QATAR UNIVERSITY

COLLEGE OF BUSINESS AND ECONOMICS

INSTITUTIONAL ENTREPRENEURSHIP OF EXTENSIBLE BUSINESS REPORTING LANGUAGE (XBRL) IMPLEMENTATION AND ACCOUNTING CHANGE PROCESS: CASE OF QATAR STOCK EXCHANGE

BY

NUDRAT NISHAT

A Thesis Submitted to

the College of Business and Economics

in Partial Fulfilment of the Requirements for the Degree of

Master of Accounting

January 2022

COMMITTEE PAGE

The members of the Committee approve the Thesis of
Nudrat Nishat defended on [1st December, 2021].

Dr. Sameh Ammar
Thesis/Dissertation Supervisor

Dr. Hassan Yazdifar
Committee Member

Dr. Mostafa Hassan Kamal
Committee Member

Dr. Emad Awadallah
Committee Member

Approved:

Dr.Adam Mohamed Fadlalla, Dean, College of Business and Economics

ABSTRACT

NISHAT, NUDRAT., Masters : January : [2022:], Master of Accounting

Title: Institutional Entrepreneurship of eXtensible Business Reporting Language (XBRL) Implementation and Accounting Change Process: Case of Qatar Stock Exchange

Supervisor of Thesis: Dr. Sameh Ammar.

The main aim of this thesis is to investigate the conditions and processes by which the traditional financial reporting system was replaced by the eXtensible Business Reporting Language (XBRL). This thesis draws on a qualitative approach examining the case of the Qatar Stock Exchange, which recently adopted and implemented an XBRL-based platform called Q-Disclosure. This was done to facilitate information exchange amongst stakeholders, especially listed companies and information users. This investigation is driven by institutional theory with a particular focus on a strand of institutional entrepreneurship. A conceptual framework is developed that provides a detailed and processual account about the conditions and processes that enabled an actor to bring about an institutional change. The actor replaced the traditional financial reporting system with XBRL and eventually became an institutional entrepreneur. The findings showed that the actor's characteristics and social position, enabling field conditions and intervention strategies played important roles in allowing the institutional entrepreneur to bring about institutional change in the financial reporting system.

By incorporating the notion of institutional entrepreneurship into this research, an original contribution is made to the understanding of XBRL adoption. Second, by

focusing on an institutional entrepreneur who holds a peripheral position in the development of accounting innovations, it helps in enriching institutional entrepreneurship theory. Third, this thesis provides evidence that institutional change does not necessarily require a top-down approach and can instead arise from a bottom-up approach. Finally, this thesis provides a multi-level analysis of XBRL adoption, outlining the factors, the enablers of those factors and their interactions.

DEDICATION

This thesis is dedicated to my parents and my sister for their endless love, support and encouragement. Thank you for relentlessly encouraging me to strive for excellence.

ACKNOWLEDGMENTS

Praise to Allah SWT, God almighty the most gracious and most merciful. Prayer and peace be upon the noble prophet Muhammad SAW. Peace upon Him, His family, His companions and His followers.

First and foremost, I would like to thank Allah SWT, for granting me the strength and perseverance to be able to complete my thesis. Second, I would like to thank my parents for their unconditional support and patience. Third, I would like to thank my supervisor who kept pushing me to work hard and give my 100%.

Finally, I would like to thank every person who prayed, gave me inspiration or loved to see my achievement, may Allah SWT bless all of them.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

1. CHAPTER 1: INTRODUCTION

1.1 Overview

The XBRL (eXtensible Business Reporting Language) was created in 1998 by Charles Hoffman, a certified public accountant (CPA), as an open international standard aimed at facilitating the exchange and dissemination of financial information (Debreceny & Gray, 2001). Since its development in 1998, the main objective of XBRL has been to streamline the process of financial reporting and make it more efficient, accurate, reliable and transparent (Debreceny & Gray, 2001). Fisher (2008) advocated that XBRL is the future of business reporting. By improving access to both financial and non-financial information, XBRL has the potential to impact a wide range of stakeholders including government agencies, professional bodies, business organisations, accounting and auditing firms and individual investors. Potential benefits include improved financial and non-financial reporting, increased transparency, improved analysis, real-time based reporting and more efficient and reliable collection of data.

1.2 Background and Motivation

In today's world, digital financial reporting via the internet has become the preferred method for companies to disclose their financial information (Chouhan & Goswami, 2015). However, there are limitations associated with using the internet for disseminating financial information, as highlighted by Debreceny and Gray (2001). First are 'resource discovery' and 'attribute identification' problems, which refer to the difficulty in locating and navigating to specific information within the enormity of the web. Second, there is concern about the quality and reliability of information presented on the web. This is because information available on the internet can be intercepted, spoofed and altered, often without leaving a trace (Seetharaman et al., 2005). The third issue is related to the format in which financial reports are published. Companies mostly

publish their quarterly and annual reports as PDF files, HTML-enabled pictures, Microsoft Excel files or Microsoft Word text files (Chen et al., 2014; Hao et al., 2014). Although these formats are readable and readily accessible, they do not allow the user to manipulate, summarise or analyse the data (Wagenhofer, 2003). More importantly, these formats are static and do not support electronic data exchange (Hao et al., 2014).

XBRL has been gaining momentum as a disclosure mechanism and is becoming the new model for reporting business information (Pinsker & Li, 2008). China, Australia, India, Japan, Chile, Denmark and other countries around the world have adopted XBRL as the standard format to report their financial information (Taylor & Dzuranin, 2010). XBRL does not change financial reporting standards; instead, it enhances and modifies the manner in which business and financial information is reported (Chouhan & Goswami, 2015). XBRL provides a framework for preparing, publishing, extracting, exchanging, aggregating and analysing data (Wu & Vasarhelyi, 2004). Proponents of XBRL believe that it has the potential to 'revolutionise' and 'transform' the process of business reporting (Gandhi, 2010; James, 2007; Jones & Willis, 2003; Liu et al., 2014a; Markelevich et al., 2015; Pinsker & Li, 2008). XBRL represents a paradigm shift from 'readable information' to 'usable information' (Gandhi, 2010). It allows users to interact with the data with its 'search facilitating feature', which was not possible with HTML, Excel, Word or PDF formats (Hodge et al., 2004).

In appreciation and acknowledgement of the various benefits XBRL offers in accountability and transparency, the technology is being adopted as a business reporting standard globally. China was the first country in the world to adopt XBRL as a financial reporting standard for all public listed companies in 2004 (Liu et al., 2014a). Currently, there are 22 active jurisdictions within the XBRL consortium ("Jurisdictions | XBRL",

n.d.)

A substantial number of studies published in academic journals since 2000 have focused on the adoption, implementation and impact of XBRL (Perdana et al., 2015). Prior studies have also examined how XBRL has achieved its objectives, including reduced information processing costs, a reduced level of information asymmetry and an increase in market efficiency (Cong et al. 2014; Debreceny & Gray, 2001; Roncagliolo et al., 2017; Sassi et al., 2021; Yoon et al., 2011).

Prior studies have focused on the factors that influenced the intention to adopt XBRL, as well as adoption and non-adoption. While these studies have been insightful, they have framed the adoption decision at the macro level and failed to capture the micro-level processes that could have an influence on the intention, adoption and non-adoption of XBRL. In other words, prior studies did not explore the implications of XBRL at the level of individual organisations. This offers an important and interesting research motivation to investigate the factors that influenced an organisation's decision regarding the adoption of XBRL and to provide more details about the macro- and micro-level processes undertaken to influence the uptake of XBRL as a reporting practice.

The second motivating factor behind this thesis is the lack of research into XBRL adoption that explores the interplay between the stakeholders present in an institutional environment and their influence on the adoption decision. Prior studies have mostly employed a single-stakeholder perspective, as identified by Amalia (2021), or have simply highlighted the perspectives of different stakeholders without providing any insight as to how these stakeholders can work together towards the adoption of XBRL (see Doolin and Troshani, 2007; Troshani and Doolin, 2007; Troshani and Rao, 2007). Accordingly, it is important to extend consideration of the implications of XBRL

adoption to the stakeholders, including investors, companies, regulators and auditors. These stakeholders make up the financial reporting supply chain and it is inevitable that the adoption of XBRL will have a profound influence on them.

This motivating factor is also related to a research call made by Fine and Hallet (2014) that requires researchers to investigate the organisational adoption of technology using a multi-level analysis approach. Troshani et al. (2015) suggested that XBRL adoption is a complex process that involves multiple stakeholders in its development and implementation. They also noted that institutional arrangements have a profound influence on the adoption and usage of that technology. Therefore, in order to make sense of the institutional complexity, it is necessary to understand the underlying inter-organisational interactions and investigate how heterogeneous actors shape the institutional environment and how XBRL would be institutionalised. This will allow researchers to explore the dynamics of institutional arrangement influenced by the adoption of XBRL, instead of simply considering the factors that lead to its consideration as 'fixed, habitualised, and taken-for-granted' (Troshani et al., 2015).

With the motivations given above, this thesis draws on the Qatar Stock Exchange (QSE) as a case study. QSE recently adopted XBRL as the new reporting mechanism, replacing its traditional financial reporting process. A detailed view of the case study is provided in the research findings in Chapter 5. The next section outlines the research objectives and questions.

1.3 Research Objective and Questions

The primary objective of this thesis is to investigate the conditions and processes by which QSE recognised the need to change its highly embedded and institutionalised reporting system and implement XBRL as an alternative. In order to do so, this thesis will follow in the footsteps of Troshani et al. (2015) and adopt an institutional approach, particularly the concept of institutional entrepreneurship, to

investigate the adoption of XBRL. The choice of the concept of institutional entrepreneurship is justified by the fact that the adoption of XBRL at Qatar Stock Exchange was influenced by an individual, whom this thesis regards as the institutional entrepreneur. Accordingly, this thesis will address the following research questions in order to investigate the interplay between the institutional entrepreneur and other stakeholders: how did the institutional entrepreneur interact with these heterogeneous actors with an interest in XBRL, and how was the institutional entrepreneur able to establish the necessary infrastructure for the technology to be adopted and become widely recognised? These statements of areas were explored through the specific research questions are as follows:

1. What were the main micro- and macro-level factors that contributed to the institutional entrepreneur envisioning XBRL as the new reporting mechanism?

This research question will explore the conditions that resulted in the replacement of the traditional financial reporting system in QSE. It will also provide an account of the other relevant actors that the institutional entrepreneur interacted and undertook coordinating activities with to facilitate the adoption of XBRL. This leads to the next research question, which is:

2. How was the institutional entrepreneur able to persuade other actors present in the institutional environment and coalesce their efforts towards the adoption of XBRL?

This question aims to provide insights about the actor's (institutional entrepreneur) characteristics, the construction of the organisational field in which the actor operated, and the strategies employed by the actor to institutionalise XBRL.

In this thesis, a qualitative research design is employed to explore how the

institutional entrepreneur interacted with heterogeneous stakeholders with interests in XBRL, and how the institutional entrepreneur established the necessary infrastructure to support the technology's adoption. Semi-structured interviews were conducted to gain stakeholders' perspectives as the focal point of this research.

1.4 Research Contribution

This study provides both a theoretical and a practical contribution. First, it extends XBRL adoption literature by describing the process by which XBRL is institutionalised. This study provides an original contribution by employing the institutional entrepreneurship perspective to examine XBRL adoption in the context of a developing capital market. In contrast to the focus of XBRL adoption research that employed a static approach to the adoption process (detailed discussion in Chapter 2), this thesis examines not only the reasons behind the adoption of XBRL but also the interplay between organisational (micro-) and organisational field (macro-) level factors. This contribution will also help in fulfilling the research call made by Fine and Hallett (2014) to provide a multi-level analysis to understand organisational action towards XBRL. This thesis provides an account of the motivation and factors that influenced the adoption of XBRL by considering the perspectives of regulators, preparers (listed companies) and users.

Second, by using the institutional entrepreneurship theory to understand the process of XBRL adoption, this thesis attempts to resolve the structural agency debate, also referred to as the 'paradox of embedded agency' (Battilana et al., 2009; Garud et al., 2007; Hardy & Maguire, 2008). Results of this thesis highlight the relationship between actors and institutions and provide endogenous explanations of institutional change. It further highlights how organisational processes and institutions are shaped by entrepreneurial forces, as suggested by Garud et al. (2007).

Third, this thesis tries to fill the 'blind spots' highlighted by Micelotta et al.

(2017) and critiques identified by Battilana (2009) and Leca et al. (2008), which are related to the consistent portrayal of instutional change as successful and having an intended outcome, and institutional entrepreneurs as being 'muscular' and 'heroic' actors that somehow possess the capacity to transform institutions. This thesis highlights the process by which an actor occupying a peripheral position utilised his skills and social position to devise appropriate strategies in order to bring about an institutional change.

Practically, the thesis will help in raising the awareness of XBRL and the benefits it offers to a wide range of stakeholders. The research findings can be used by organisations in Qatar to adopt XBRL for both internal and external purposes. This will help in further enhancement of business reporting in Qatar, from data collection through internal reporting and external reporting. The findings may also be useful to filers in those countries that are considering XBRL as a reporting mechanism.

1.5 Thesis Structure

The rest of the thesis will be structured as follows: the next chapter, Chapter 2, provides information about XBRL including details about its historical background, its components and benefits and challenges related to its use. This chapter also provides a comprehensive review of prior literature on XBRL. Chapter 3 provides an overview of the theoretical framework employed in this thesis. The chapter concludes by proposing a research framework suitable for investigating the institutionalisation of XBRL at QTE. Chapter 4 outlines the research approach and the strategy and methodology employed for data collection and analysis to address the research questions and meet the overall objective. Chapter 5 provides details about the case study, QSE, then outlines the process of XBRL adoption using a multi-stage approach. In Chapter 6, findings from the previous chapter are analysed using the conceptual framework. In conclusion, this thesis presents research findings, highlights theoretical and practical

implications, reports its limitations and suggests avenues for future research.

2. CHAPTER 2: LITERATURE REVIEW

2.1 Overview of XBRL

The eXtensible Business Reporting Language (XBRL) is an innovative informational technology (Doolin & Troshani, 2007) that has now been recognised as a global standard for web-based financial reporting (James, 2007; Taylor & Dzuranin, 2010). It was initiated in 1998 by Charles Hoffman and is now under the administration of a global not-for-profit consortium called XBRL International, comprising companies, associations and government agencies that have developed it as an open standard for data (Baldwin et al., 2006). The American Institute of Certified Public Accountants (AICPA) lists XBRL as one of the top ten technologies for accounting and auditing professionals (Liu, 2013).

XBRL has streamlined the process of preparing financial statements both externally and internally (Taylor & Dzuranin, 2010). With XBRL, companies can present their financial and non-financial data in a computerised and machine-readable format. Financial reports are no longer a static block of text and the use of ‘tags’ allows computers to identify individual reporting concepts. XBRL allows computers to 'intelligently' recognise the information presented in an instance document, select it, analyse it, store it, exchange it with other computers and present it automatically in a variety of ways for users (James, 2007). The tags are self-describing markup, which allows easy and quick search and extraction of desired information by any computer-based program, without having to download or read the document (Vasarhelyi et al., 2012). Each tag consists of metadata such as whether the tag is monetary, a percentage, textual or other; the period that the value refers to; whether the value is debit or credit and more (Hoitash et al., 2021).

XBRL tags are defined by applying a taxonomy, a systematic classification scheme that defines the concepts, structure and presentation of financial reporting, as

well as the relationships between accounts and calculations, in accordance with accounting regulations (Apostolou & Nanopoulos, 2009; Liu, 2013). Financial reports in PDF, Word, Excel, HTML or XML formats constituted a usability challenge (Faboyede et al., 2016).

Therefore, by leveraging the power of the internet and computers XBRL can positively impact a wide range of beneficiaries including investors, accountants, creditors, financial analysts and regulators (Wu & Vasarhelyi, 2004).

2.2 Historical Background

Charles Hoffman, a certified public accountant (CPA) in Washington also known as 'the father of the digital language of business', conceived the idea of XBRL in April 1998 (Kloeden, 2006). That July, Hoffman approached the chairman of the AICPA about the potential use of XML in financial reporting. In September, he briefed the AICPA High Tech Task Force on XML. This led to the creation of 'Product Description', a prototype set of financial statements, based on XML, that would be used to obtain the necessary funding. In October, the results of 'Product Description' were presented to the AICPA committee, based on which they decided to fund the project. That December, Charles Hoffman and his colleagues Mark Jewett and Jeffery Ricker began developing a prototype set of financial statements in XML (Roohani, 2008).

An early prototype was developed and presented to the AICPA in January 1999. The name of the prototype was XFRML (Extensible Financial Reporting Mark-up Language). Given its success, the AICPA requested that a business plan be prepared to consider the case for XML-based financial statements. June 1999 marked the successful completion of the business plan. The main contributors included Charles Hoffman, CPA; Wayne Harding, CPA; Eric Cohen, CPA and Louis Matherne, CPA. The AICPA decided to fully fund the XFMRL in July 1999 and began implementing the business plan in August 1999. An XFMRL steering committee was formed in August 1999; it

consisted of 12 companies along with the AICPA (Debreceny & Gray, 2001).

The initial steering committee consisted of 12 companies: Arthur Andersen LLP, Deloitte & Touché LLP, e-content company, Ernst & Young LLP, FreeEDGAR.com, Inc. (now Edgar Online, Inc.), FRx Software Corporation, Great Plains, KPMG LLP, Microsoft Corporation, PricewaterhouseCoopers LLP, and The Woodburn Group. The prototype was completed in October 1999 (Wang, 2015).

Charles Hoffman was contracted to create ten more prototypes to explore the idea of XML-based financial statements. The first XFMRL consortium meeting took place in October 1999 in New York. The name was officially changed to the eXtensible Business Reporting Language (XBRL) in April 2000, in order to expand the scope from financial reporting to all forms of business reporting. That year marked the establishment of XBRL.org, a non-profit organisation. The first XBRL 1.0 specification and taxonomy for reporting financial information under the U.S. General Accepted Accounting Principles (GAAP) was released in July 2000 (Roohani, 2008). A snapshot of the historical development of XBRL from 1998–2000 is provided in the Appendix A (Java Point, n.d.).

2.3 Emergence of XBRL

This section presents a brief history of the technologies from which XBRL was created, namely HyperText Markup Language (HTML) and eXtensible Markup Language (XML), to help the reader gain a better understanding of XBRL. XBRL, HTML, and XML are all markup languages that structure and format data in a document, using tags to define elements within that document. These tags not only specify how data should be formatted and presented to the users but also indicate the context and purpose of the data item. All Markup languages are platform-independent and language-independent, ensuring compatibility of the data. Markup languages can be used on multiple operation systems (such as Windows, Linux, Unix and Mac) and can be represented in Asian, Arabic, European and hundreds of other written languages (Wu & Vasarhelyi, 2004).

2.3.1 HTML – HyperText Markup Language

HTML is mainly used for designing web pages. It was created by Sir Tim Berners-Lee, a British scientist at the CERN nuclear physics laboratory in Switzerland, during the 1980s. The first version of HTML was released in 1991, consisting of 18 HTML tags (Delgado, 2021). HTML presents a piece of information by using a limited number of tags that describe the format, layout and style of a document. These tags determine how content is formatted and displayed on the web page ("HTML Tags - javatpoint", n.d.). Figure 1 provides an HTML snippet.

```
<HTML>
<HEAD>
<TITLE>2020 Annual Report</TITLE>
</HEAD>
<BODY>
<Hl>2020 Annual Report</Hl>
<hr>
<P>
<b>Chairman's Statement</b>
<br>
In the year under review, the company's profit grew from QAR 28.31 million for the
previous year to QAR 29.7 million, reflecting an increase of 4.9%. Earnings per share
were QAR 5.7, compared to QAR 4.8 for the previous year.
<br>
<br>
An interim dividend of QAR 3 per share was paid in October, and your Directors
recommend a final dividend of QAR 4.5 per share for adoption at the forthcoming
Annual General Meeting.
</p>
</BODY>
</HTML>
```

Figure 1: Sample of Annual Report in HTML.

As is evident, all of the included tags are concerned with the format and layout of the information. HTML tags focus on how information is displayed and not what that information is; this makes it difficult for computers to understand the information. Moreover, extracting information from an HTML page requires the user to manually process it using decision-making.

