external stakeholder, it is good to communicate what GPIC is doing to give comfort to all external stakeholders on environmental risks. That leads to a very good reputation.

Interviewer: Overall, what is your view of GPIC's E & S risk management practices? In other words, what do you think we do well and where can we improve and how? And how would you compare GPIC E & S practices with other similar companies in the region?

Interviewee: Based on what I have seen and based on benchmarking with other industrial oil and gas related industries in the region, I see that GPIC has got the best ERM practices and framework implemented. In many companies I reviewed, they have the ERM framework, but they just put it on the shelf, and they don't effectively monitor and update the board and the board committee on the implementation aspects. GPIC has the framework, they are very proactive, they take it very seriously, they have the resilience committee who meets and discuss the risks on a progressive basis and committees are kept to date including the board on a periodic basis. At this point in time, I do not have any suggestion or improvement opportunities.

It is also important to highlight that most companies maintain the risk information in MS Excel. In MS Excel work sheet, you will not have an audit trail of what changes you are making to the existing risk register. But GPIC, has implemented a software where they effectively manage the risk register and you can effectively track who did what and the audit trail is always available if you want to verify who made the changes in the existing risk

register. I can conclude and say that GPIC has a very good system based on benchmarking with other industries.

Interview with the marketer and customer of Ammonia and Urea

Interviewee name : Mr. Mahmoud Al-Abdulhadi
Company : Petrochemical Industries Company (PIC)
Interview Date : 7 September 2020
Audio length : 00:21:42

Interviewer: Thank you for accepting the interview. I'm doing my PhD at Brunel University, London and your participation in the interview will help me in finalising my research. The key topic of my research is Enterprise Risk Management. My research will be a case study on GPIC and I'm studying how the ERM can extend beyond the internal stakeholders by including external stakeholders and specifically for managing social and environmental risks. Shall we start the interview?

Interviewer: What is your relationship with GPIC?

Interviewee: We have a long relationship with GPIC starting from 1979 upon the establishment of GPIC as one of GPIC's shareholders. PIC is one of the companies under the umbrella of Kuwait Petroleum Corporation (KPC). PIC was established in 1962 and was operating independently until 1980. In 1980, KPC was incorporated based on an Amiri Decree and became the holding company for 10 oil and gas companies in Kuwait including PIC. From 1962 until 2003, PIC was producing Urea and Ammonia, and in 1998 PIC expanded to produce other petrochemical products such as the Aromatics and the Paraxylene. PIC also entered joint ventures including GPIC.

We also have a marketing agreement with GPIC, and we are responsible for marketing and selling GPIC's Ammonia and Urea. The Urea production and available for sale capacity at GPIC is 700,000 metric tonnes per annum

and the Ammonia available for sale capacity is 90,000 metric tonne per annum. Our role is to market these two products in exchange for a commission.

Interviewer: Are you familiar with GPIC's Environmental (E) and Social (S) risk management policy, practices, initiatives?

Interviewee: Off course. Before signing the marketing agreement with GPIC, we must familiarise ourselves with all GPIC policies. To be able to sign such an agreement and specify terms and conditions within the agreement that are in line with GPIC requirements, we have to be familiar with GPIC policies.

In addition, we are a shareholder at GPIC, and the company's policies are approved by its three shareholders. Hence, we have the access to GPIC's information.

Interviewer: Why does E & S risk management by GPIC matter to PIC?

Interviewee: For us, it is very important. There is continuous communication with GPIC to discuss the market risks, monitor the markets and plan accordingly. If we do not monitor and manage risks, we cannot properly plan our activities. For example, due to the turbulent political situation since December 2019 affecting the markets, shipments, and products prices, we have planned and managed our activities to overcome these challenges, ensure shipping GPIC's products and attaining the best possible selling prices.

In addition, the management of the environmental and social risks has a significant impact on GPIC's reputation. As shareholders of GPIC, anything that affects GPIC's reputation affects our reputation as well. The management of other risks are also important. For example, if GPIC defaults in payments, it will affect its relations with many stakeholders.

Interviewer: Has GPIC ever consulted with you in identifying and/or managing its E & S risks that are relevant to your organisation?

Interviewee: Yes. There is continuous coordination and communication between GPIC and PIC regarding marketing, commercial and other business matters.

Interviewer: GPIC systems are also derived from and based on the systems developed by its shareholders and there are regular meetings to exchange knowledge and learn from each other.

Interviewer: Does the company seek your organisation's feedback to support in decision making relating to E and S risks?

Interviewee: Yes, this question is related to decision making. There are at least four board meetings per year where important decisions are made. In addition, there are many meetings between GPIC and PIC to coordinate the marketing and shipping activities. Most importantly is the execution of those decisions, and I see that decisions are immediately translated into actions at GPIC. There are also continues communications and meetings between GPIC and PIC working teams where feedback is sought and updates regarding the implementation of important decisions are discussed.

Interviewer: Is GPIC communicating E &S risk management initiatives to your organisation? What does it communicate and how?

Interviewee: As discussed, there is a continuous communication regarding environment, social, security and other matters. We have to plan our actions to manage, avoid or mitigate the risks we face.

Interviewer: What type of information regarding E & S risk management would you like GPIC to communicate to you? And how?

Interviewee: As a marketing employee, I am mostly interested in information related to marketing such as production, shipping, collecting receivable and markets performance and there is a continuous communication between my department and GPIC regarding those aspects. However, as discussed earlier, as a company and shareholder, there is a continuous communication in all aspects.

Interviewer: Follow-up question: are there customers interested in environmental and social management practices implemented by the seller?

Interviewee: Yes. We have seen a lot of interest by many customers specially in the last three years. For example, the Australian customers have their own country quality standards and they are mandated to buy only from environmentally responsible and reliable producers.

Interviewer: Overall, what is your view of GPIC's E & S risk management practices? In other words, what do you think GPIC does well and where can GPIC improve and how?

Interviewee: I have witnessed by my own eyes how much GPIC cares about the environmental aspects and GPIC now is considered a global pioneer in these aspects. We have arranged many customer visits to GPIC, and they were all astonished by GPIC's capabilities and achievements related to environment and other aspects. We try our best to arrange as many visits as we can for the customers.

Interviewer: Based on your long experience with GPIC and other companies, how would you compare GPIC E & S practices with other similar companies in the region?

Interviewee: Honestly speaking, GPIC today is a global leader. And I vouch on this statement based on my long experience in dealing with GPIC, based on the feedback I receive from the customers who visited GPIC, based on how GPIC is treated in the global petrochemical community and based on GPIC's remarkable achievements.