2.3.2 XML – eXtensible Markup Language

XML is a more powerful and data-centric markup language than HTML. Development began in 1996, and its first specification, XML 1.0, was released in 1998 by World Wide Web Consortium (W3C). XML encodes documents in a format that is

readable by both humans and machines. XML can be extended to many different languages, industries and cross-industry applications. Users can define self-descriptive tags by themselves with the help of XML, providing much-needed flexibility. These tags define the semantics and structure of the data within a document, resulting in increased content discoverability.

When a document is stored and represented in XML format, its content can be queried and relevant information can be extracted, analysed and synthesised. Two auxiliary files, Document Type Definition (DTD) and XML Schema Definition (XSD), are used to create XML-based documents; they ensure the efficiency of data extraction as well as confirming that the XML document is ‘well formed’ and ‘valid’ (Walsh, 1998).

A DTD specifies an XML document's structure, elements and attributes. It validates the content and the structure of the XML file. It ensures preparers are able to format the data properly for the recipient to understand. Using DTD, all the information can be organised efficiently in its particular domains (Aurora, 2008). An XSD, also known as a style sheet, provides for the formatting and presentation of data contained in an XML data file. It describes and validates the structure and the content of XML data. The DTD and XSD are stored in a central repository known as namespace. Namespace contains all the user-defined tag information so that it can be easily found and retrieved. Figure 2 shows an example of an Annual Report in XML format.

```
<?xml version="1.0"?>
<filing>
<data>
<title>2020 Annual Report</title>
<coname>ABC Ltd.</coname>
<date>31-DEC-2020</date>
<keyword>Income Statement</keyword>
<keyword>Balance Sheet</keyword>
<keyword>Statement of Cash Flows</keyword>
<keyword>Statement of Shareholder's Equity</keyword>
</data>
<paragraph>
In the year under review, the company's profit grew from <perf-profit-lastyr> QAR
28.31 million </perf-profit-lastyr> for the previous year to <perf-profit-thisyr>QAR 29.7
million</perf-profit-thisyr>, reflecting an increase of <perf-profitpinc-
thisyr>4.9%</perf-profitpinc-thisyr>.
Earnings per share were <perf-eps-thisyr>QAR 5.7 </perf-eps-thisyr>, compared to
<perf-eps-lastyr>QAR 4.8</perf-eps-lastyr> for the previous year.
</paragraph>
<paragraph>
An interim dividend of <perf-idiv-thisyr>QAR 3 </perf-idiv-thisyr> per share was paid
in October, 2019 and your Directors recommend a final dividend of <perf-div-
thisyr>QAR 4.5</perf-div-thisyr> per share for adoption at the forthcoming Annual
General Meeting.
</paragraph>
</filing>
```

Figure 2: Sample of Annual Report in XML.

Thus, XML describes both what the information is and how it should be presented. XML is an open language that can be used by anyone. XML and XML standards can be incorporated into any accounting software, amplifying the interchangeability of pertinent information between different systems.

2.3.3 XBRL – eXtensible Business Reporting Language

XBRL is an XML-based markup language that inherits all the attributes of XML (Farewell, 2010). However, XBRL is a more flexible version of XML that has been

developed to meet the reporting requirements associated with business information. XBRL is composed of three technical components: specification, taxonomy and instance documents. These components give XBRL three distinctive characteristics: encapsulation, inheritance and polymorphism (Ra & Lee, 2018).

The first, encapsulation, is a tagging mechanism that involves defining a unique class for each accounting item. The second, inheritance, is based on encapsulation; features of a higher-class taxonomy are transferred to a lower-class type, ensuring reusability. Finally, the third characteristic of XBRL is polymorphism.

Given the characteristics mentioned above, specific to XBRL, users can retrieve and process data for their own purposes. These characteristics help in ensuring that the accounting data possesses common characteristics and a common structure. Figure 3 shows a sample of XBRL code.

```
<?xbrl version="2.0" ?>
<group xmlns:ci=http://www.xbrl.org/us/gaap/ci/2020-12-31
entity="NASDAQ:Microsoft" period="2020-12-31"
schemaLocation="http://www.xbrl.org/us/gaap/ci/2020-12-31
scaleFactor="3" precision="9" type="statements" unit=" ISO4217:USD"
decimalPattern="#.#" formatName="">
<group type="ci:Balance Sheet.Assets.CurrentAssets">
<Cash>3016</Cash>
<ShortTermInvestments>35636</ShortTermInvestments>
<AccountReceivable>5129</AccountReceivable>
<Inventories>673</Inventories>
```

Figure 3: Sample of Annual Report in XBRL (code).

‘<?xbrl version=”2.0”?>’ indicates the XBRL version applied. The next tag identifies the standard taxonomy used, in this case CI taxonomy under U.S. accounting principles (GAAP). Tags like ‘<Cash>’, ‘<ShortTermInvestments>’, ‘<AccountReceivable>’ and ‘<Inventories>’ can be read not only by humans but also by computer applications, allowing easy and automatic extraction of data.

Thus, XBRL uses HTML tags to specify how information should be formatted and presented, while XML tags are used to define elements and relationships between the information. Technically speaking, XBRL incorporates features of XML and HTML that are specific to business reporting, which include specification, taxonomies and instance documents (Farewell, 2010). The following section provides a detailed description of these components.

2.4 Components of XBRL

XBRL consists of three major components: XBRL specification, XBRL schema, and XBRL instance documents (Farewell, 2010; Wu & Vasarhelyi, 2004).

2.4.1 XBRL Specification

The XBRL specification is an engineering document that allows software developers to define taxonomies and construct processing and reporting solutions (Müller-Wickop et al., 2013). Using XBRL as a specification, software vendors, programmers, intermediaries and end users can enhance the creation, exchange and comparison of business reporting ("Extensible Business Reporting Language (XBRL) 2.1", n.d.). Business reporting includes financial statements, financial information, non-financial information, general ledger transactions and regulatory filings, such as annual and quarterly reports. An XBRL specification is a set of rules that define the structure of a given version of XBRL. The main aim of an XBRL specification is to standardise the process of creating XBRL taxonomies and instance documents. It is a uniform standard that provides users with necessary guidance for the process of designing

taxonomies and instance documents. It helps to ensure that user-defined tags are compatible and there is no overlap or clash inhibiting the exchange of information (Wu & Vasarhelyi, 2004).

Users can prepare, exchange and analyse financial reports using the XBRL elements and attributes defined in the specification. These elements and attributes include syntax and semantics of instance documents and taxonomies. The syntax allows computer programs to find, extract and interpret facts reliably and efficiently (Wu & Vasarhelyi, 2004).

2.4.2 XBRL Taxonomies

XBRL taxonomies is defined as a standard description and classification system for the contents of financial statements and other business reports (Hucklesby & Macdonald, 2004). The XBRL taxonomy is an extension of the XML schema standard. Using taxonomies, information producers can obtain accounting information from their accounting system and code it in a standard fashion (Wu & Vasarhelyi, 2004).

A taxonomy consists of a list of simple and complex elements describing concepts with their characteristics. XBRL taxonomies are generally grouped into three major categories: general-purpose financial statement taxonomies, special-purpose regulatory reporting taxonomies and the general ledger taxonomy (Baldwin et al., 2006).

There are several subgroups of accounting – financial accounting, management accounting, SEC reporting, IRS reporting, etc. (Wu & Vasarhelyi, 2004). Each of these subgroups requires a special set of accounting terms, policies and methods in order to be reported. Accordingly, each accounting subgroup has a separate taxonomy. Moreover, different accounting standards require the use of different taxonomies. For example, there are two different taxonomies to prepare business reports in accordance

with U.S. GAAP and International Accounting Standards (Wu & Vasarhelyi, 2004).

2.4.3 XBRL Instance Documents

An instance document is an XBRL-based business report that is created using an instance creator (Wu & Vasarhelyi, 2004), such as an XBRL-tagged balance sheet, XBRL-tagged statement of profit and loss or XBRL-tagged corporate governance report. In other words, when financial statements are formatted with tags, they are called instance documents (Deloitte, 2011). These documents contain data points that are linked to context and unit information (Müller-Wickop et al., 2013).

An XBRL instance document includes the XBRL specification version number and the names and locations of taxonomies. When the XBRL instance document is received, an XBRL-enabled application can process the instance document according to the matching specification and taxonomies. Additionally, a company is free to include in the instance document the data they think is relevant to the user of the document (Wu & Vasarhelyi, 2004).

As is evident from the information described previously, XBRL has implications for the entire business community. It has the capability to automate the preparation, presentation, extraction and analysis of financial reports. The entire financial reporting supply chain, from preparers through users, can benefit greatly from using XBRL-enabled applications. Accordingly, there has been an acceleration towards the acceptance of XBRL as a business reporting standard. The stage has been set for the adoption of XBRL as standard setters, regulators and governments around the world are embracing XBRL (Deloitte, 2009). The next section of this thesis provides a critical review of prior studies that have been conducted in the domain of XBRL.

2.5 Prior Literature on XBRL

The literature review portion of this thesis is divided into two sections. The first section provides a comprehensive review of the studies that have examined the XBRL

adoption process. The second section provides a review of literature related to the impact of XBRL on various stakeholders.

2.5.1 XBRL Adoption: Macro and Micro Focus

As the first research question, this thesis investigates the macro- and micro-level factors that influenced the adoption of XBRL for reporting and disclosure purposes. Accordingly, the first section of the literature review will deal with studies that have investigated XBRL adoption at the macro level. The next section will focus on studies that have been conducted at the micro level to identify the factors behind an organisation's decision to adopt XBRL.

The majority of XBRL adoption studies have been conducted at the macro level in varying contexts. This section begins by considering the studies that have examined the adoption of XBRL in the context of voluntary adoption, followed by studies that examined mandated XBRL adoption.

A subset of studies examined issues surrounding the limited uptake of XBRL by organisations in Australia (Doolin and Troshani, 2007; Troshani and Doolin, 2007; Troshani and Rao, 2007). While Doolin and Troshani (2007) and Troshani and Rao (2007) employed a technological, organisational and environmental (TOE) framework, Troshani and Doolin (2007) used diffusion of innovation (DOI) theory. Results showed that there were more inhibitors than drivers of XBRL adoption. Doolin and Troshani (2007) found relative advantage, complexity, trialability and observability to be the main technological factors inhibiting XBRL adoption. Organisational factors such as the inability of innovation champions to justify the adoption of XBRL and the costs involved adversely affected organisations' readiness for XBRL. Finally, a lack of support for XBRL taxonomy, limited success stories of XBRL and small market size were environmental factors negatively affecting XBRL adoption. The additional

inhibiting factors Troshani and Rao (2007) found were instability of XBRL specifications, lack of an adoption strategy due to a 'catch-22 situation' between software developers/vendors and innovation adopters, lack of awareness about XBRL benefits, insufficient management support, non-existent adoption pressure and other adoption priorities, all of which had a negative impact on the adoption of XBRL by Australian firms. Doolin and Troshani (2007) highlighted that there were more inhibitors than adopters because XBRL had not yet been mandated, and the stakeholders, including the regulators, audit firms, accounting bodies and members of XBRL Australia, lacked centrality and did not recognise the urgency of implementing XBRL. On the other hand, the main driver of XBRL adoption in Australia was trading partners' influence.

Following the same approach, Felden (2011) investigated Germany's voluntary adoption using a combination of the technology acceptance model (TAM) and institutional theory. He discovered that social groups have the greatest influence on a company's decision-making regarding XBRL adoption, followed by top management's decision and their strong encouragement, whereas a lack of XBRL knowledge and the unwillingness of software vendors to provide implementation services inhibited companies from adopting XBRL.

Similarly, Steenkamp and Nel (2012) conducted an investigation to identify the factors influencing the intent of organisations in South Africa to adopt XBRL. The main reason why XBRL was not being implemented by South African companies was the voluntary adoption approach. Other factors included the inability of the organisations to perceive any benefits and that they lacked vision and insufficient technical expertise.

The next study, conducted by Mandilas et al. (2009), provided a cross-national assessment to determine how a company's characteristics influence its decision to adopt

XBRL as a financial reporting tool. Employing the TOE framework six determinants were identified that affected the extent and willingness of adoption, namely size of the firm, scope of the firm, technological competence, internet penetration, national disclosure environment and influence of the trading partner.

The above studies were conducted in the context of voluntary adoption, highlighting the importance of the role government and regulators play in promoting and accelerating the intent to adopt XBRL. These studies concluded that if XBRL is mandated companies would be encouraged to adopt XBRL. These studies also highlighted the role of various stakeholders, including professional accounting bodies, audit firms, software developers and vendors, in increasing the level of XBRL uptake. However, due to their static approach towards technology adoption, these studies were unable to account for the interactions of the various stakeholders that could help reduce the number of inhibitors in order to accelerate the intention of organisations to adopt XBRL.

Moving from the voluntary approach to the context of coercive compliance, Lim and Perrin (2014) investigated XBRL adoption in Australia in 2014. The Australian government had mandated Standard Business Reporting (SBR), an initiative based on XBRL, in order to enhance business productivity and reduce compliance costs (Australian Government, 2012). However, the report of the Australian Business Registrar 2012–13 released by the Australian Government (2013) indicated a low rate of XBRL adoption by businesses. Researchers using a combination of the DOI model and the TOE framework investigated the factors behind the low adoption. The most relevant factor, according to the DOI model, was relative advantage. The Australian government had been using cost savings as the primary factor to promote the SBR initiative, which was unattractive to businesses. It did not acknowledge the other

benefits offered by XBRL. Additionally, the government had adopted a closed XBRL reporting approach where no industry-specific taxonomies or extensions were permitted. The reporting initiative was a black box, causing issues related to trialability and observability. According to the technological perspective of the TOE framework, perceived costs were an obstacle to SBR adoption because businesses did not have enough information available to them. The organisational perspective revealed a lack of awareness and expertise among business managers and accountants regarding XBRL. From an environmental perspective, despite government pressure, businesses did not receive the necessary support. Information on the official website of SBR was scattered, limited, inconsistent and outdated.

Adopting a similar approach to Lim and Perrin (2014), Chouhan and Goswami (2015) used the TAM model to examine the adoption of XBRL by Indian firms. Results showed a slow adoption rate, particularly because of the technical complexity and lengthy process of matching taxonomies with financial data. Companies were resistant to the implementation of XBRL because it required them to undertake training efforts and change management initiatives.

While the above two studies focused on identifying the factors behind the low adoption rate of XBRL by companies, Cordery et al. (2011) carried out an exploratory study to identify the factors preventing the adoption of XBRL technology by business organisations in New Zealand. In order to identify the reasons for the low adoption rate, they used the TOE framework to interview key XBRL stakeholders on the relative importance of environmental, organisational and technological contextual factors. They were able to identify three reasons for XBRL non-adoption. First, XBRL was not properly pushed by the government, resulting in organisational ignorance. Second, organisations did not believe that XBRL would substantially reduce compliance costs,

and, third, the complexity of developing taxonomies led to significant budget constraints.

Studies conducted by Troshani and Doolin (2007) and Felden (2011) found perceived benefits to be an insignificant factor behind XBRL adoption, while Steenkamp and Nel (2012) and Lim and Perrin (2014) found perceived benefits to be a major factor affecting XBRL adoption. This inconsistency prompted Ilias et al. (2015) to investigate if perceived benefits were a significant factor behind the adoption of XBRL among public listed companies in Malaysia, using DOI and TOE framework. They emphasised the relative advantage, compatibility and complexity of XBRL while interviewing the respondents. Their results suggest that XBRL is perceived to have a positive impact on financial reporting, audits, level of compliance and users of financial reports. Furthermore, respondents were able to perceive XBRL as compatible with their existing systems even as they acknowledged its complexity.

Based on the results gathered from Ilias et al. (2015), Ilias and Ghani (2015) investigated the level of XBRL adoption among public listed companies in Malaysia. Their results showed that none of the companies were using XBRL in the preparation of their financial statements, despite XBRL having proven itself to be a useful technology that could provide relative advantages to companies in preparation of financial reports and enhance their level of compliance, as suggested by Ilias et al. (2015). There was a lack of awareness and understanding regarding XBRL, mainly because regulators were not effective in advocating the adoption and use of XBRL for the preparation of financial reports.

Based on the results of Ilias et al. (2015), Ilias et al. (2016) investigated the issue of non-adoption of XBRL by listed companies. Results showed six factors that were inhibiting the companies from adopting XBRL including; resistance to change,

pressures, lack of knowledge, expertise and skills, cost and complexity of the system and lack of management support.

Shifting the focus from listed companies, Ilias et al. (2020a) investigated the level of XBRL adoption by small and medium enterprises (SMEs) in Malaysia by integrating the TAM model with the Technology Readiness Index (TRI). Results showed that SMEs are struggling to gain a sufficient understanding of the technology, negatively impacting their readiness and intention. There is a lack of responsibility and commitment, and insufficient resources, due to which companies are not able to prepare their financial statements according to XBRL requirements (known as the Malaysian Business Reporting Standard). However, the researchers found an association between the four factors of TRI and intention to use XBRL. Optimism is at the forefront, suggesting that companies believe that XBRL will help them in performing their tasks. It was followed by insecurity, innovativeness and discomfort. Overall, these studies suggested that regulators could play an important role in increasing the level of XBRL adoption by increasing the level of XBRL awareness.

Based on the conclusion highlighting the role of regulators, Ilias et al. (2020b) explored the factors enabling and inhibiting the adoption of XBRL by regulators in Malaysia using a technological perspective. They divided the XBRL adoption process into four stages and identified the related driving and challenging factors. In the knowledge and persuasion phase, relative advantage was identified as the driving factor and trialability as the challenging factor. The decision-making phase was positively influenced by the compatibility of XBRL taxonomy and stable production of XBRL instance documents. However, the XBRL adoption process was challenged by the stability of the XBRL taxonomy, standardisation of the taxonomy, standardisation of the submissions, availability of tools, software and observability. In the implementation

and confirmation phase, the complexity of the XBRL taxonomy posed an obstacle.

In conclusion, studies that were conducted in the context of mandatory compliance revealed inefficiency on the part of government or regulator bodies to be the major inhibitor causing low rates of XBRL adoption. However, they did not provide any suggestions as to how regulators and government bodies can work together to increase the adoption level of XBRL. Furthermore, empirical research has simply highlighted the stakeholders without putting any emphasis on the role and impact of XBRL stakeholders.

The XBRL adoption literature described above clearly illustrates the use of a static approach by researchers to investigate the factors behind the intention to adopt XBRL, adoption and non-adoption. Most of these papers employed theoretical frameworks such as the TOE framework, technology acceptance model, institutional theory, social network theory and innovation diffusion theory. This leads to the identification of the first research gap, which is the lack of attention prior literature has given to the interplay between the stakeholders present in an institutional environment and their influence on the adoption decision. Their static approach to examining adoption has limited their results by focusing only on the factors without providing any insights about the underlying dynamics that create these factors. This thesis will not only identify the factors of XBRL adoption but also identify the factor enablers and their interactions.

The literature review also demonstrates that there are a limited number of studies that have investigated the adoption of XBRL at a micro level; this is the second research gap. Only two papers, Mousa (2011) and Mousa and Pinsker (2020), were identified to have investigated the adoption of XBRL at an organisational level. Mousa (2011) used the TOE framework to develop a comprehensive research framework to

investigate the adoption of XBRL by HM Revenue and Customs and Companies House in the United Kingdom. XBRL's relative advantage and compatibility, access to external support and information, IT skills and expertise, critical mass and government support heavily influenced the XBRL adoption process. Nevertheless, there were challenges related to developing XBRL taxonomies, ensuring security and providing a business case for stakeholders. Mousa and Pinsker (2020) investigated the adoption of XBRL at the Federal Deposit Insurance Corporation (FDIC). This paper used the diffusion of innovation theory to account for the role of FDIC and its stakeholders as they came together to increase XBRL diffusion. It is noteworthy that examining XBRL adoption at an organisational level allowed researchers to account for the interactions between stakeholders as well as to identify the factors driving and inhibiting the adoption process. Therefore, this thesis will extend the XBRL adoption literature conducted at the micro level.

The third gap identified by the literature review is the limited number of studies that have been conducted in the context of emerging markets, particularly in the (Gulf Corporation Council) GCC region. It was found that no research has been published related to the adoption process of XBRL in UAE, except Miniaoui and Oyelere (2013). However, the main focus of their paper was Internet Financial Reporting (IFR) and they sought to identify the main determinants of IFR practices among companies. UAE listed companies were found to adopt IFR largely as a result of their size, leverage, industry sector and profitability. The only study found that was related to XBRL adoption was conducted by Rawashdeh and Selamat (2013), in which they identified normative, attitudinal and control factors that affected the adoption of XBRL in Saudi Arabia. Six out of nine factors were found to be significantly correlated with the intention to adopt XBRL. These factors included relative advantage, compatibility, ease of use and social

influence. Only three factors were identified as constraining the adoption of XBRL, namely training, Internet skills and lack of knowledge. As evidenced by these two studies, there were more drivers to XBRL adoption than inhibitors found, which highlights that the XBRL adoption process is different in this region. There is a need to conduct a more in-depth analysis of technology adoption in the GCC region. Accordingly, this thesis tries to fill this gap by conducting an examination of the process of adoption of XBRL in the Qatari capital market.

Troshani et al. (2015) criticised the lack of attention in XBRL adoption literature towards complex institutional and social processes and how different actors are mobilised towards adoption of an emerging accounting innovation. They identified that scant attention is paid to the institutionalisation of XBRL and the processes that are influencing its adoption, suggesting that studies should focus on the process rather than on the outcome of XBRL adoption. This approach will help in identifying how heterogeneous actors work together and the inter-organisational interactions that occur in the adoption of XBRL. Troshani et al. (2015) applied the organising vision framework, based on institutional theory, in the United Kingdom. By institutionalising the process of XBRL adoption, that thesis was able to investigate how different actors were able to induce XBRL in the UK. This thesis aims to address the research call and focus on the processual account of XBRL in Qatar.

To summarise, existing XBRL adoption literature revealed that there were various factors that impacted XBRL adoption and also that these factors were not consistent but differed from one context to another. However, these studies failed to account for the reasons behind the emergence and impact of these factors and to investigate what steps are needed to transform the inhibitors into drivers. This information is needed to reduce the uncertainty and scepticism around XBRL adoption.

One way to gather this information is to account for the impact that XBRL has on the stakeholders that can play an important role in resolving issues around the process of XBRL adoption. Accordingly, the next section discusses literature related to the impact of XBRL on stakeholders, including regulators, accountants, auditors, companies and investors.

2.5.2 Impact of XBRL on Stakeholders

The second research question of this thesis requires identification of actors present in the institutional environment, which in this case is the financial reporting supply chain. In order to do so, this section of the literature review provides a detailed discussion about the impact of XBRL on the stakeholders that form a part of the information supply chain. This will help the researcher to understand the social construction of the adoption process by gathering knowledge about various involved stakeholders involved that are affected by the adoption of the technology. The flow of financial information starts from within an organisation (internal reporting) and ends with stakeholders outside the reporting entity (external reporting), which include investors, regulators, creditors, financial analysts, government agencies and tax authorities. Integrating XBRL into the information supply chain can significantly enhance the way information flows and is accessed by these stakeholders.

2.5.2.1 Investors

For individual investors, XBRL has fundamentally changed the way financial data is communicated and processed. As suggested by Weber (2003), XBRL decreases the cost of obtaining and analysing information by addressing the issue of incompatible reporting formats. The use of taxonomy and its machine-readable nature allows investors to analyse and compare data more efficiently at low cost (Vasarhelyi et al., 2012). In contrast to paper-based reporting, where investors had to sift through various

pages to find relevant information, XBRL eliminates the inefficiency and information overload.

Research conducted by Bhattacharya et al. (2018) showed that XBRL helps in levelling the playing field by reducing the information disadvantages small investors suffer compared to institutional investors. The sheer volume of data can cause an information overload that may lead investors to make incorrect or delayed decisions. XBRL increases competition among investors by reducing the information barriers (information-processing costs) between small and large investors that have different levels of resources and information processing skills (Bhattacharya et al., 2018). Efendi et al. (2016) proposed that investors can simply download XBRL data into Excel or XBRL-enabled software to create charts, perform trend analyses, compute ratios and carry out other high-level analyses. Investors can use the tags, save data as an XBRL file and import it to a spreadsheet or other software analysis tool, allowing investors to spend more time on analysing firm's financial condition and economic performance, rather than slowly gathering data by sifting through various pages to locate the information needed (see also Troshani & Doolin, 2007).

Eierle et al. (2014) and Blankespoor (2019) provided evidence that XBRL helps in reducing information-processing costs, because information in the XBRL format is already available in an electronic format and can be easily transferred to spreadsheets and analysis software. Investors are no longer required to hand-collect data or use the services of data-aggregators. Eierle et al. (2014) in particular noted that the value of XBRL lies in its reusability; once firms make XBRL instance documents available, interested parties can reuse the data to conduct longitudinal and cross-sectional analyses. Janvrin et al. (2013) explained the functionality of XBRL that it allows users to easily perform information searches to extract specific information, and to aggregate,

disaggregate and reformat data to conduct their own analysis, while maintaining data accuracy and integrity.

According to Taylor and Dzuranin (2010), XBRL increases the accessibility, comparability and usability of financial reports. The use of taxonomies to tag the data in a standardised manner increases the comparability. The use of tags is also extended to footnotes, management discussions and analysis, auditors' reports and supplemental tables, making the available data even richer and more useful for non-professional investors when making investment decisions. For example, the breakdown of revenue and cost of revenue into products, services and financing, receivables breakdown and breakdowns of provision for bad debt or inventory are available with XBRL (Blankespoor et al., 2014). Thus, users can obtain a richer set of data via XBRL than they can through data aggregators.

2.5.2.2 Companies

Companies can use XBRL to streamline their financial and operational reporting systems. XBRL is actively being leveraged by public and private sector companies to achieve benefits including greater consistency in reporting, reduction in costs, increased operational effectiveness and decrease in the likelihood of potential errors resulting from the misapplication of standards (Deloitte, 2009). Therefore, not only can XBRL be used for external reporting, but its efficiencies can also be applied to internal reporting purposes (Gray & Miller, 2009).

For external reporting, companies can use XBRL to extend current taxonomies by defining new tags or create their own taxonomies for their specific purposes. XBRL is extensible and flexible; therefore, it can be adapted for a wide variety of applications and requirements. Tagging provides relational meaning to a piece of data (Deloitte, 2009). Tagging is applied to both financial numbers and textual information such as

statements of principles, footnotes and appendices. This allows investors to easily search for, extract and compare information, as mentioned in the previous section (Efendi et al., 2016).

XBRL-General Ledger can be used for internal reporting purposes, enhancing the role of management accountants (Via & Garbelloto, 2015). Managers can produce basic financial information once and deliver it in different formats for both internal management and external reporting purposes. By integrating or embedding XBRL into internal processes, companies can produce a wide range of management reports such as balanced scorecards and sustainability reports (Deloitte, 2011). Using taxonomies, also referred to as mapping criteria, managers can aggregate or disaggregate data and create various documents or reports instantly without manual preparation (Efendi et al., 2016). A further benefit is that XBRL-GL allows information stored in ERP applications, accounting and operational applications to be standardised (Via & Garbelloto, 2015). XBRL technology can bridge different accounting or information systems together to seamlessly exchange financial data and thereby allow robust consolidation of information (Gray and Miller, 2009; Teixeira, 2007). XBRL eliminates the manual transfer of data, which implies fewer errors of omission and the production of high-quality reports (Deloitte, 2011).

Financial reports are mapped according to established accounting principles using standardised data elements, relationships and references (Chong et al., 2017). The benefits of mapping include the reduction of information processing time and errors. Organisations can prepare timely reports, make better comparisons and make decisions quickly. Furthermore, XBRL ensures relevance, faithful representation, comparability, consistency and understandability of both financial and non-financial information (Vasarhelyi et al., 2012).

As per the research conducted by Kumar et al. (2019) to identify the effectiveness of XBRL adoption in India, submission of XBRL data is effective and saves time and costs for a company, especially in private sectors, public sectors and foreign banks. The advantages of XBRL adoption also include improvement in the quality of financial reporting. Abhishek and Ashoka (2019) stated that XBRL helps to communicate and provide both financial and non-financial information to users of financial statements in a consistent and reliable way. Kim et al. (2012) proposed that companies should adopt XBRL because it helps in reducing information risk, which means investors will not hesitate in investing their capital and will have a positive outlook towards the company, thus decreasing the cost of capital.

2.5.2.3 Regulators

Many regulators and governmental bodies around the world have started using XBRL as a medium for regulatory submissions (Pinsker et al., 2003). XBRL allows for more timely and accurate disclosure as well as reducing the costs associated with obtaining and assimilating information from companies for reporting and regulatory purposes (Baldwin et al., 2006; Pinsker et al., 2003; "An Introduction to XBRL | XBRL", n.d.).

According to a white paper issued by KPMG (2004), government regulators worldwide face increasing pressure to improve reporting processes and management of risks associated with reporting. XBRL is an ideal format for regulatory reporting, and regulators can play a critical role in the diffusion of XBRL to further reap the benefits of XBRL, including data integrity and uniformity. Regulators can clearly articulate their reporting requirements in an XBRL document. XBRL being a data-centric language, all the reporting requirements will be structured in a way that is easy to understand as well as containing the necessary definitions and references (KPMG, 2004). This has

two major potential benefits; first, the acquisition and absorption of business information could be achieved at a lower cost and, second, the standardisation and harmonisation of business reporting standards. Regulators will no longer be required to aggregate and repurpose financial and non-financial information from disparate systems available in different formats. Sassi et al. (2021) stated that XBRL adoption by regulators improves the value relevance of disclosures, which can be used by regulators for monitoring and compliance purposes (Premuroso & Bhattacharya, 2008). XBRL provides regulatory agencies with increased data integrity and uniformity (Deloitte, 2009). Thus, XBRL will help in increasing the efficiency of regulatory filing processes.

2.5.2.4 Auditors

Proponents of XBRL advocate that technology can help speed up the audit process, reduce auditing costs and make auditing of financial statements continuous (Pinsker, 2003; Shan & Troshani, 2014). XBRL allows auditors to easily audit financial information provided to them by clients in real time, thus enabling them to carry out continuous monitoring (Vasal & Srivastava, 2002). Moreover, XBRL provides an 'automated audit trail', allowing interchangeability and reusability of information across a wide range of software packages (Abdullah et al., 2008). Auditors can employ data-mining techniques for quality surveillance and reporting integrity, which will improve transparency and facilitate e-audit functions (Roohani et al., 2009; Shan & Troshani, 2014). According to Mao and Zhang (2017), XBRL makes auditing more comprehensive and innovative.

By using XBRL for internal control documentation and presentation, auditors can easily follow and understand the relationship between the accounts presented in financial reports and control evaluation in business process. Additionally, with XBRL, auditors can reliably and efficiently perform audit trailing tests such as tracing and

vouching across different organisations and disparate systems. Finally, auditors can utilise XBRL to evaluate the inter-relationships between control objectives, activities and risks of the organisation during the planning phase (Dobre et al., 2013; Roohani et al., 2009). Therefore, the integration of internal control and financial statement audits via XBRL can enable auditors to save significant amounts on both audit engagement and substantive internal control testing costs. According to Boritz and No (2005), auditors are required to extend audit procedures to include auditing the tags used for financial reporting.

The XBRL literature presented above illustrates how XBRL impacts different stakeholders of the financial reporting supply chain. XBRL is an advanced accounting reporting technology that can enhance the capital market by connecting all market participants and adding value to business information throughout the reporting chain. For example, for investors, XBRL increases the accessibility of data, reduces information overload and allows them to perform analysis in a more effective and efficient way. Companies can use XBRL for preparing internal and external reports. Regulators can easily monitor companies' financial performance and their level of compliance. For auditors, XBRL reduces the scope for fraud and manipulation of accounting data.

Research suggests that there are varying levels and approaches by which organisations adopt XBRL. Garner et al. (2013) provided details about the levels of XBRL adoption, ranging from non-adopters to high-level adopters. Non-adopters are those that do not use XBRL for any purpose, since they are not required to do so by any regulator or trading partner. These companies are usually located in countries in which XBRL still has not been mandated. Low-level adopters are companies that outsource the process of XBRL filing and conversion, mainly because they lack the in-house

expertise to perform XBRL tagging or want to avoid the cost of purchasing XBRL mapping tools or changing their internal information systems. Their main aim is to meet the requirements of regulators and trading partners. Medium-level adopters are organisations that convert financial data into XBRL in-house and use XBRL for external reporting purposes only. To convert data into XBRL, these companies purchase mapping tools and provide the necessary training to specific employees. This level of adoption represents the lowest level of capital investment; if they choose to become a high-level adopter in the future, they will be able to do so easily. Finally, high-level adopters are companies that convert their financial data to XBRL in-house and use XBRL for both internal and external purposes, although the level of usage for internal purposes may vary from one company to another.

There are three ways in which XBRL can be implemented, as suggested by Sledgianowski et al. (2010): bolt-on, built-in and embedded. The bolt-on approach involves converting external financial statements into XBRL using their existing reporting format. This can be accomplished using an XBRL mapping technique or instance creation application, or they can outsource it. This approach is most appropriate when companies lack sufficient technical knowledge about XBRL (Steenkamp & Nel, 2012). By following the bolt-on approach, companies are able to comply with regulatory requirements but they are unable to take complete advantage of the benefits that XBRL offers. The built-in approach involves integrating XBRL into the reporting process. This allows a company to use XBRL for both internal and external purposes. In the embedded approach, as the name suggests, XBRL is embedded into the ERP applications, which allows for the efficient use of financial information from the beginning of the reporting supply chain.

2.5.3 Concluding Remarks

This chapter reviewed XBRL adoption literature, first highlighting the factors that influence and inhibit the level of adoption in different contexts. Second, it provided information about how XBRL can impact stakeholders and enhance the financial reporting supply chain. Third, it suggested a number of approaches by which organisations can incorporate XBRL into their business reporting processes.

The first section of the literature review revealed an important gap: the static approach adopted by researchers highlights only the factors that have influenced the decision to adopt XBRL, whether actual adoption or non-adoption. The literature reviews further revealed that existing XBRL adoption research has failed to provide insight into the involvement of the various stakeholders or to account for their impact on the factors identified as leading to the adoption of XBRL. These stakeholders could have a positive impact on the level of adoption in countries that are suffering from low adoption rates. This thesis attempts to resolve these issues by taking a non-static, multi-level analysis approach to the adoption of XBRL, emphasising the role of stakeholders and their impact on the adoption of XBRL in Qatar. This thesis will also provide information regarding the level of adoption. The next chapter presents the theoretical framework that will be used as a guide.

3. CHAPTER 3: THEORETICAL FRAMEWORK

3.1 Overview

The primary motivation of this thesis is to extend the XBRL literature by investigating the conditions and processes by which organisations recognise a need to change their highly embedded reporting systems and implement XBRL as an alternative. As highlighted in the previous section, prior studies have examined the adoption of XBRL using a static approach mainly focused on identifying the factors that impact the level of adoption. There is a need to provide an account of the way in which XBRL as a reporting system is institutionalised, as suggested by Troshani et al. (2005). This will allow a multi-level analysis of the stakeholders in the institutional environment that play an important role in the adoption process (Fine & Hallett, 2014). A similar approach was adopted by Amalia (2021) to investigate the implementation of XBRL in the Indonesian capital market. She made use of the institutional logics perspective to understand how it influenced the uptake of XBRL reporting practices in the Indonesian capital market.

Distinct from the work of Amalia (2021), this thesis relies on the concept of institutional entrepreneurship, stemming from institutional theory, to understand the factors that triggered the interest of the institutional entrepreneur and how the institutional entrepreneur was able to bring about an institutional change, the adoption of XBRL in the Qatari capital market. The following sections provide the justification of the theory, beginning with an introduction to institutional theory.

3.2 Alternative theories

A number of alternative theories can be applied when examining technology adoption scenarios as indicated by the prior literature, including Technology Acceptance Model (TAM), Diffusion of Innovation (DOI), and Institutional Theory (IT).

Technology Acceptance Model (TAM) theory is an information systems theory that was originally proposed by Davis (1989) that explains how individual attitudes and perceptions affect an individual's intention to use technology and their actual usage of technology.

The diffusion of innovation theory as proposed by Rogers (2003), explains how, why and the pace at which technologies spread through a social structure and are implemented. The innovation-decision process involves the stages of knowledge, persuasion, decision making, implementation, and confirmation.

The Technology, Organisational, Environment framework is an organisational level theory that how the firm's technological, organisational and environmental context influences innovation adoption and implementation (Tornatzky et al., 1990).

None of the above mentioned theories is employed in the thesis. The reasons include: first, TAM is utilized to assess an individual's willingness to accept and adopt a new technology. While, in this study, we examine technology adoption at the organisational level. Second, DOI focuses on how an 'organization' go from first hearing about a new innovation, to forming an attitude toward it, to deciding whether to accept or reject the innovation, to implementing it. In contrast to the case in hand in which the innovation process was undergone by an individual. Third, TOE framework only investigates the technological, organisational and environmental factors that influence adoption. While, the main objective and contribution of this thesis was to adopt a non-static approach to the adoption of XBRL.

3.3 Institutional Theory

Institutional theory conceptualises the ways by which institutions are created, modified and transformed. It opposes the earlier portrayals of the institutional perspective as a theory of conformity and stability that underpinned institutions as 'durable socio-cultural structures' (Scott, 2008, p. 48) or 'enduring and relatively

resistant to change' (Jepperson, 1991). The foundations of institutional theory date back to the late 1970s and early 1980s, centered on how institutional forces influence organisational structure and change (DiMaggio & Powell, 1983; Zucker, 1977). Institutional theory provided an effective framework to conduct a 'rich' theoretical investigation of an institution and organisational change. Hoffman (1999, p. 351) defined institution as *'rules, norms, and beliefs that describe reality for the organization, explaining what is and what is not, what can be acted upon and what cannot'.*

Organisations operate in an institutional environment that exerts some degree of pressure on them to shape their behaviour, whether in the form of regulative, normative or cognitive influences. An institutional environment is defined as the framework of rules and requirements that individual organisations must conform to in order to receive support and legitimacy (Scott, 2008). Regulative, normative and cognitive forces are regarded as the three pillars of institutions, providing them with strength and resilience.

The regulative pillar effects organisational change through the enforcement of mechanisms such as rule setting, monitoring and formal sanctions. Legislation, industrial agreements and standards are the main sources of regulatory mechanisms. Thus, from a regulative perspective, organisations change because they have to and not necessarily because they want to (Palthe, 2014). Organisations are legally required to perpetuate that change.

The normative pillar offers a prescriptive, evaluative as well as obligatory dimension to the organisation. This pillar includes values that pertain to preferred or desirable behaviour and norms that specify the legislative means. Normative institutions exercise their influence because they have a social obligation to ensure what

an individual or organisation ought to be doing (Palthe, 2014). Following the norms of acceptability and ethics, they constrain and at the same time empower organisations to change. Thus, normatively speaking, organisations ought to change out of a sense of duty and obligation even if they do not identify with the rationales of that particular change.

Finally, the cultural-cognitive pillar emphasises the importance of organisational change as being intended by the organisation and supported by 'external' cultural frameworks. Therefore, organisations choose to support change and adapt accordingly. There exists a shared understanding between the members who want to change. This pillar is crucial to entrepreneurship research, since it deals with how organisations accept and interact with entrepreneurs, promote their values and even create a cultural setting whereby entrepreneurship is encouraged and accepted (Bruton et al. 2010).

Institutional change was attributed to exogenous shocks based on the strong pressure for organisations to conform to shared expectations and norms within organisational fields (Chen, 2013). Accordingly, researchers sought to understand how these exogenous factors altered the environment of organisational fields and the organisations that comprise them. However, as institutional theory evolved, there was a theoretical progression from only considering exogenous factors to a more endogenous approach, acknowledging the role of institutional entrepreneurs (Micelotta et al., 2017).

3.4 Institutional Entrepreneurship

In the 1990s, a call was made to bring back agency, power and interests in institutional analysis, which resulted in combining the old and new institutionalism. This made 'institutional entrepreneurship' an indefinable stream of research, bringing the role of agents to the forefront (Battilana et al. 2009; Micelotta et al., 2017).

Eisenstadt (1980) first introduced the notion of institutional entrepreneurship to illustrate actors who serve as both catalyst and stimulus for structural change. These actors take the lead by being the impetus for, and giving direction to, change. Using Eisenstadt (1980) as the basis, DiMaggio (1988) introduced the concept of the 'institutional entrepreneur' to institutional analysis, in order to explain how actors can contribute to changing institutions that are subject to regulative, normative and cognitive pressures. He postulated that *'new institutions arise when organised actors with sufficient resources see an opportunity to realise interests that they value highly'* (DiMaggio, 1988, p. 14). Institutional entrepreneurship is regarded as a 'theory of action' based on the principles of institutional theory. The concept of institutional entrepreneurship is helpful to explain the role of actors, and the activities they undertake, in creating, diffusing and stabilising institutions (Battilana et al., 2009).

While institutional theory adopted a top-down approach to understand organisational change resulting from exogenous factors, institutional entrepreneurship incorporates an actor's agency into institutional analysis, focusing on endogenous factors leading to institutional change (Micelotta et al., 2017). Maguire et al. (2004) defined institutional entrepreneurship as 'activities of actors that have an interest in particular institutional arrangements and can leverage resources to create new institutions or transform existing ones'. The institutional entrepreneur binds together the functioning of disparate institutions to create meaningful systems (Garud et al., 2002).

Although institutional entrepreneurship is a useful way to account for the role of actors, there exists a problem with the notion. Institutional entrepreneurship evokes the classic debate between structure and agency that is also referred to as the 'paradox of embedded agency' (Seo & Creed, 2002). The paradox describes the conflict between

institutional determinism and individual agency: '*If actors are embedded in an institutional field…how are they able to envision new practices and then subsequently get others to adopt them?'* (Garud et al., 2007, p. 961).

Researchers such as Battilana et al. (2009) and Leca et al. (2008) highlighted that significant criticism has been levelled at institutional entrepreneurship research for being over-voluntarist and failing to consider the influence of institutional pressures on an actor's behaviour. According to Albertini and Muzzi (2016), prior institutional entrepreneurship studies adopted a dis-embedded view of agency and portrayed institutional entrepreneurs as 'heroes' and a 'hyper-muscular agent'. Albertini and Muzzi (2016) posited that the concept of institutional entrepreneurship arises out of the 'paradoxical' integration of entrepreneurship and institutions. It is a combination of 'institutions' – which provide consistency and stability for organisational processes and constrain actors' behaviour – and 'entrepreneurship' – which shapes and transforms institutions themselves. Fuenfschilling and Truffer (2016) argued that the effects of institutions on the diverse types of actions actors undertake to initiate institutional change should not be ignored, because not all actions are rational and capable of being legitimised. Another aspect of the institutional entrepreneurship literature worthy of critique is the tradition of portraying change as successful and in accordance with the intentions of the institutional entrepreneur; Micelotta et al. (2017) observed that there is a scarcity of studies portraying institutional changes that were unsuccessful, delayed or had unintended consequences.

To address the criticisms highlighted above, a new strand of institutional theory, called institutional work, has evolved that aims at describing how individuals and collective actors can create, maintain and disrupt institutions (Lawrence and Suddaby, 2006, p. 217; Lawrence et al., 2011). It simultaneously explores institutional

embeddedness and how agency and intentionality are involved in shaping institutions (Lawrence et al., 2011; Modell, 2020). Institutional work is predominantly a reflexive form of agency in which actors, as a response to institutional contradictions, break institutionalised, habitual patterns of actions and evaluate alternative courses of action (Modell, 2020). Lawrence et al. (2011) argued that institutional work allows researchers to closely understand the relationship between institutions and actors by asking 'how' and 'why' questions instead of 'what' and 'when'.

This thesis, however, adopts the concept of institutional entrepreneurship as it is most applicable to investigate and understand the factors that influenced the adoption of XBRL. Moreover, institutional entrepreneurship theory allowed the researcher to build a solid conceptual framework (as discussed in section 4.5) that will help in addressing the research questions (section 1.3) from the perspective of the institutional entrepreneur. At the same time, the framework will account for the criticisms of institutional entrepreneurship studies. The next section provides an account of prior studies that have been conducted on institutional entrepreneurship.

3.5 Prior Studies on Institutional Entrepreneurship

Over the past twenty years, there has been a proliferation of interest in the study of institutional entrepreneurship, institutional entrepreneurs and their agency in bringing about institutional change (Tao, 2016). Entrepreneurship is a multifaceted and highly complex phenomenon, varying from one context to another. Accordingly, the following section provides a thorough exposition of relevant literature that examines institutional entrepreneurship, illustrating the processes of institutional entrepreneurship and the conditions under which actors might become institutional entrepreneurs.

3.5.1 Actor's characteristics

Institutional entrepreneurship studies have highlighted the characteristics of

actors that enable them to act as institutional entrepreneurs. Fligstein (1997) considered institutional entrepreneurs to be socially skilled actors. He identified types of social skills actors should possess and how they should utilise these skills, given the particular conditions of an organisational field. He defined social skills as the ability to motivate cooperation among other actors by providing them with common meanings and identities that enable them to both take action and justify their actions. Using social skills, actors can maintain their identities within social groups and focus on meeting and shaping the interests of the group. In doing so, they are able to relate to other actors' situations and provide them with positive reasons to collaborate. Mutch (2007) proposed the notion of 'autonomous reflexivity' through the historical example of Andrew Barclay Walker, who institutionalised public house management in England. According to him, a successful institutional entrepreneur can abstract themselves from others' concerns and take an autonomous reflexive stand. Weik (2011) highlighted that reflexivity is an important ingredient for agency. In order to understand how reflexivity works, focus on the individual level of analysis is required, involving skills that can help in understanding how actors can mobilise individual and collective agency (Modell, 2020).

Fohim (2019) delved into the multi-dimensional skills of institutional entrepreneurs to understand the process of institutional entrepreneurship. He developed a three-phase model comprising seven dimensions of institutional entrepreneurs' skills. His paper provided a basis to understand how specific conditions lead to the formation of specific skills, and how these skills can be applied to realise institutional outcomes. He identified analytical, empathic, framing, translational, organisational, tactical and timing skills, among others. Institutional entrepreneurs are required to possess analytical skills (the ability to identify opportunities for change) and empathic skills

(the ability to put oneself in different situations) during the preliminary phase, before initiating an institutional change. During the initiation phase, actors are required to use framing and translational skills. In this way they are able to better connect with the targeted stakeholders to explain the rationality behind the institutional change in order to gain the stakeholders' acceptance. During the final implementation phase, actors use their organisational and tactical skills. Studies on institutional entrepreneurship have also highlighted the role of field conditions that enable actors to initiate change (Battilana et al., 2009). Actors can use their skills and reflexivity based on the distinctive characteristics of the organisational field as discussed below.

3.5.2 Enabling conditions

Two categories of enabling conditions have been identified: the field-level condition and the actor's social position (Battilana et al. 2009).

3.5.2.1 Field-level conditions

The field-level condition refers to the external environment of an organisation/institution and changes that occur within the institutional environment (Battilana, 2006). It is further divided into three levels depending on the level of maturity, degree of heterogeneity and degree of institutionalisation (Battilana et al. 2009; Fligstein, 1997).

- Level of maturity:

An organisational field's maturity is an important factor in institutional entrepreneurship. Institutional entrepreneurs operate in various types of field conditions, which can be emerging, mature or in crisis (Fligstein, 1997). Accordingly, Fligstein (1997) outlined a series of explicable tactics that actors can employ depending on their relative position in the organisation and field-level conditions. First, when the organisational field is emerging, the major tactics at the actor's disposal include

framing, maintaining ‘goalless-ness’, gathering interests, setting agendas, brokering, making others think they are in control and networking with outliers. Here, the aim of the actor is to bring together as many groups as possible. Next, when the organisational field is settled, actors are divided into two groups, incumbents and challengers. Incumbents can use direct authority, wheeling and annealing, use of the third face of power, maintaining ambiguity, as well as framing actions and agenda setting. Challengers must adopt a different approach and use tactics such as taking what the system gives, asking for more settling for less, trying five things to get one, being selfless and ambiguous and networking. While in crisis-ridden fields incumbents can simply use their authority, challengers must focus on building strong coalitions to ensure that their ideas remain viable.

Maguire et al. (2004) examined the dynamics of institutional entrepreneurship in an emerging field, HIV/AIDS treatment advocacy in Canada. They found that the characteristics of emerging fields offer considerable scope that can be exploited by institutional entrepreneurs. First, the existence of uncertainty provides the opportunity for the actors to be strategic and opportunistic. Second, emerging fields pose a different set of challenges. Lack of institutionalisation reduces the relevance of isomorphic pressures. There are no established patterns to follow, normative forces have yet to develop, and power is more diffuse, which makes it difficult for individual actors to be coerced. Third, institutional entrepreneurs can derive considerable rewards if they are successful in providing much-needed structure to the field.

Greenwood and Suddaby (2006), on the other hand, examined change that emerged from the centre of an established and mature field. The change was a new form of organisation – multidisciplinary practice – and leading accounting firms were responsible for pioneering and championing the change. They proposed first that the

existence of contradictions and institutional embeddedness affects the capability of institutional entrepreneurs. Second, if the institutional entrepreneurs are deeply embedded within an organisational field, they are not open to institutional change. Third, if the institutional entrepreneurs are located in a boundary-bridging position that connects their organisation to other organisational fields, this increases their awareness about alternative possibilities. Similarly, if they are located in a boundary-misaligning position, with related adaptability issues and resource asymmetry, this also increases their openness to alternative possibilities. Moreover, institutional entrepreneurs will be motivated to introduce change if the current conditions lead to inefficiency and low performance. Furthermore, institutional entrepreneurs occupying elite positions are much more likely to initiate institutional changes than peripheral entrepreneurs. Lastly, they pointed out that institutional entrepreneurship emerges from embeddedness, which is a combination of awareness, openness and motivation.

- Level of heterogeneity

Clemens and Cook (1999) suggested that analysis of institutional change should also include the heterogeneity of institutional arrangements. The degree of heterogeneity refers to the existence of multiple institutional orders or alternatives in an organisational field that give rise to incompatibilities. Heterogeneity in the field exists when institutional arrangements neither promote nor prohibit a particular behaviour. Weik (2011) defined heterogeneity as the existence of diverse ideas and norms in a particular field, making it more susceptible to innovation and change. Seo and Creed (2002) also highlighted the importance of heterogeneity as an enabling factor of institutional entrepreneurship. They suggested that constant struggle with opposing institutional arrangements can lead to tensions and conflicts that may trigger a shift in the consciousness of institutional entrepreneurs, prompting institutional change.

- Level of institutionalisation

The level of institutionalisation of organisation fields affects the agency of actors. Oliver (1992) examined the conditions under which highly institutionalised practices are eventually deinstitutionalised. The paper suggested that deinstitutionalisation is a proactive and conscious response by organisations to changes in internal and external environment over which the organisations have little control and discretion and to which organisations respond in a passive or unconscious manner. External pressures such as change in government regulations are most likely to deinstitutionalise existing practices; moreover, the use of coercion and imposition of sanctions further increases the rate of deinstitutionalisation. Internal factors such as performance crises can also provoke deinstitutionalisation. Similarly, Beckert (1999) argues that institutional stability is the foundation for institutional entrepreneurship. Actors destroy existing institutions to create the need for certainty, thereby controlling the process of institutional re-embedding.

Zucker (1977) found that a high degree of institutionalisation negatively impacts an actor's agency. By adopting an ethno-methodological approach to institutionalisation, he conducted experiments to assess the impact of institutionalisation on three aspects of cultural persistence: general uniformity, maintenance and resistance to change. Results indicated that the degree of institutionalisation is strongly related to cultural persistence. As predicted, the higher the degree of institutionalisation, the more uniform the generational understanding of culture. As a result, there is a greater resistance to change through personal influence and a greater degree of maintenance without direct social control. Further building on Zucker (1977), Tolbert and Zucker (1996) outlined various factors that impact the level of institutionalisation. First, the scope of organisations; they highlighted that as the

number of organisations for which the institutional change is deemed relevant increases, the level of institutionalisation decreases, while the level of institutionalisation is high when the institutional change is identified as costly, requiring high investments and adoption of the change is strongly correlated with desired outcomes.

Dorado (2005) used a different approach and combined the level of heterogeneity and the level of institutionalisation to determine the extent to which fields are likely to offer opportunities for institutional entrepreneurs. She identified three dominant forms: 'opportunity opaque', 'opportunity transparent' and 'opportunity hazy'. Opportunity opaque fields are highly institutionalised, providing no opportunity to identify and introduce new changes. In opportunity transparent fields, because the degree of institutionalisation is moderate, opportunity abounds. Actors are capable of defining new institutions as well as gaining support for them. Finally, opportunity hazy fields are characterised by minimal institutionalisation, and the high degree of unpredictability offers opportunities, but they are difficult to grasp and make little sense.

3.5.2.2 Actor's social position

Studies have acknowledged the role of an actor's social position as an important factor enabling entrepreneurial activities, depending on whether they are located at the centre or the periphery of an organisational field. Based on Dorado's (2005) research, an actor's social position has a direct impact on their perception of the field and their access to the resources required to engage in institutional entrepreneurship. Maguire et al. (2004) confirmed that institutional entrepreneurs who are striving to bring about a change in emerging organisational fields are actors who use their 'subject positions' to attain legitimacy and the ability to engage with diverse stakeholders.

Battilana (2006) concentrated on the enabling role of an individual's social position in the occurrence of institutional entrepreneurship. She attempted to tackle the paradox of embedded human agency by developing three propositions. These propositions concerned the probability of individuals to act as institutional entrepreneurs based on the influence of their position in their organisational field and organisation, and any change in their positions within organisations. There are two factors that determine an individual's position in their organisational field: their status within the organisation and their membership in social groups. Individuals that belong to organisations that are less embedded in an organisational field are more likely to initiate institutional change than individuals belonging to organisations that have a high status. Moreover, individuals belonging to lower-status groups within a given organisational field are more likely to be involved in divergent organisational change than their counterparts who belong to higher-status social groups. However, individuals belonging to lower-status social groups have more difficulties in accessing the resources required. The second proposition states that an individual's position in an organisation is again determined by their informal and formal position. Accordingly, the researcher proposed that people in low-status social groups could benefit from forming strong ties with people in higher-status social groups to weaken their resistance and to gain access to the required resources. The author also noted that individuals occupying higher positions in an organisation do not accept the existing institutional arrangements as inherent and thus are more likely to engage in institutional change. Finally, individuals that have had a longer tenure and inter-organisational mobility are more likely to act as institutional entrepreneurs.

Garud et al. (2002) carried out an in-depth exploration of how Sun Microsystems initiated an institutional change by using their social position in the

network technology field. They introduced Java, a new software technology that enabled computers and information appliances to run applications distributed over a network. They adopted an ‘open system’ approach to generate momentum behind Java technology. The company was able to gain the support of various partners including system developers, assemblers, component manufacturers and vendors. Microsoft, another major player in the field, ‘actively’ ignored Java initially, and concentrated on developing Blackbird, an alternative that they claimed had more functionality. However, the growing momentum of Java posed a threat to Microsoft. Eventually Microsoft not only endorsed Java but also started adding proprietary extensions.

3.5.3 Intervention strategies

For institutional change to be successful, institutional entrepreneurs must design and implement a range of strategies. Institutional entrepreneurship is discursive strategy whereby institutional entrepreneurs produce discourse and texts in order to influence an institution’s underlying processes.

Phillips et al. (2004) developed a discursive, or conversational, model of institutionalisation that emphasises the relationship between texts, discourse, institutions and action. Specifically, they discuss actions that lead to the creation of texts, texts that become embedded in discourse and discourse that leads to the formation of institutions. Actions that are innovative and require legitimacy lead to the generation of texts that are widely disseminated and consumed by other actors in the field. The next step is the process of embeddedness, for which certain features are required of the texts. First, they are produced by actors with formal authority; second, they are recognisable and can be interpreted and used in other organisations; and third, they draw on other texts. Texts that have these features are more likely to become embedded in discourse. Finally, in order to become institutionalised, discourse should be coherent,

structured, supported and not highly contested.

Garud et. al (2002) proposed a ‘collective action frame’ consisting of three main steps: punctuation, elaboration and motivation. Following these steps will increase actors' chances of effecting institutional change. Punctuation involves identifying the problem and its importance. Elaboration includes diagnosing the issue and identifying what is causing it as well as a prognosis describing what is needed to rectify it. The third step is motivation, which requires encouraging actors to take part in the change process.

Ahlstrom et al. (2008) proposed four strategies under three different institutional environments that can be used to gain legitimacy in emerging economies. Selection is the simplest strategy for building legitimacy that firms can undertake, which involves selecting an environment where the acceptance for their activities is already established. The second strategy involves conforming to the institutional settings of their existing environment in order to build legitimacy. Selection and conformation are typically individual firm strategies. The other strategies, manipulation and creation, are best conducted through collaborative efforts between multiple firms. Manipulation involves proactively shaping the opinions of regulatory bodies, policy makers and society in general. It is a time-consuming process that requires firms to engage in aggressive promotion. Finally, in the last and most difficult strategy, firms create new environments to legitimate their operations.

This thesis proposes a model of the process of institutional entrepreneurship that highlights the steps undertaken by the institutional entrepreneur from the initiation to the implementation of the institutional change. This framework was built after conducting a comprehensive literature review of institutional entrepreneurship. The main aim of the conceptual framework is to resolve the critiques mentioned above by

duly accounting for the actor's embeddedness in the institutional environment and providing a rich analysis of the institutional dynamic forces.

3.6 Conceptual Framework

To help mobilise and provide deeper understanding to this study, the conceptual framework shown in Fig. 4 was developed. This framework is based on institutional entrepreneurship theory. The framework has been adapted from the work of Hardy and Maguire (2008) and Battilana et al. (2009) and modified for the case in hand. The framework plays a role in advancing our understanding of the factors that triggered the institutional entrepreneur, examining the necessary actions taken by the institutional entrepreneur to initiate the change and, finally, focusing on the institutional change that completed the process of institutional entrepreneurship. Battilana et al. (2009) suggested that future researchers can expand their proposed framework as required to provide a vivid analysis accounting for the actions of the institutional entrepreneur and stakeholders involved in the process. Accordingly, the framework has been modified to include the stakeholders that were involved in this process of institutional change.

Figure 4: Conceptual Framework

The framework proposes three main factors to explain how the institutional entrepreneur was able to interact with his institutional environment and initiate and implement the institutional change successfully. The first factor relates to the characteristics of the actor that distinguish him from the other actors in the field. A substantial part of this factor is the actor's skills and abilities as an institutional entrepreneur. In addition to the actor's characteristics, field-level conditions have been identified that played a significant role in enabling institutional entrepreneurship. Finally, the third factor highlights the various strategies institutional entrepreneurs employ to foster institutional change.

3.7 Concluding Remarks

This chapter discussed the theory that will be used to explain the process of XBRL adoption by the Qatar Stock Exchange, institutional entrepreneurship. The chapter also highlighted the reasons for selecting this theory. Based on the theory, a conceptual framework was outlined that will allow the reader to understand the conditions and factors that led the institutional entrepreneur to bring about this institutional change and how the process of change unfolded.

4. CHAPTER 4: RESEARCH METHODOLOGY

4.1 Overview

In this chapter, the research design chosen to collect empirical data through fieldwork to address the research questions of this thesis will be outlined. This chapter lays out the research approach, research strategy and methodology used for data collection and analysis.

4.2 Research Approach

This thesis conducted a qualitative research in order to address the research questions mentioned in Chapter 1 (Section 1.3). Denzin and Lincoln (2005) suggested that the qualitative method allows the researcher to understand organisational decisions and actions taken in a real-life context, as well as the underlying motives and opinions (Quintão et al., 2020). Moreover, qualitative research is a preferred research method because its descriptive nature allows researchers to explore and gain insights on issues that are underexplored, such as the adoption of XBRL technology (Mbachu & Bizien, 2017). It also enables researchers to provide detailed discussions about research findings. According to Ma and Olayinka (2019), qualitative research can help researchers to comprehend how a process unfolds and provide insight about a novel phenomenon, such as XBRL, as well as exploring paradoxes and how events occur.

Moreover, abductive reasoning is applied to extend the understanding of institutional entrepreneurship and the role of institutional entrepreneurs. This thesis aims to extend institutional entrepreneurship theory and attempt to resolve the debate of structure versus agency by seeking underlying patterns in the data collected by moving between theory and empirical data (Smith, 2019).

4.3 Research Methodology

According to Yin (2003, p.2) case studies provide *'rigorous and fair presentation of empirical data'*, allowing researchers to build a holistic and meaningful

understanding of real-life organisational processes. He further suggested that case studies can be used to explain the causal links in real-life interventions that are too complex to be explained using survey or experimental methods. The case study approach allows researchers to ask ‘how’ and ‘what’ questions (Yin, 2003). Moreover, Davey proposed that the case study method can be used to conduct an in-depth, longitudinal examination of a single instance or event through extensive description and contextual analysis (Davey, 1990). Messner et al. (2017, p. 462) stated that case studies provide a richer and more detailed account of empirical data. Baxter and Jack (2008) proposed that the case study reveals multiple facets of a phenomenon.

Depending on the context, researchers can conduct either single or multiple case study research (Yin, 2003). According to Yin, a single case study should be employed when the researcher wants to study a person or a group of people. Zainal (2007) further highlighted that there are three categories of case studies: exploratory, explanatory and descriptive. The aim of exploratory case studies is to explore any phenomenon in the data that catches the researcher's attention. Explanatory case studies delve deep into the data to explain the phenomenon. Descriptive case studies describe the phenomenon in its natural setting. With particular focus on the field of accounting, Scapens (2004) identified two more types of case studies, illustrative and experimental. Illustrative case studies are used to illustrate the development of new and innovative practices. Experimental case studies are used to examine implementation problems and to evaluate the potential benefits of new accounting procedures.

Accordingly, this thesis will conduct a single case study, explanatory in nature. The main aim of this thesis is to investigate how the institutional entrepreneur was able to influence the replacement of reporting system by XBRL. QSE has been selected as an explanatory case study because it recently adopted XBRL. QSE is the main stock

market operating in Qatar. In 2020, it announced the launch of Q-Disclosure, a XBRL-based platform, as an ongoing initiative for increasing the level of transparency and quality of disclosures. Prior to the launch of Q-Disclosure, listed companies would submit their financial reports and non-financial disclosures via electronic mail, which after review would be published under 'Company News' on the QSE website and made available to all market participants. The next chapter (Chapter 5) provides a detailed overview of QSE and information about its previous system of financial reporting, followed by an illustration of the process by which XBRL was adopted and the Q-Disclosure platform was launched.

Studies of organisational adoption of XBRL have mostly relied on case studies and interviews (Perdana et al., 2015). A case study approach was used by Mousa and Pinsker (2020) to analyse the FDIC process for implementing and developing XBRL, as well as to identify the stakeholders' roles and impact on this process. Mousa (2013) investigated the adoption of XBRL at Companies House in the United Kingdom. Janvrin and No (2012) adopted a multiple case study approach to examine how companies in United States were implementing XBRL after the SEC mandate to submit their financial information in XBRL format. Using the case study approach they were able to identify the issues that emerged during the implementation process and how they were resolved. In their study, Doolin and Troshani (2007) conducted case study-based interviews with potential XBRL adopters including representatives of regulatory agencies, accounting firms and XBRL Australia. Troshani and Rao (2007) utilised a case study to identify relevant variables impacting the adoption of XBRL in Australia.

According to Myers and Newman (2007) and Bryman and Bell (2015), interviewing is the most widely employed method in qualitative research. It can be classified into three categories, depending on the amount of structure applied by the

researcher – structured, unstructured and semi-structured.

By conducting a single case study on QSE using interviews as a research methodology the researcher will be able to identify and analyse the factors that led to the adoption and implementation of 'Q-Disclosure', the XBRL-based platform. It will also allow the researcher to explain the underlying dynamics of the institutional environment and describe how the institutional entrepreneur was able to resolve the 'paradox of embedded agency' and bring together various stakeholders for the launch of Q-Disclosure.

For this thesis, the semi-structured interview method has been utilised. It was selected for the following reasons. First, it is widely used by researchers to gather rich data in investigating under-researched and contemporary phenomena such as XBRL and its adoption process. Second, it provides the necessary structure and required flexibility to promote dialogic exchange (Husband, 2020). It allows the interviewee to express their opinions beyond the scope of the questions and allows the interviewer to ask additional questions to better understand the issue (Braun & Clarke, 2006). Hence, stronger and richer results can be gathered as it captures a full and complete perspective on the phenomenon (Brinkmann & Kvale, 2015).

4.4 Data Collection and Analysis

An outline of the procedures to be followed during the data collection process was developed based on Yin's (2003) recommendation. QSE was identified as the primary unit of analysis and the goal was to investigate the adoption and implementation of XBRL. This goal was accomplished by focusing mainly on the SBD Officer, the person behind introducing XBRL, who played a major role in the successful adoption of the XBRL technology. Apart from him, four other members of the organisation that were a part of the adoption process were interviewed. In total, nine semi-structured interviews were conducted with QSE members at their workplace to

explore influencing factors and understand their roles in the adoption and implementation of XBRL. Additional interviews were conducted with representatives of the listed companies that were involved in the adoption process. Tables 1 and 2 provide a summary profile of the interviewees from QSE and listed companies, respectively. Diligent efforts were made to interview company representatives that had experience with XBRL implementation.

Table 1: Interviewee Profiles (Qatar Stock Exchange)

Job Title	Interviewee Code	No. of years at exchange	Interview date	Duration
Senior Business Development Officer	Officer A	17	3/8/2021	23 mins
			12/8/2021	17 mins
			12/9/2021	51 mins
Business Development Officer	Officer B	17	3/8/2021	21 mins
			23/8/2021	18 mins
			12/9/2021	22 mins
Education Manager	Officer C	13	23/8/2021	15 mins
Disclosures Manager	Officer D	14	23/8/2021	13 mins
Internal Audit Director	Officer E	9	23/8/2021	16 mins

Table 2: Interviewee Profiles (Listed Companies)

Job Title	Interviewee Code	Company Code	Company listing year	Interview date	Duration
Head of Reporting and Compliance	Manager A	Company A	2002	24/8/2021	16 mins
Finance Manager	Manager B	Company B	2009	28/9/2021	13 mins
Finance Manager	Manager C	Company C	2005	29/9/2021	12 mins
Head Financial Business Support	Manager D	Company D	1999	30/9/2021	15 mins
Consolidation & Reporting Manager	Manager E	Company E	1998	7/10/2021	14 mins

Research participants were interviewed between August and October of 2021. A total of 14 interviews were conducted, out of which nine interviews were conducted with members of QSE and five with managers of the listed companies. Interviews with representatives of the listed companies were conducted over the phone. The contact information of the listed companies was provided by the educational manager. Three company managers required the interviewer to send the list of questions via e-mail before answering them. The limited number of interviews can be justified by thematic

saturation, which requires collecting data until no more patterns or themes are emerging from the data (O'Reilly and Parker, 2013).

Interviewees were first contacted via an e-mail that included a letter of invitation and an information sheet. The invitation letter was customised to appeal to the person being contacted. The information sheet included a brief description of XBRL, the purpose of the study, the guidelines used for gathering information and the procedures to protect the participants' confidentiality. Respondents were provided assurances that their identity and responses would be held in strict confidence and used for this thesis only.

A list of open-ended interview questions was drafted in advance to provide guidance and to ensure the collection of pertinent data. The interviewees were allowed to express their opinions and provide detailed information about their experiences with XBRL. Based on their responses, additional questions were asked to understand the issues before continuing with the planned interview questions. The interviews consisted of a combination of introduction, direct, indirect, follow-up and interpretive questions to maintain the flow of information as suggested by Qu and Dumay (2011). All interviews were digitally recorded and later transcribed. This step was critical while interviewing QSE members in order to prepare for follow-up interviews. In addition, not all questions were asked of every interviewee, as some questions did not apply to all interviewees. For example, company representatives and auditors were not asked about the implementation process of XBRL at the exchange.

Interview questions were theoretically informed; the questions administered to specific groups were relevant to their roles in the adoption of XBRL. The conceptual framework of institutional entrepreneurship proposed by Hardy and Maguire (2008) and Fohim (2019) constituted the foundation to develop interview questions for the

Senior Business Development Officer. Prior literature on XBRL implementation was used to design semi-structured interview questions that were administered to the remaining research participants.

Yin (2017) described four conditions that ensure the accuracy of collected data: external validity, internal validity, construct validity and reliability. With regards to external validity, the findings generated from this research can be used as a guide for similar organisations in their implementation of XBRL, particularly organisations located in Qatar. Internal validity is ensured by matching the outcomes of data collected with the framework of institutional entrepreneurship. Construct validity is confirmed by conducting multiple interviews with an individual, as well as with members of the same organisation. The reliability issue is addressed by triangulation of data. Yin (2017) suggested that there are four types of data triangulation: (i) data triangulation, which involves combining multiple sources of data; (ii) researcher triangulation, by including multiple evaluators; (iii) theory triangulation, by adopting multiple perspectives on the same data set; and (iv) application of complementary methods for methodological triangulation. This thesis ensures reliability of the collected data by applying data triangulation through the use of multiple sources of data, including different websites and news articles. The researcher also attempted to obtain opinions about XBRL from different research participants, and opinions about the adoption process from various members of QSE, as a form of theory triangulation.

After transcribing the interviews, the researcher reviewed the transcripts in order to become familiarised with the data, identify the underlying patterns and categorise the findings. A thematic approach was adopted for the analysis of the interview data. Thematic analysis is a method used for identifying, analysing, organising, describing and reporting themes found in the collected data (Braun &

Clarke, 2006). A rigorous thematic analysis can produce trustworthy and insightful findings. Accordingly, a five-step procedure, as proposed by Pope (2001) is followed, which is described in Table 3.

Table 3: Stages of Thematic Analysis

Stage	**Description**
1. Familiarising with the data	Prolong engagement with the data by reading and understanding it several times.
2. Generating codes	Develop codes in a systematic manner
3. Matching themes with codes	Generate code into themes and sub-categories
4. Reviewing themes	Verify whether themes and quotes match the coded quotes
5. Reporting findings	Final verification and analysis of quotes and relating them to research question

Interview data was analysed using NVivo 12 Plus, a qualitative analysis software program. Transcripts of all interviews were imported into NVivo and saved as documents. Interviewees' names were replaced by codes as a means of identification. A table of descriptive codes that reflect the identified research themes was created. Next, the transcripts were read, highlighting sentences, phrases or words and matching them with the relevant codes. The content of the transcripts was either coded into one of the pre-determined categories based on the research framework, assigned to a new category identified during the interviews, coded into more than one category or not coded, if it was found to be irrelevant. The interview transcripts were revisited several

times during the coding process to ensure that codes and meanings were interpreted appropriately within the research study and in accordance with the research framework, which was based on institutional entrepreneurship as suggested by Medico (2005).

The diagram in Figure 5 shows the main themes and sub-themes. It provides the reader with a brief overview of the main findings gathered from the interviews. There were three main factors that led the institutional entrepreneur towards adoption of XBRL at QSE. A detailed explanation of these factors is provided in Chapter 6.

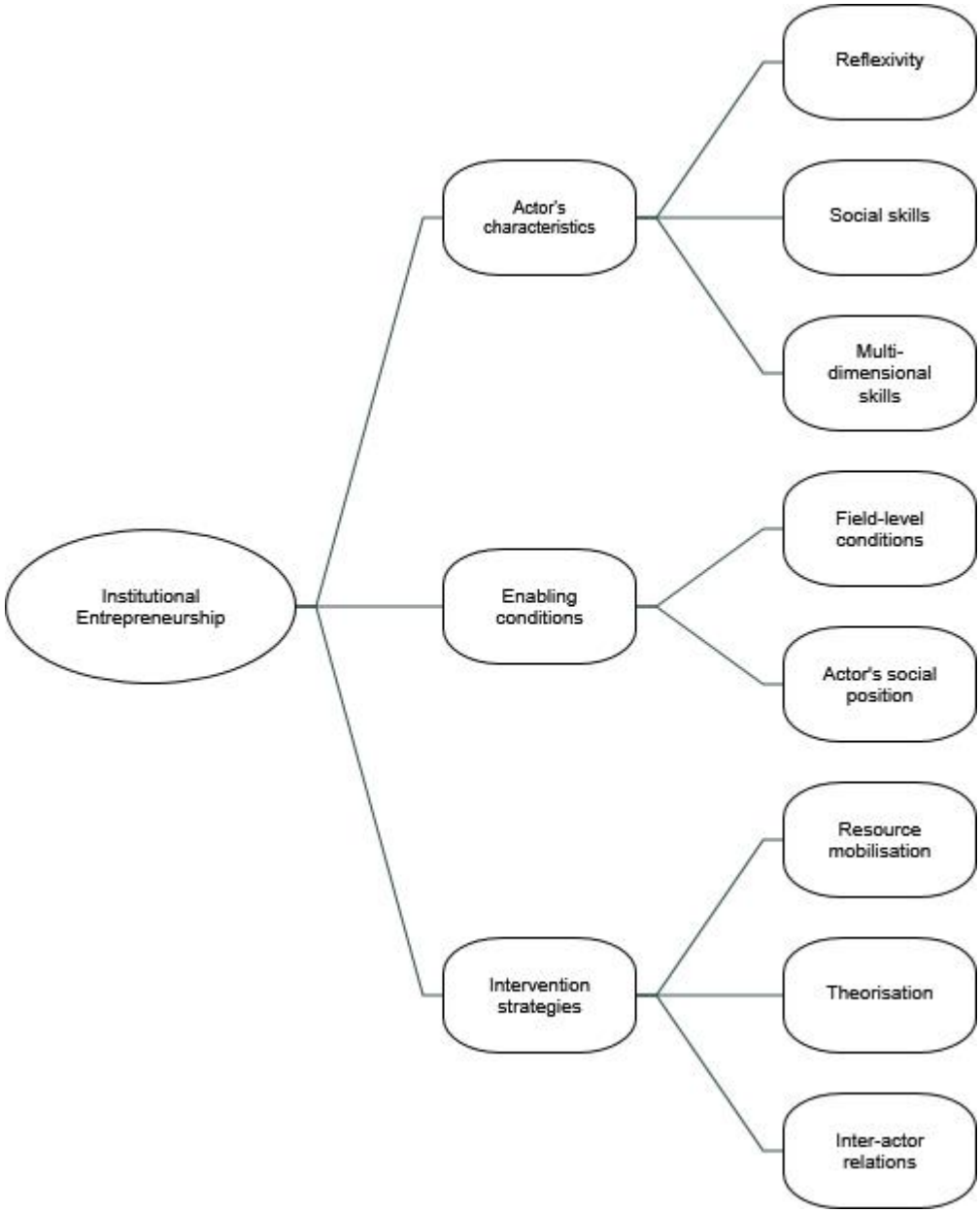

Figure 5: Identified themes and sub-themes

4.5 Concluding Remarks

This chapter has articulated the research methodology and discussed some critical issues relating to the research approach, the strategy used and the data collection methods. By using a case study methodology, the researcher was able to examine in depth the relevant events and factors that led to the adoption of XBRL. Semi-structured interviews were conducted with different members of QSE to gain insights about the conditions and processes of institutional change in financial reporting practices with special focus on XBRL technology.

5. CHAPTER 5: RESEARCH FINDINGS

5.1 Qatar Stock Exchange Overview

The Qatar Stock Exchange (QSE) is the principal stock market in Qatar. The primary objectives of QSE are to support Qatar's economy by offering a diversified range of investment and trading opportunities for both domestic and foreign investors, as well as to provide a platform for Qatari companies to raise capital. The exchange is a part of a comprehensive national strategy to establish Qatar as one of the leading international markets in the world and strengthen the country's position as the region's primary financial centre. The exchange is striving to establish itself as a leading institution at the national and regional levels with a global reputation (Qatar Stock Exchange, 2020).

QSE, originally called the Doha Securities Market, was established in 1995. It started its manual operations two years later, in 1997, with only 17 listed companies and a market capitalisation of around QAR 6 billion (Oxford Business Group, 2021). In 2005, a decree was issued allowing foreign investors to own a stake of up to 25% in Qatari shareholding companies. Two years later, in 2007, the exchange joined the World Federation of Exchanges. In 2009, the Doha Securities Market was renamed the Qatar Stock Exchange after an agreement was reached between the Qatar Investment Authority and NYSE Euronext. In 2018, QSE was ranked as the best-performing exchange amongst emerging and developed markets in the world (Qatar Stock Exchange, 2020). The next section provides information about the current composition of the capital market and the financial reporting practice followed by listed companies.

5.2 Financial Reporting Background

There are currently 48 companies listed on the Qatar Stock Exchange, spanning seven sectors including banks and financial services, consumer goods and services, industrials, insurance, real estate, telecommunications and transportation. The

distribution of the listed companies across these sectors is shown in Table 4.

Table 4: Distribution of the listed companies at Qatar Stock Exchange

Sector	Population
Banks & Financial Services	13
Consumer Goods & Services	10
Industrials	10
Insurance	6
Real Estate	4
Telecoms	2
Transportation	3
Total	**48**

Prior to the implementation of the XBRL platform 'Q-Disclosure', listed companies would submit their financial statements and non-financial disclosures in various formats, including Microsoft Word, Microsoft Excel, image file and PDF, via e-mail to the listings department. The listings department would review them and upload them on the website under 'Company News'.

Since its inception, the exchange has been striving to enhance its technical capabilities and ensure the development of Qatar's capital market as the region's primary financial hub (Qatar Stock Exchange, 2020). 'Q-Disclosure' is one of the many

initiatives that the exchange undertook to build trust in the Qatari market. The following sections provide general information about the Qatari capital market followed by detailed information about 'Q-Disclosure' and the process of adopting it.

5.2.1 Qatari Capital Market

The context of this thesis is the Qatari capital market, which is the region's second-largest equity market with a market capitalisation of US$160 billion from 47 listed companies by the end of 2019. Qatar is working to develop a more diversified and deeper capital market by undertaking several measures. According to Qatar Capital Market Report (2020), Qatar Stock Exchange (QSE) and the government have taken several measures, such as enhancing foreign ownership limits, inclusion in the MSCI Emerging Market Index, boosting listings from family-owned businesses, as well as Small and Medium Enterprises (SMEs) on its parallel Venture Market, developing its infrastructure and providing new services and trading options. Specific to this thesis, on such measure is the launch of Q-Disclosure. It represents an important step towards enhancing transparency and quality of disclosure in the Qatari capital market as well as enhancing its investment attractiveness (Qatar Stock Exchange, 2020).

5.2.2 Q-Disclosure

'Q-Disclosure' is an XBRL-based reporting and disclosure system (Qatar Stock Exchange, 2020). It is a proprietary, secure submission platform designed for the submission of financial and non-financial disclosures in the XBRL format by listed companies. The objective of XBRL is to establish an electronic financial reporting standard that allows efficiency and accuracy in retrieving and analysing financial information. QSE therefore believes that the use of XBRL will help to provide more value-added financial and non-financial information to stakeholders and enhance the regulatory environment. The platform will increase transparency by allowing timely

dissemination of, and greater access to, information for users such as investors, auditors, regulators and financial analysts (Qatar Stock Exchange, 2020).

Q-disclosure is a multi-language web-based solution available in Arabic and English. The system meets all International Financial Reporting Standards (IFRS) requirements. Sector-specific taxonomies are provided for banks and financial institutions, insurance companies (commercial and Islamic) and real estate companies, while a generic taxonomy is provided for the companies in the remaining sectors as shown in Table 4. Q-Disclosure allows listed companies to report financial statements, including income statements, statements of comprehensive income, statements of financial position, changes of owners' equity and statements of cash flow. Various templates are available on the Q-Disclosure platform for information related to dividends, rights issues, issuance of bonus shares, capital changes and other company announcements such as board meetings, annual general meetings of shareholders, extraordinary general meetings, changes to the board, ownership limits and disclosure dates of financial statements (see Appendix D and E). In the Q-Disclosure system, information submitted by reporting entities is automatically validated based on the predefined tags or XBRL specifications. Additionally, the system allows auditors to log on and review the unaudited reports awaiting their approval. The next sub-section outlines the process of XBRL adoption at QSE using a multi-stage approach.

5.3 XBRL Adoption Process

This section outlines the process of XBRL adoption, specifically the launch of the Q-Disclosure platform at QSE, using a multi-stage approach. This approach is helpful for identifying and describing the various stages involved in technology adoption by an organisation, as argued by Hameed et al. (2012) and used by Yang et al. (2015) in their research. Doolin and Troshani (2007) suggested that XBRL is a relatively complex technology because of its inter-organisational nature, requiring

extension of an organisation's boundary and expertise during the implementation process. Accordingly, Hameed et al. (2012) and Yang et al. (2015) suggested that a multi-stage approach provides insights into the complex nature of technology adoption in an organisation by identifying links between events and their temporal relationships during the implementation process. Additionally, this approach makes it possible to analyse the roles of different stakeholders. The stages identified are pre-adoption, adoption-decision and post-adoption, as proposed by Hameed et al. (2012) after they conducted an exhaustive literature review on technology adoption.

5.3.1 Stage 1: Pre-Adoption

The pre-adoption stage typically refers to the time preceding the organisational adoption decision. It comprises several activities or sub-stages, including recognition of the need for an innovation (motivation), learning about the innovation's existence (emergence), consideration of the innovation's suitability for the organisation and discussion about the innovation with other members of the organisation (Hameed et al., 2012).

5.3.1.1 Recognising the Need for Change

Business reporting around the world has been transformed by XBRL, a programming language used for the electronic communication of business information (Gandhi, 2010; James, 2007; Jones & Willis, 2003; Liu et al., 2014a; Markelevich et al., 2015; Pinsker & Li, 2008). It changed the medium of business reporting from paper or PDF versions to HTML-based reports, increasing the effectiveness and efficiency of the information. It ensures effective production, consumption and exchange of financial and business information (Deloitte, 2009). However, it should be noted that XBRL does not replace or change any international accounting standards. It is just a programming language that serves as a powerful tool to enhance the preparation, analysis and

communication of business information ("Does XBRL cause a change in accounting standards? | XBRL", n.d.).

The Senior Business Development Officer (henceforth referred to as SBD Officer) at QSE mentioned that one of the main purposes of XBRL was making financial statements more accessible for users. He noted, *'when you open an internet page or printed document, everything you read is static. But in XBRL, every individual item of data, whether numeric or textual, has an identifying tag'.* This response highlights the specific importance of tagging to XBRL, due to which it is also referred to as 'bar codes for reporting' ("An Introduction to XBRL | XBRL", n.d.). These tags are machine-readable, allowing computers to automatically search for and assemble data, enabling easy access to and analysis of data for users.

A number of technical factors led the SBD Officer to identify a need for change in the reporting and disclosure procedure used by QSE. Previously, the exchange had a standard filing process, reporting financial and non-financial disclosures. As per the previous reporting and disclosure mechanism:

> *When a company has a disclosure to make to the market, the company sends that particular news (whether financial or non-financial disclosure) via a designated email portal to the exchange and in turn, the exchange reviewed the content of such disclosure and upload it into the exchange website under 'Company News'.*

The SBD Officer stated that adoption of XBRL would facilitate the modernisation and automation of the reporting and disclosure process at the exchange. As highlighted by the Business Development Officer, the previous disclosure and reporting process was time-consuming and required effort. First, the listings department would review the contents of the disclosures to ensure they adhered to the reporting requirements of the exchange and the Qatar Financial Markets Authority (a regulatory body, further

information will be provided in the following sections) as stated in the QSE rulebook. Second, company officials were required to be physically present at the exchange before any disclosure was uploaded to the website.

A disclosure system should ensure that information is provided in a timely manner, as investors use corporate disclosures to make well-informed investment decisions. XBRL can be used to deliver real-time reporting, increasing the timeliness of data. Moreover, by using XBRL, other objectives, such as automated validation, analysis and report generation, can also be met with ease. Commenting on the timeliness enabled by the Q-Disclosure platform, the Business Development Officer mentioned:

> *Also, the system is available 24x7. Companies can disclose at any time, no delays involved. Any company can do any disclosure at any time and the exchange team can publish that disclosure at any time, from anywhere, home, office. Except during trading sessions as stipulated by law.*

Further corroborating the timeliness, the Disclosures Manager said *'we save time, effort because data is being transferred automatically. Also, no delay in uploading the data.'* After the adoption of XBRL and the launch of Q-Disclosure, amendments were made to the QSE rulebook regarding disclosure obligations. One such amendment stated that the exchange would no longer be obligated to review the information provided by the listed companies, which will instead be automatically published on the Q-Disclosure platform (information about other amendments to the Disclosure Obligations can be found in the Appendix B).

Other technical challenges associated with the previous reporting and disclosure mechanism were the lack of standardisation and the reduced comparability of data. As mentioned by the SBD Officer, different companies would disclose different line items

in their financial statements. For example, *'cash and cash equivalent can be reported as cash only by some companies'*. This was also confirmed by the Business Development Officer: *'there is no symmetry, no standardisation for the various disclosures sent by the listed companies'.* He stated that one of the main drivers of implementing XBRL was *'to unify the methodology used by listed companies to disclose their data to the exchange'*. Further highlighting the importance of standardisation and comparability, the Education Manager of the exchange mentioned:

> *If [we] are doing comparison between two companies, using balance sheets, income statements etc. [We] need to have the same standard of data reporting, otherwise it's like you are comparing oranges to apples. [We] need to compare apples to apples. With XBRL, you can do comparison easily.*

The Consolidation and Reporting Manager of listed company E had a similar opinion, stating *'XBRL is making all listed companies' financial results comparable, like comparing apple to an apple, which makes it easier for shareholders and investors to have a comparable financial result'*. XBRL makes use of a robust and well-defined taxonomy that standardises the financial information reported by companies, ultimately increasing the comparability of financial reports (Yang et al., 2018).

The next challenge associated with the previous reporting and disclosure system was related to the format that companies used to disclose their financial reports and non-financial disclosures. As mentioned by the Business Development Officer, *''companies would submit their financials as Word documents, Excel sheets, in PDF format or as an image'*. This posed a usability challenge because it limited the potential for analysis by users. The XBRL format enables machine readability and allows extensive data accessibility. This supports the conclusion that use of XBRL as the business reporting language will render both financial and non-financial business

reports efficient, allow easy extraction of data and eliminate the need to re-enter data for analysis (Malhotra & Garritt, 2004). The use of 'tags' reduces the time spent compiling the data manually, allowing users to switch from low-level labour-intensive analysis to higher, more value-added analysis.

As highlighted above, there was a need for change because the previous reporting and disclosure system, 'Company News', was no longer efficient in helping QSE to meet the demands of investors and other market participants. In their annual report of 2020, QSE stated that the adoption of XBRL would help increase the level of transparency in the capital market as well as enhance previous initiatives such as the level of corporate governance reporting, investor relations rules, and Environmental Social Governance Guidelines. XBRL would help further QSE's digital transformational strategy and assist in attaining developed market status (Perumal, 2020). The next sub-section describes the process of learning XBRL.

5.3.1.2 Learning About the Technology

This stage describes the institutional conditions that led the SBD Officer to learn about XBRL and strive to change the reporting and disclosure system. The SBD Officer mentioned that *'Qatar Stock Exchange wanted to modernise their disclosure system towards a greater transparency and efficiency in distributing business information'*. They wanted to ensure faster dissemination of information, provide greater protection for investors and listed companies and increase accountability in the capital markets. Accordingly, the research and development team at the exchange had started researching the best practices followed by global exchanges for the reporting and disclosure process.

When the SBD Officer was queried, *'How did you come to know about XBRL?'*, he mentioned '*a conference which was held in Dubai in 2012 about XBRL'*. A team of

members (including him) from QSE attended the conference. He furthered revealed that about a month before attending the conference he had read something about XBRL that caught his attention, and he had wanted to gather more information about this technology and its usage with a focus on QSE. He noted:

> *The conference was helpful in providing basic information about XBRL and the impression that Qatar was lagging behind in the area of transparency…It was not the ultimate reason for us to attend the conference but it was a tool to help us ask questions [related to XBRL]*.

The SBD Officer mentioned that, following the conference, members who had attended the conference sat down and conducted a brainstorming session: '*Based on what we have seen during the training, we brought back this knowledge, and we had a discussion, we did a brainstorming session'*. He noted that this triggered his interest and he started thinking about the applicability of XBRL to the exchange's reporting and disclosure process. Brainstorming is touted as an effective way of generating new ideas and finding solutions to specific problems. It helps to foster collaboration among members and reach conclusions by consensus (McConnell, 2019). Accordingly, the brainstorming session helped in solidifying the interest of the SBD Officer in XBRL, encouraging him to gather more information to understand how the technology is implemented by organisations.

While gathering information about XBRL, the SBD Officer found that XBRL had already been adopted in a neighbouring region by the Dubai Financial Markets, Abu Dhabi Exchange, Tadawul (Saudi Stock Exchange), Boursa Kuwait and Bahrain Stock Exchange, while Oman was in the process of developing their own disclosure system. He realised that this put Qatar at risk of falling behind in the area of transparency and put all Qatari listed companies at a disadvantage in terms of cost of

capital.

This is consistent with the finding that adoption of XBRL as a capital market disclosure mechanism improves timing and comparability of financial information, reducing the asymmetry of information among market participants, which is further reflected by a decrease in firms' cost of capital (Liu et al., 2017; Ra & Lee, 2018; Ruan et al., 2021; Yoon et al., 2011). XBRL reduces the costs of processing information and the time it takes for information to be incorporated into stock prices (Dong et al., 2016). XBRL allows companies to provide easy access to high-quality, standardised information such that investors perceive the company as less risky. This leads to an increase in the number of investors, which increases the company's breadth of ownership, ultimately reducing its cost of capital (Kim et al., 2018).

In responding to the question *'Who helped you in gathering necessary information about XBRL and assess its applicability?'*, the SBD Officer mentioned an XBRL vendor called IRIS that he met with during the conference. IRIS Business Services Limited is an XBRL software, services and solutions provider. The company is headquartered in Mumbai, India and operates branches in the United States, Singapore and Italy, and has an affiliate in the UAE (IRIS CARBON, 2019).

After the conference ended, the owner and vice president of IRIS travelled to Qatar and visited QSE. Their agenda was to introduce XBRL to the members of the exchange. They met the SBD Officer and arranged for a meeting. Accordingly, an official meeting was conducted the following day that lasted for about seven hours. During the meeting:

> *They (IRIS) discussed about XBRL. They explained to me the whole process of XBRL, showed how it works. They demonstrated live presentation of their system via India. They said XBRL is the best practice in the globe, a lot of companies are utilising. They asked me*

> *very important questions for example, what kind of accounting standards we apply.*

IRIS played a major role as a consultant in increasing awareness and understanding of XBRL. When Lakovic et al. (2018) investigated the determinants of XBRL adoption in Montenegro, one of the major factors was the consulting services provided by XBRL vendors. In the initial phase, they helped in creating a favourable environment for the technology, and, later, in the adoption stage, they provided the necessary technical support.

The meeting helped the SBD Officer to build an institutional grounding for implementing XBRL as the new disclosure mechanism, as shown by his statement: *'in the back of my mind, I said, this might be the way to go forward with Qatar Stock Exchange for listed companies. I liked what I heard, it's the best practice in the globe, a lot of companies are utilising'.*

Another factor that helped convince the SBD Officer of the suitability of XBRL for the exchange was the implementation of XBRL in neighbouring countries. IRIS had been a major player in implementing XBRL in Saudi Arabia and the UAE. Both the Securities and Commodities Authority (UAE) and Ministry of Commerce and Industry (KSA) had successfully implemented XBRL and had an electronic filing system built by appointing IRIS. Implementation of XBRL had helped both countries to improve the accuracy and efficiency of business data as well as to provide transparency, standardisation, multi-language support and global accessibility.

Therefore, during Stage 1, the challenges posed by the previous reporting and disclosure system, including lack of standardisation and reduced comparability, timeliness and accessibility of the business information, encouraged the SBD Officer to start exploring possible solutions. The solution arrived at was the eXtensible

Business Reporting Language. The next sub-section deals with the actual adoption process undertaken by the SBD Officer, which sheds lights on the influence of the institutional environment and the significance of the embeddedness of the actor trying to bring about an institutional change.

5.3.2 Stage 2: Adoption-Decision

The Internal Audit Director highlighted that QSE is not an independent entity; it is a part of the financial reporting supply chain in Qatar. There are other stakeholders involved, including '*regulators, listed companies, auditors and accountants'*. It is important to deliver the value of XBRL to these stakeholders, which requires time and stakeholder management, as is evident by the following statement made by the Internal Audit Director, *'Time was needed to educate them, convince them about the usage of the technology, they needed time to get understand the technology'*. XBRL as a technology has a significant impact on these stakeholders, and therefore active engagement with these stakeholders is an important element to ensure successful adoption.

It was important to identify the roles of the various stakeholders involved in the implementation and gain their support (Damanpour & Schneider, 2006). This is the stage where decision-makers are involved, discussions are held, and a formal proposal for investment in the technology is formulated (Kamal, et al., 2011). The implementation of the innovation is dependent upon active, strong and committed support. In relation to XBRL implementation, Mousa (2013) found it was necessary to ensure the full participation of Companies House's stakeholder group and promote the benefits of XBRL usage to them. Timely and strategic collaboration with key stakeholders has a positive impact on the XBRL implementation process (Chen, 2013). Accordingly, the following section provides details of the activities that were

undertaken to secure the approval of stakeholders for the implementation of XBRL at QSE.

5.3.2.1 Internal Negotiation

The internal stakeholders that played a role in the adoption of XBRL at QSE included managers of other departments and top management.

- Operational management

The SBD Officer mentioned that he conducted discussions and performed an assessment of the proposed solution (XBRL) with other department managers, *'We conducted lot of meetings, with different departments and experts from the exchange'.* These meetings examined the value of XBRL from different perspectives and built a favourable opinion of the technology. As mentioned by Chen (2013), in order to effectively manage change, an XBRL project manager is required to spend quality time with stakeholders. This helps in dispelling their misconceptions, ensures their active participation and mobilises their support.

Three of the department managers, including the Business Development Officer, the Education Manager and the Disclosures Manager, were interviewed. They provided their opinions about XBRL, a consensus that XBRL was the best fit for both the exchange and listed companies. They perceived high relative advantages associated with the adoption of XBRL. The Business Development Officer mentioned,

> *After discussing all the options, and visiting most of the exchanges in the region and internationally, we found XBRL is one of the best recognised tools for disclosure, that best fits with our exchange, with our listed companies. This will allow us to have a straightforward, easy, user-friendly, very user-friendly platform. So we decided in to proceed with the selection of XBRL.*

This demonstrates that the managers were able to recognise the value of XBRL. Use of

XBRL as the new mechanism would help the exchange in digitalising and automating the disclosure process. As presented by Ball (2006) at the 14th International XBRL Conference, the information presented in an XBRL-formatted report is user-friendly. It allows users to efficiently process the reported information. Moreover, XBRL reduces the information disadvantages that small investors face compared with large institutional investors by levelling the playing field (Bhattacharya et al., 2018). It also helps in reducing information overload as users can simply use the tags, save the data as an XBRL file and import it to a spreadsheet or another software analysis tool (Troshani & Doolin, 2007). Information is much more accessible for consumption and analysis. The enhanced analytical capabilities lead to a greater depth and breadth of analysis and a more informed market.

Further illustrating the value of XBRL, the Business Development Officer stated that:

> *XBRL first helps in sending same amount of data in a very-speedy way. Second, it ensures that all listed companies follow the same standard procedure. Because what's happening without that is companies are writing down whatever they want, tailor their press releases, public announcements according to their own requirements, experiences. But by having a specific format, and dedicated taxonomies for both financial and non-financial disclosures this helps to have minimum quality information for all market participants.*

This exemplifies the importance of the XBRL taxonomy, a hierarchical list of accounting line items a company can choose from when preparing their financial statements. The use of clearly defined XBRL taxonomies facilitates consistency and comparability among firms (Hoitash et al., 2021). In the previous reporting and disclosure system, comparability was an issue due to a lack of standardisation, as

companies followed different naming conventions, accounting policies and account aggregation levels. According to the Business Development Officer, XBRL would first help by unifying and streamlining the disclosures, financial and non-financial; second, ensure a minimum quality of information for all market participants; and third, allow users to locate and extract information easily via the tags.

The Education Manager also agreed that XBRL would help companies in standardising their financial reports, allowing investors to easily make comparisons between companies. He cited that *'XBRL taxonomy standardised the data for the sectors, so you have separate taxonomy for industrials, all companies in that sector have the same standard for reporting the financial data, same applies for services, banking, telecommunications, real estate etc.'*

The Disclosures Manager highlighted another relative advantage of XBRL for financial analysts, mentioning that XBRL helps in reducing the time and effort needed by financial analysts for accumulating data, enabling them to allocate more time for effective data analyses. He stated that:

> *Financial analysts may take almost 11 days to analyse a company's data. 9 out of those 11 days they spend in gathering and accumulating data and just two days to do the financial analysis. Now XBRL is allowing the analysts to have the data all gathered in one place, giving the advantage in terms of reduced time to gather data and reduce the time from 11 days to just 2 days to do the financial analysis. XBRL helps to reduce the effort and time any analysts, data users spend in accumulating the data.*

The Disclosures Manager further mentioned that financial analysts are no longer required to restate the financial statements as they are already standardised. This is also supported by Liu et al. (2014b), who found that XBRL allows analysts to perform more

analysis in less time, resulting in greater forecast accuracy. They are no longer required to perform manual tasks or wait for additional data from data intermediaries.

After successfully demonstrating the benefits of XBRL to department managers and gaining a consensus regarding the effectiveness of XBRL, the SBD Officer built a business case and escalated the idea to the top management. When new technology is introduced, a business case helps in securing the necessary support and funding from top management. It evaluates the benefit, cost and risk of the technology and at the same time provides a rationale for the preferred solution (APM Association for Project Management, 2021). This is consistent with a study by Chen (2013), which provided evidence that project managers should make use of the business case to help stakeholders understand the technology, recognise its benefits and ultimately secure their participation. Troshani et al. (2015), in their study of XBRL adoption in the United Kingdom, highlighted that an ineffective business case was the main reason behind limited mobilisation of actors.

- Top Management

The SBD Officer adopted a standard process to gain the support of top management. He mentioned,

> *It's a process. You got an idea, you write down about it; ask for a meeting, present it, follow-up, answer questions, answer their concerns. You build a business case, do a feasibility analysis study, present it again to the project management team, discuss it.*

He requested a meeting with the top management for a meeting to present XBRL, explain its potential advantages and, most importantly, link it with the objectives of the exchange.

> *I said this is something we need to think about, we are actually*

> *making the filing process much easier, it will in one way or another, could lead to additional liquidity in the exchange because we are standardising the process, we are streamlining everything into one.*

Research conducted by Sassi et al. (2021) and Kuo and Lin (2014) provided evidence that adoption of XBRL contributes to the development of stock markets by increasing liquidity of stocks. This is mainly because XBRL helps companies to provide information in a way that makes it more accessible and machine readable. Investors can spend more time analysing a firm's financial condition and economic performance rather than having to gather the data by manually sifting through various pages, ensuring efficient allocation of resources.

The SBD Officer noted that he was able to effectively engage and share knowledge with the other department managers and the top management, attaining their full support for the XBRL project. Top management showed their support for the XBRL project by creating a dedicated XBRL task force, allocating necessary resources and attending XBRL training sessions. The SBD Officer also highlighted that top management played a major role in providing financial support for the XBRL project, allocating an amount in the upcoming budget that was later approved by the board of directors.

The task force included members from various departments, including Listings, Marketing, Business Development, Legal, Disclosure, Information Technology and Project Management. The SBD Officer noted that each of these members had a specific role to play. For example, Listings Manager had a strong accounting background and played a major role during taxonomy development due to his ability to understand and interpret the accounting standards (IFRS). The Legal Manager was mainly responsible for reviewing the Request for Proposals and making necessary changes. The IT department was responsible for ensuring that the exchange had hardware and software

necessary for the implementation of XBRL. The Business Development Manager was responsible for assisting listed companies, auditors, accountants and regulators with any requests regarding XBRL. Finally, the Project Management team was responsible for handling the overall XBRL project. Top management actively engaged with members of the task force during the entirety of the project in order to ensure successful implementation of XBRL.

5.3.2.2 External Negotiation

The main external stakeholders that constitute a part of the financial reporting supply chain and had a role in the adoption of XBRL at Qatar Stock Exchange are the Qatar Financial Markets Authority (QFMA), the XBRL vendor (IRIS), listed companies, accountants and external auditors.

- Regulator

The main external stakeholder identified in the adoption of XBRL at QSE was the regulator, the Qatar Financial Markets Authority (QFMA). The regulatory body is an independent authoritative body responsible for regulating, supervising and controlling Qatar's financial market. It was established in 2005 and officially took over the supervisory and regulatory responsibilities from QSE in 2007 (Qatar Financial Markets Authority, 2021). The official functions of supervision and regulation had existed within the exchange for around ten years. Research conducted by Cordery et al. (2011) and Garner et al. (2013) suggest that regulators play an important role in expediting XBRL adoption, and in most cases XBRL has been adopted as a result of regulatory requirements imposed by organisations such as the Securities Exchange Commission in the U.S., the State-owned Assets Supervision and Administration Commission in China, the Securities and Exchange Board of India and the Financial Services Agency in Japan (Henderson et al, 2012). Regionally, the Securities and

Commodities Authority of the UAE mandated the XBRL reporting system and signed an agreement with the Abu Dhabi Stock Exchange and the Dubai Financial Market requiring publicly listed companies to submit their annual reports in the XBRL format (IRISa; IRISb, n.d.). In Saudi Arabia, the Ministry of Commerce and Industry launched 'Qawaem', an XBRL-based electronic reporting platform for commercial entities to submit their consolidated financial statements (Nitchman, 2015). The SBD Officer mentioned:

> *You know in real life situation, you would find that the regulator would actually adopt this project, since they have, what we call them the 'power body', but in Qatar, the exchange is…it's to dynamic that we bring ideas to the capital market and then we present to it to the regulator, meet with them, discuss with them. And if they agree we roll it over, but in other parts, in emerging markets, normally, the regulator will come up with those initiatives and they will pass it on to the exchange.*

The institutional setting in Qatar for the adoption of XBRL was different from other jurisdictions. In Qatar, XBRL was an initiative introduced by the stock exchange, specifically by an individual working in the exchange.

As XBRL implementation does not have a specific guide, the implementation process can vary from one context to another depending on the geography, scope and intended purpose (IRIS CARBON, 2020). Chen (2013) also stipulated that adoption of XBRL varies depending on the institutional environment and implementation objectives. The SBD Officer highlighted the objectives of implementing XBRL: enhancing the overall efficiency and effectiveness of the financial reporting and non-financial reporting process, increasing the competitiveness of listed companies in terms of cost of capital, ensuring their compliance with best regulatory disclosure practices,

improving the level of transparency and protection for the investment community and, finally, making data collection by investors and financial analysts more accessible.

After the idea of XBRL was agreed upon internally by department managers and top management of the stock exchange, the next step was to include the regulators. Regulators constitute an important link between the users and preparers of financial information, ensuring that the information exchanged between the organisations and end users is transparent and of high quality to ensure the proper functioning of the capital market (Choudhury, 2014). In Qatar, *'Qatar Financial Markets Authority is the ultimate "power body" when it comes to financial reporting practices and nothing can be imposed on the listed companies without the approval of QFMA*', the SBD Officer highlighted. QFMA is responsible for the control, regulation and supervision of the capital market; therefore, they need to implement disclosure policies that ensure fairness, transparency and competitiveness. QFMA actively establishes relationships and exchanges information with other organisations to learn and benefit from their procedures in order to apply the same in Qatar (Qatar Financial Markets Authority, 2021).

The above information is reflected in a statement made by the SBD Officer, who noted that the regulator has always been appreciative of the initiatives that are undertaken by the exchange to maintain the integrity and increase the efficiency of Qatar's capital market. For example, in 2016, QFMA approved the practice of margin trading, which resulted in upgrading QSE to the rank of emerging market (Qatar Financial Markets Authority, 2016). In 2018, QFMA granted a licence for listing an investment fund of the QSE index, in preparation for trading its units on QSE, upon the request of QSE (Qatar Financial Markets Authority, 2018).

Both QFMA and QSE are working to develop the Qatari market and enhance

its position both regionally and internationally. The SBD Officer revealed that the regulator recognises the knowledge, experience and know-how that QSE possesses, *'once they [QFMA] believed, that what we presented [XBRL] is for the sake of protecting investors, we had their interest.'* QFMA's mission is '*Investors' protection, maintenance of Qatari capital markets' stability, integrity and transparency; and development of proficiency and knowledge to enhance the growth and diversity of the national economy*' (Qatar Financial Markets Authority, 2021). XBRL has the potential to increase the efficiency of the capital market by reducing information asymmetry, information processing cost and information risk (Bai et al. 2014; Huang et al., 2020; Liu et al., 2017; Roncagliolo et al., 2017). Moreover, by optimising the financial reporting structure and increasing the accessibility of information, XBRL adoption can lead to a growth of local and foreign investors (Steenkamp & Nel, 2012).

The SBD Officer mentioned that he followed the same standard procedure as he had with top management, using a business case to convince the regulators:

> *We have an initiative that we think might be beneficial. We requested for a meeting, had a presentation and that's how it happened. I gave the presentation to the decision-maker, explained what the project is, its advantages, not just to that particular entity but to the economy, explain the project timeline, the implementation process.*

After giving the presentation, the regulator took some time to study XBRL in order to determine if it would be beneficial for the Qatari Capital Market. The SBD Officer noted that they needed time because of their lack of knowledge about XBRL or its applicability. Thus, after nine months of careful analysis and evaluation of the XBRL business case presented by the SBD Officer, QFMA approved the XBRL project. They believed that XBRL would provide business information in an appropriate and timely manner, enhancing the disclosure quality, efficiency and flexibility of financial

and non-financial statements required from QSE listed companies (Qatar Financial Markets Authority, 2020). Q-Disclosure, the XBRL-based platform, was now a joint initiative between the Qatar Stock Exchange and the Qatar Financial Markets Authority (Qatar Stock Exchange, 2020). The next step was to inform listed companies about the new development in the reporting practice, as described in the next section.

- Listed Companies

In September 2020, QFMA and QSE issued a market notice that they were preparing to implement an XBRL-based reporting and disclosure platform under the name of 'Q-Disclosure' (Appendix B). The Disclosures Manager stated, *'The market notice informed the listed companies about time frame of the XBRL project and how they would go about transitioning from the previous disclosure system to the new disclosure system.'* The market notice stated that the listed companies were required to disclose their Q3 2020 accounts, Annual 2020 accounts, Q1 2021 accounts, financial results and non-financial disclosure using Q-Disclosure, and at the same time report the information through the existing reporting channel 'Company News'. This was to ensure an easy transition and to avoid any delay in the disclosures. The market notice further mentioned that the launch of Q-Disclosure did not involve any changes in the reporting obligations. The only change was in the method of disclosure, from manual to automatic. Further information can be found in the Appendix B.

The disclosure of financial statements on the Q-Disclosure platform will be according to the IFRS, with a specific taxonomy for banks and financial institutions, insurance companies (commercial and Islamic) and real estate sector companies. A generic taxonomy will be used for the remaining sectors, including consumer, industrial, telecom and transport. For the disclosure of non-financial information related

to dividends, rights issues, issuance of bonus shares, capital changes and other company announcements such as board meetings, annual general meetings, extraordinary general meetings, changes to the board, ownership limits and disclosure dates of financial information, companies are required to make use of the pre-defined templates available on the platform (see Appendix D and E). Referring to the templates available for non-financial disclosures, the Finance Manager of listed company C noted that they are very helpful and easy to use, and *'take away some of the subjective nature of reporting and allow all entities to report objectively in a defined format.'*

When the Business Development Manager was asked if QSE had to convince the listed companies to follow the new disclosure process, he replied, '*We weren't in the need to convince to them, because it is a regulatory requirement, they have to. The rule stipulates that the listed companies are obliged to provide the disclosures in the methodology that the exchange is determining'.* All companies listed on the exchange are subject to the rules and regulations set out by the QFMA and QSE rulebook (Qatar Stock Exchange, 2020). QFMA had approved the use of XBRL, and therefore amendments were made to the QSE rulebook. QFMA announced its approval of the amendments to the QSE rulebook pertaining to market makers, liquidity providers and listed companies disclosing their financial and non-financial statements through the unified electronic disclosure system (Qatar Financial Markets Authority, 2020). These amendments were in line with the Liquidity Provider Rules issued by QFMA. Therefore, '*Any deviation from the regulations, would result in breach and the companies would be required to pay penalties',* the SBD Officer emphasised.

QSE had mandated that listed companies provide XBRL-formatted financial and non-financial information for external purposes. All the listed companies' officials highlighted that they were using the XBRL format for filing their financial statements

and non-financial disclosures. The following two quotes provide evidence of the use of the XBRL platform for external financial reporting purposes: *'We don't use XBRL template to prepare our financial statements, however we make sure XBRL financial statements and non-financial disclosures requirements are met while submitting the financial statement'* (the Consolidation and Reporting Manager of listed company E) and *'We do not need it in preparing our financials. But for providing the XBRL report'* (the Finance Manager of listed company B).

Based on the above information, it can be concluded that there is a medium adoption level of XBRL at QSE. Mentioning the reason for this, the Business Development Officer stated that:

> *We do not interfere in the internal operations of the companies. We cannot impose XBRL on the internal processes of the company. XBRL is needed for external purposes (investment community), to enhance the quality of information disclosed by the listed companies of QSE. Our role is to manage the operations of the capital market, not the company's operations.*

Defining medium XBRL adopters, Garner et al. (2013) mentioned that these companies commit capital investment for the software and/or hardware necessary for in-house XBRL conversion, do the mapping and maintain control over the conversion process, but do not use XBRL for internal purposes. QSE invested its capital in building the Q-Disclosure platform with the help of IRIS, an XBRL service provider. The platform was later made accessible to listed companies to convert their financial statements into the XBRL format for submission. The Finance Manager of Company C noted that, *'The process of preparing the financial statements did not change internally within the organisation.'* Similarly, officials of Companies D and E stated that XBRL has not impacted their process of preparing financial statements; financial statements, after

being prepared, are converted into the XBRL format and uploaded onto the platform. The Head of Reporting and Compliance at Company A explained of the process of conversion, '*Financial data is contained within an ERP software while XBRL is based on XML, a different format altogether. So what happens basically is data is extracted out of one system, populated in the different file format, provided by the exchange and uploaded to Q-Disclosure.'*

Regarding the usability of XBRL, company officials were of the unanimous opinion that the platform was more beneficial for investors. According to the Head of Finance of Company A, Q-Disclosure is an investor-friendly platform that provides swift information, in a reliable, machine-readable format, making analysis easier. The Head of Reporting and Compliance of Company A mentioned that filing financial statements in the XBRL format allows users to easily access, analyse and compare financial data. In the long run, as investors become familiar with the XBRL format they will be able to use advanced statistical techniques to analyse the data and decide which company to invest in. He further stated, *'So, according to me, currently, the technology is helping the users' side more rather than accountants'/ information preparers'.'* He further noted that in order to increase the benefits of XBRL for companies there should be an integration between their accounting software and the XBRL platform, *'There should be an integrated system altogether so that all stakeholders involved in the information supply chain from the point of preparation to point of usage should benefit equally from the technology.'*

The Education Manager also shared a similar point of view, stating that in order to reap full benefits there should be an integration between the accounting systems used by the listed companies and the XBRL platform. However,

It is up to the company. The exchange has no influence on whether

> *they do the integration between the XBRL interface and their accounting system. What is more important from QSE's point of view is to make sure that the disclosures are made as per the taxonomy and the templates provided.*

This is further confirmed by the research conducted by Lakovic et al. (2018), which provided evidence that in the first phase of XBRL implementation the users of financial statements reap more benefits that the preparers.

The next step was to select a vendor that would help QSE in designing the XBRL platform, as discussed below.

- Vendor Selection

Doolin and Troshani (2007) posit that implementation of XBRL is an inter-organisational process because it connects one organisation with other stakeholders such as suppliers, vendors, bankers, customers, analysts, stock exchanges, regulators, auditors and others involved in business operations. The involvement of various parties makes the adoption process complex. Therefore, there is a need for an expert to handle emerging issues during the implementation process. In our case study, stakeholders included the regulator, listed companies, their associated accountants and external auditors. The necessary expertise was provided by a vendor (IRIS) that played an important role in providing information about XBRL, its process and the advantages to these stakeholders.

The SBD Officer mentioned that the selection process was based on six criteria:

(i) local footprint in the Middle East,

(ii) experience, knowledge and competency,

(iii) software capabilities, including multi-language,

(iv) cost and value of services proposed,

(v) innovation and ongoing customer support,

(vi) training.

A total of nine vendors from around the world, including IRIS, were contacted. QSE sent proposals to them, describing the business requirements to allow them to build software accordingly. Each vendor was required to submit a proposal addressing six business requirements proposed by QSE:

(i) technical requirements,

(ii) maintenance requirements,

(iii) training and support,

(iv) help desk,

(v) project timeline

(vi) installation and implementation plan.

The SBD Officer specified that it was very important for the vendor to understand the business requirements. This is because *'Business requirements is the way how we operate the exchange, when it comes to disclosure, the nature of the accounting framework that listed companies are using'*. It is very important for the vendor to understand the business requirements because they outline the functionalities that the system must achieve to be successful.

The business requirements were laid out after receiving input from the members of the task force. Each member provided suggestions, because they have the most knowledge of the business process and their input was imperative for the successful design of the software. Every department representative present in the task force contributed to the software development; some of them made major contributions, while others had supporting roles. For example, SBD Officer highlighted:

> *The listing department that deal with the listed companies, possesses accounting information, they played an important role during*

> *mapping stage. While, legal department played a supporting role of reviewing and approving Request for Proposals for the vendor.*

The legal department played an important role during the vendor selection. It sent vendor evaluation forms to the members of the task force. This step was necessary for the final selection of the vendor based on the Request for Proposals that was sent. Explaining the evaluation criteria, the SBD Officer pointed out that:

> *50% goes to the technical requirements and 50% to the functional requirements, both of this form the scope component which accounts for 65% of the total criteria for final bidding. 20% goes to the vendor profile and qualifications. 15% goes to other requirements.*

These evaluation forms were later sent to a committee who reviewed the evaluations and made the final selection, which was in favour of IRIS.

There were various factors that led to the selection of IRIS as the final vendor for developing the XBRL platform as instanced by the SBD Officer. First, out of the nine vendors contacted, only a few of them sent in proposals that met the business, functional and technical requirements. Second, IRIS had a local footprint and the required expertise and knowledge of XBRL. IRIS had been selected to develop XBRL software for Tadawul (KSA), the Abu Dhabi Exchange, and the Dubai Securities Market, and had been providing them with XBRL services since 2011. The third factor was cost, which was reasonable. In addition, most importantly, IRIS had been the major factor behind influencing the organisational members and top management at the exchange from the pre-adoption stage.

IRIS is regarded as a pioneer in the domain of XBRL implementation, with a global footprint in more than 32 countries. The company has been providing XBRL products and solutions to organisations globally since 2005, including consulting,

taxonomy development and training services. Their clientele includes security commissions, central banks, business registries, stock exchanges, public/private companies and banks. The company is a directly affiliated with XBRL International, XBRL US, XBRL South Africa and XBRL Europe. The IRIS team is composed of taxonomy experts, software engineers, business analysts and accountants. All of these members are accomplished professionals with extensive skills and experience in XBRL implementation, financial content management, information technology, marketing, accounting and entrepreneurship (IRIS CARBON, 2019).

In Stage 2, the SBD Officer, with the guidance of IRIS, played an important role in the adoption of XBRL. He used his skills, his social position as the SBD Officer and a solid business case to gain support for XBRL. He was able to highlight the practical benefits of XBRL and make it more visible to the stakeholders, which ultimately led to the adoption of XBRL. He was able to bring various stakeholders together, including the organisational members that helped him in convincing the top management, who later provided their support to communicate the idea of XBRL to the regulator. The regulator, in turn, was appreciative of the idea and endorsed the XBRL project. This was because each of these stakeholders ultimately had the same objective, increasing the efficiency of the Qatari Capital Market. Chapter 6 provides a detailed examination of the role played by the SBD Officer and his interactions with other members that led to the adoption.

5.3.3 Stage 3: Post-Adoption

The goal of this stage is to acquire the innovation and prepare the organisation for its implementation, acceptance and utilisation by the intended users (Hameed et al., 2012). This stage marks the identification of the innovation as a sustained, recognisable pattern behaviour.

5.3.3.1 Preparing the Organisation

After IRIS was selected as the vendor, their software engineers visited the exchange to gauge the compatibility of the exchange's IT infrastructure, servers and computer systems. This was mainly because the XBRL platform – 'Q-Disclosure' –was to be tailored according to the business requirements described earlier. No compatibility issues were identified and the QSE central system was able to accommodate the XBRL server. The IT department at the exchange worked together with the software engineers to ensure that the platform was secure. All security policies and requirements related to confidentiality, integrity, authentication and authorization were implemented. The SBD Officer mentioned that the companies were given access to the platform by *'authorizing a user and a super-user, someone with higher authority, like a director who is responsible for sharing and sending information to the exchange, once the data is entered in the XBRL format'*. This ensured that access to the portal was limited to only two users per company. The first step in designing the XBRL platform was developing the taxonomies that would be used by listed companies to publish their business reports on the platform. This step is described in the next section.

5.3.3.2 Taxonomy Development

At QSE, the major exercise of taxonomy development was undertaken before rolling out the XBRL platform. The SBD Officer asserted that taxonomy development was not an easy task, given the diverse nature of companies, industry classifications and reported line items, as highlighted in Table 5. He stated:

> *It was confusing in the beginning to think how are going to standardise the financial statements of companies that belong to different industries. It was not an easy task, because, standardizing the labels, that are on the financial reports statements, requires a lot of work and a lot of interaction between the exchange, listed*

companies, vendor that will develop the program and the auditors.

As mentioned above, multiple parties were involved in designing the XBRL taxonomies, including QSE, IRIS taxonomy developers, auditors and accountants from the listed companies. The first step, involving mapping, was executed between the members of the exchange and the taxonomy developers from IRIS. The Business Development Officer noted that mapping was a complex and time-consuming process, since all line items reported by the listed companies had to be traced back to the IFRS's standards. This step was performed to ensure that *'nothing is missing in terms of line items used by listed companies but not in line with IFRS, or line items that are specifically used in Qatar'.*

The development of taxonomies is one of the most challenging and important aspects of implementing XBRL as highlighted by Bovee et al. (2005); Cordery et al. (2011) and Ilias et al. (2020). Singerova (2015) stated that the creation of XBRL-based financial statements using taxonomies involves a matching process, termed mapping. The process involves matching each piece of information contained in the financial statements with an element in the taxonomy. Bovee et al. (2005) stipulated that developing taxonomies is complex, particularly because accounting standards and practices are not uniform, making it difficult to translate them into taxonomies. Chouhan and Goswami (2015) also provided evidence that, due to the complexity and the lengthy process involved in matching financial data with the given set of taxonomies, Indian firms were reluctant to use XBRL.

The Reporting and Consolidation Manager of Company A reported the complexity faced during the taxonomy development process. He stated that the main challenges included *'to match the description in the XBRL taxonomy with the description used in the issued company financial statement and to make sure each line*

presented in the correct reporting lines in the XBRL'. Upon further inquiry into how the challenge was overcome, the manager stated, *'Proper review and sign off done by company auditors'*.

The mapping process at QSE resulted in the development of four taxonomies, three sector-specific and one generic. Sector-specific taxonomies were developed for banks and financial institutions, insurance companies (Islamic and commercial), and real estate companies. A generic taxonomy was developed for companies belonging to the remaining four sectors: consumer, industrial, telecom and transport.

Later, the current version of these taxonomies was circulated among the audit firms at the partner level and the accountants of the listed companies. This was in order to *'seek their feedback, and see if there are any amendments or modifications required in order to ensure the taxonomies are in compliance with IFRS'* (Business Development Officer, QSE).

This is consistent with the conclusion of Chen (2013) that when XBRL implementation involves multiple stakeholders, the implementation process should be coordinated, and their interests and concerns should be duly accommodated. Active communication with the stakeholders to collect input on XBRL taxonomy is critical to ensure that taxonomies match their requirements.

A large number of comments, feedback, and recommendations were received from both auditors and accountants, according to the Business Development Officer:

> *We took all of that and then internally our teams worked with IRIS. We filtered the information, what we need, what we don't need, what can be implemented what cannot be. After that, based on the recommendations from companies, from auditors, we modified the taxonomies. We added more line items, combined some groups of accounts.*

Thus, this open-ended discussion with auditors and accountants resulted in taxonomies that were the best fit for the listed companies.

Officials of companies A, B and E specifically mentioned that they were a part of the taxonomy development. The Finance Manager of company B also noted that they were required to provide their feedback on the taxonomies within three working days: *'We have reviewed the report and gave our comments. There was some adjustment they have made according to our suggestions. These reports should be ready and provided to QSE within 3 days'.*

By considering the recommendations and suggestions provided, a number of taxonomies can be developed that will cover the reporting needs of these companies. This will also help in avoiding proliferation of taxonomies, which is necessary because using different taxonomies limits the comparability of financial statements as highlighted by Bovee et al. (2005).

To ensure extensibility of the taxonomies, more line items included in the IFRS but not currently used by these companies were added during the mapping process, extending the future scope. Companies were allowed to add extensions. However, any extensions needed would be reviewed, thus ensuring comparability and extensibility. The Business Development Manager mentioned that *'any new line item or account that needs to be included should meet three criteria: first, it should be an update from the IFRS, second, it should be frequent, and third, be material in nature'.*

Moreover, given the diverse nature of industries and line items reported, the taxonomy allowed companies the scope to add explanatory information to enhance understanding for users. As mentioned by the SBD Officer:

> *We added a 'field' into the line items. This will allow the companies to add text, any explanatory items for the readers, you can do that. It*

would be hidden but it will be there for the users like accounts and sub-accounts. To access it, there would be a plus sign to show the sub-accounts or free text allowing better understanding for the users.

Valentinetti and Rea (2013) examined the dual power of XBRL, standardisation and extensibility/customisation. They proposed that the level of standardisation and customisation depends on three factors, namely the financial reporting environment, the taxonomy development approach and the XBRL implementation model. If the financial reporting environment is rule-based, the taxonomy will include the line items that are strictly required by the accounting standards. On the other hand, if the financial reporting environment is principals-based, there is room for professional judgement. Accordingly, the taxonomy will include both the basic line items required by the standards as well as a set of additional elements that refer to common practices that are not specified by the standards. Finally, XBRL can be implemented using a 'closed' taxonomy, also known as blind basis, or 'open', also referred to as minimum basis. Under a 'closed' taxonomy, companies are not allowed to extend the taxonomy. Companies must prepare their financial statements according to the pre-defined template. An 'open' taxonomy allows extension; the company can create custom line items not included in the pre-defined template.

Based on the framework proposed by Valentinetti and Rea (2013), it can be concluded that the financial reporting environment in Qatar is principals-based for two reasons. First, additional line items that were not currently being used were added into the taxonomy. Second, they (members involved in the process of developing taxonomies) used their professional judgement and add the feature of 'field' given the diverse nature of companies. This field allowed companies the flexibility needed to add explanatory information without comprising the comparability of financial statements. Finally, the exchange adopted a 'mid-way' approach. Although the companies were

restricted from extending the taxonomies freely, they were not completely limited in the scope of extension.

Further illustrating the extensibility of Q-Disclosure, the Disclosure Manager and the Business Development Officer stated that the exchange is currently developing new taxonomies for an upcoming sector, *'we are extending our taxonomy with the help of IRIS because we have new sectors coming up, called venture market'.* According to the Business Development Officer, the XBRL platform requires continuous development, as taxonomies must be reviewed and updated.

5.3.3.3 Roll-Out

For the final roll-out of the platform, QSE organised training sessions for listed companies, regulators, auditors and accountants. The training was provided by the vendor at the exchange. The SBD Officer noted:

> *We identified batch 1-3, companies and auditors, drafted letters for companies and auditors about the XBRL program asking them to attend the training and then we have coordinated responses and manage the control sheet. We also invited the regulator to come attend the training.*

The accountants and auditors were provided with access to computers and were required to test the system both in-house and at their workplaces. This process was to ensure that they were able to use the system properly and that the platform had no issues related to connectivity, functionality or security.

During the testing phase, many technical challenges surfaced. The portal stopped working, there were sign-in issues, the output was not up to the level of expectations and there were formatting issues and other bugs and glitches. However, these issues were all resolved by the IT department working with IRIS. The SBD

Officer noted that the *'IT department and the vendor had an open communication support via dedicated online portal'*.

After the training, testing and initial pilot period, QSE decided to roll out the platform. They implemented a dual approach from a voluntary basis to mandatory. All listed companies were required to submit their Quarter 3 financial reports in XBRL and simultaneously use the previous mechanism as a back-up. They were similarly required to submit all non-financial disclosures from October in parallel to Q-Disclosure and to the 'Company News' page of the QSE website. However, for annual reports 2020 and non-financial disclosures, only XBRL was mandated. Further details of the roll-out process can be found in the Appendix B.

5.4 Concluding Remarks

This chapter outlines the process of XBRL adoption as well as the role of the SBD Officer and its impact on the stakeholders. The case study provides strong evidence of the exchange's continued commitment to adopting best practices that are being followed globally in reporting standards. Q-Disclosure was an important step towards improving the transparency and quality of disclosure in the market and improving its attractiveness to investors. The idea of using XBRL came from an individual, the SBD Officer, who was identified as an institutional entrepreneur. The adoption of XBRL at the Qatar Stock Exchange was heavily influenced by a number of technical and institutional factors. The technical factors included the need for standardisation of the submission process, faster dissemination of information and an increase in the level of transparency through improving information accessibility, usefulness and comparability. Institutional factors included ensuring listed companies are in line with the best global practices related to reporting and disclosure and allowing the Qatari capital market to be steadfast in its goal to achieve developed market status to increase the level of investment. The next chapter will discuss in detail the theory

that has been used to integrate the results and findings in order to enhance our understanding of the adoption process and make these thesis findings more understandable from the perspective of institutional entrepreneurship.

6. CHAPTER 6: DISCUSSION OF THE RESEARCH FINDINGS

6.1 Overview

The notion of institutional entrepreneurship is a rapidly growing area of organisational research. This is mainly because it re-introduces agency into institutional frameworks, providing an opportunity to explain change endogenously as well as emphasising the role of social politics in institutional change. Therefore, the theoretical framework outlined in Chapter 3 will be used to interpret the findings regarding the adoption of XBRL at QSE described in Chapter 5. Specifically, this thesis draws on the theory of institutional entrepreneurship to understand the link between the institutional change and the actions undertaken by the institutional entrepreneur.

6.2 Adoption of XBRL Based on Institutional Entrepreneurship

Institutional change in financial reporting practices is discussed in three dimensions: first, the type of actors that take on the role of institutional entrepreneur; second, the enabling conditions that help actors initiate institutional entrepreneurship; and, finally, the strategies utilised by these actors to ensure that the newly introduced institutional arrangements are widely adopted and accepted by other actors in the field.

6.2.1 Actor's Characteristics

One approach to understanding the initiation of institutional change by an institutional entrepreneur is to focus on the characteristics that distinguish an institutional entrepreneur from other actors in the organisational field. These characteristics allow them to envision and promote alternative arrangements.

6.2.1.1 Reflexivity

The 'paradox of embedded agency' forms the centre of institutional entrepreneurship – how can actors change institutions or envision alternatives if they take those very institutions for granted? Weik (2011) criticised the formulation of the 'paradox' for omitting any reference to the reflexivity of the actor. This thesis follows

Gidden's lead by highlighting the importance of the institutional entrepreneur's reflexivity. Giddens (1991) defined reflexivity as the ability to examine and reconstitute practices in response to new practices. These actors remain skillful and knowledgeable in the context of action in which their activities take place. They use their knowledge and skills to view issues from multiple perspectives in order to arrive at the most economical and reasonable stance. Mutch (2007) argued that institutional entrepreneurs can abstract themselves from the concerns of others and take an 'autonomous reflexive' stance.

The findings align with those of Giddens (1991). The actor was a part of the day-to-day workings of the exchange and its filing process. He was aware of the shortcomings of the method by which the companies were disclosing their financial statements and the manual process by which the listing department uploaded those statements to the exchange's website. The results also suggest that the institutional entrepreneur, in accordance with Gidden's conceptualisation of 'agential reflexivity', adopted dialectical thinking regarding XBRL. He was the agent behind increasing the awareness of XBRL inside the organisation and was able to envision it as the most economical solution to the problems associated with the current filing system. The problems that were identified included lack of standardisation, reduced comparability of financial information, and the time required by the listing departments to review the disclosures made by companies before uploading them to the exchange's website.

Giddens' model of 'agential reflexivity' has been criticised for being exaggerated and failing to account for the differences between an actor's capacity to reflect and willingness to act. However, the results of this study showed that the actor was not only able to reflect on the advantages that would be provided by XBRL as a business reporting standard but also had the willingness to actualise it. XBRL would

help the exchange to modernise their disclosure processes, in turn leading to greater transparency and efficiency in disseminating information in the capital market.

An alternative for the development of institutions has emerged that focuses mainly on reflexivity rather than embeddedness. This new path, called 'institutional work', examines how individuals or groups of individuals step out of their established roles and undertake actions to transform institutional arrangements. Institutional work is defined as the practices that individual and collective actors use to create, maintain and disrupt institutions (Lawrence and Suddaby, 2006, p. 217; Lawrence et al. 2011). Modell (2020) posited that institutional change processes emerge due to reflexive agency when individuals respond to emerging institutional contradictions by devising strategies to mobilise collective agency. These individuals may be disenfranchised actors or occupy peripheral positions.

The results obtained in this thesis are completely in line with Modell's and Lawrence's theory of institutional work. An actor occupying a peripheral position used his reflexivity to break through the habitual forms of agency, the use of different formats by listed companies for disclosing their financial statements. Additionally, the means by which he used his reflexivity to mobilise other actors, members from his own and other departments, to escalate the idea in a bottom-up fashion and establish XBRL as an objective norm will emancipate the exchange from the disadvantages of the prevailing disclosure practices. Therefore, considering the adoption of XBRL by QSE as an objective norm that originated due to a reflexive form of agency adds to the literature of 'institutional work'. However, there were other factors, as explained below, that allowed the actor to bring about the institutional change.

6.2.1.2 Social Skills

The second characteristic that distinguishes institutional entrepreneurs from

other actors in the field is their social skills. According to Fligstein (1997), institutional entrepreneurs are socially skilled actors that possess knowledge about the current condition of their organisational field and are able to relate to the situation of other actors. By using social skills, they are able to motivate and gain cooperation from other actors in the organisational field that share common meanings and identities. This argument is fully supported by the results of this thesis, which indicate that the institutional entrepreneur was able to use his social skills effectively to gain support from his colleagues by relating the advantages of XBRL to their needs. For example, the implementation of XBRL automated the disclosure process, meaning that the listing department is no longer required to review disclosures and can use this time to focus on other important functions such as monitoring the compliance of listed companies with other regulations and obligations, ensuring stability in the capital market and helping new companies to be listed on the stock market.

Fligstein (1997) outlined a series of strategic actions or tactics that can be utilised by institutional entrepreneurs. The results of this study suggest that, of these tactics, the institutional entrepreneur used a combination of agenda setting and framing. He used agenda setting to win over members of the exchange. Agenda setting involves behind-the-scenes actions to persuade multiple actors into alignment with the entrepreneur's interests. However, as the idea of adopting XBRL was not contested by the members of the exchange, in Fligstein's (1997) terms the game was half-won. The institutional entrepreneur used framing to convince actors outside the Qatar Stock Exchange, including regulators, listed companies and accountants. Framing is used by actors to convince stakeholders that do not realise that the change will be in their interest. The XBRL initiative was undertaken by the exchange and later approved by the Qatar Financial Markets Authority, the regulatory body in Qatar. The institutional

entrepreneur presented XBRL to the regulator, explaining its potential advantages to the Qatari economy, which led to the regulator endorsing the XBRL project. Thus, this analysis illustrated that institutions are not just a static construction of shared meanings; with the help of social skills, new meanings can be introduced.

6.2.1.3 Multi-Dimensional Skills

According to Fohim (2019), it is not feasible to group different types of skills using one concept as was performed by Fligstein (1997, 2001). Skills are multi-dimensional in nature. Accordingly, Fohim (2019) developed a multi-dimensional concept of institutional entrepreneurs' skills, defining their abilities to advance institutional change. He identifies seven dimensions of institutional entrepreneurs' skills, along three phases of an institutional change process, which will help in exploring why and when certain actors are able and willing to change institutions and allow researchers to resolve the 'paradox of embedded agency'.

This thesis uses a similar approach in dividing the implementation of XBRL into stages; it can be seen that the institutional entrepreneur used different skills in each of these stages, as conceptualised below.

- Preliminary Phase

This stage requires actors to have analytical and empathic skills. Analytical skills refer to the ability of actors to perceive opportunities for change. Research suggests that such situations arise due to ambiguity resulting in incompatible institutional arrangements and contradictions. Actors can take advantage of the resulting window of opportunity to modify or change the existing situation (Battilana et al., 2009). From the results of this thesis, it can be deduced that the institutional entrepreneur possessed the required analytical skills to identify the existing institutional arrangement as inefficient and incompatible; he used this opportunity to introduce

XBRL as a solution to streamline the disclosure process. Companies using different formats such as HTML, Microsoft Excel, Microsoft Word and PDF to report their financial information pose a usability challenge that limits the potential for analysis by the users (Faboyede et al., 2016). Using XBRL as the business reporting language will render both financial and non-financial business reports efficient, allow easy extraction of data and eliminate the need to re-enter data for analysis (Malhotra & Garritt, 2004).

Empathic skills involve putting oneself in different positions and garnering alliances from other actors in the organisational field that will help to progress the institutional project. The results indicated that there were other actors that helped the institutional entrepreneur in his endeavour. These actors shared a sense of solidarity and provided full support for the adoption of XBRL.

- Initiation Phase

During the initiation phase, in which the institutional change is being established, Fohim (2019) stipulated that framing and translational skills are vital. First, framing skills allow an institutional entrepreneur to illustrate the value of a potential innovation as thoroughly as possible for potential users. Research suggests that implementation of XBRL improves the transparency of a firm's financial statements. The use of predefined data tags allows users to search for and extract relevant data easily, increasing the efficiency of decision-making (Ahmadpour & Bodaghi, 2012). Moreover, it protects investors by ensuring a minimum level of disclosure by companies, preventing them from failing to provide required information, reducing errors and the time required to prepare financial statements (Enachi, 2013). The institutional entrepreneur was therefore able to frame XBRL technology as a reporting process that would increase the level of transparency and accountability of the information disclosed by listed companies and provide protection to the investment

community in Qatar.

Second, in this phase institutional entrepreneurs are required to have translational skills to unite a multitude of diverse actors. Translational skills involve using specific terms and communicating in a way that potential allies can comprehend easily, therefore, motivating them to be a part of the change process. The results of this thesis provide evidence that the translational skills of the institutional entrepreneur played a profound role in gaining the support of both the top management (internal) and regulators (external). The institutional entrepreneur was able to connect reasons for adopting XBRL with the goals of the respective organisations. This is in line with the suggestion by Battilana et al. (2009) that institutional entrepreneurs should be able to build a discourse that resonates with the values and interests of potential allies.

- Implementation Phase

Fohim (2019) suggested that in the final implementation stage, organisational and tactical skills are key dimensions that help institutional entrepreneurs to consolidate the new institution. Organisational skills are the ability to formalise practices and rules in a manner that leads to the successful implementation of the envisaged institution. In order to ensure that XBRL was implemented successfully at the exchange and understood by all stakeholders, the institutional entrepreneur organised training sessions, with the help of the vendor, at the exchange to demonstrate how the system operates and the different functionalities available. The same approach was utilised by the Big Five accounting firms when they adopted the strategy of multidisciplinary practices; they offered in-house training programmes for employees (Greenwood & Suddaby, 2006).

Tactical skills involve actors manoeuvring to gain advantage against potential opponents. Given the specific nature of institutional change undertaken by the

institutional entrepreneur in this case study, this skill does not apply. There were no opponents contesting the idea of XBRL adoption.

6.2.2 Enabling Conditions

Researchers who have attempted to explain how actors become institutional entrepreneurs' despite being subject to institutional pressures emphasise the importance of enabling conditions that trigger institutional change (Strang & Sine, 2002). Two categories of enabling conditions have been widely cited by researchers: field-level conditions and an actor's social position.

6.2.2.1 Field-Level Conditions

Field-level conditions vary depending on the level of maturity, heterogeneity and institutionalisation of the organisational field. Organisational fields can be emerging, stable or crisis-ridden depending on their maturity level (Fligstein, 1997). Emerging fields are characterised as having uncertainty and an unclear structure. On the other end, there exists no structure or rules in crisis-ridden organisational fields. However, stable fields have a structure and rules that are clearly defined. The second dimension is the level of heterogeneity, which relates to the level of variance in institutional arrangements (Battilana et al., 2009). Finally, the level of institutionalisation ranges from high to low.

- Level of Maturity

The maturity of an organisational field is a vital determinant for institutional entrepreneurship. Research indicates that it is important to identify the level of maturity of a particular organisational field and comprehend how these conditions shape and enable the activities of institutional entrepreneurs (Fligstein, 1997).

In order to determine the maturity level of the organisational field in which QSE operates, the researcher compared the characteristics of the field conditions with the

descriptions put forth by Maguire et al. (2004) and Greenwood and Suddaby (2006) of emerging and mature organisational fields, as described in the literature review section. These propositions were established during the theorisation of institutional change and involve identifying the processes through which new practices become effective. Based on this evaluation, the organisational field in which QSE operates was identified as emerging. The existence of uncertainty due to the non-standardised filing process in particular provided the institutional entrepreneur with the opportunity to suggest XBRL as a new business reporting system.

- Level of Heterogeneity

Another important field-level condition that can trigger institutional entrepreneurship is the degree of heterogeneity existing in the organisational field, as suggested by Hoogstraaten et al. (2020), Leca et al. (2008), Seo and Creed (2002) and Clemens and Cook (1999). Heterogeneity is the existence of multiple institutional orders or alternatives. Heterogeneous fields are more prone to change and innovation as heterogeneous institutional arrangements give rise to incompatibilities, causing internal contradictions (Weik, 2011). This provides a unique opportunity for agency, allowing actors to engage in institutional entrepreneurship (Clemens & Cook, 1999). In the presence of contradictory institutional arrangements, actors may be triggered to use their reflective capacity, enabling them to question the existing arrangements (Seo & Creed, 2002). At QSE, the submission of financial statements by listed companies in various formats was identified as a source of heterogeneity that resulted in internal inconsistencies. This result is in line with Seo and Creed (2002), who identified several sources of heterogeneity, of which one is functional inefficiency. In addition, Hoogstraaten et al. (2020) stipulated that institutional entrepreneurs can make use of contradictions as providing room for deviation and experimentation from which to

propose new reforms.

The inefficiencies identified with the previous disclosure process at QSE included lack of symmetry, non-standardised information and reduced comparability. Moreover, there was a time-lag in the upload of financial reports to the website. After submission, the listings department would have to review the contents, highlight any discrepancies, contact companies to rectify and resolve the highlighted discrepancies and then upload manually to the exchange website. There are various challenges associated with manual entry of data, including a high probability of errors and the repetitive and tedious nature of this time-consuming process.

These challenges associated with the old disclosure process were the source of the contradictions and inefficiencies that led the institutional entrepreneur to question the effectiveness and efficiency of the process. Accordingly, the institutional entrepreneur, along with other members at the exchange, visited various exchanges to gather information about their respective disclosure processes. The institutional entrepreneur was successful in using the heterogeneity to institutionalise XBRL as an alternative reporting system and launch the Q-Disclosure platform.

- Level of Institutionalisation

The degree of institutionalisation has also been found to have an impact on an actor's agency (Dorado, 2005; Tolbert & Zucker, 1983). However, there is a dispute regarding the degree of institutionalisation that is likely to offer opportunities for institutional change. On the one hand, researchers like Beckert (1999) and Oliver (1992) found that highly institutionalised organisational fields are more likely to experience institutional change. On the other hand, Zucker (1977) and DiMaggio (1988) stated that in highly institutionalised fields, organisational patterns are so exteriorised and intersubjective that no actor is likely to question them. Moreover,

DiMaggio (1988) and Fligstein (1997) suggested that a low degree of institutionalisation in an organisational field leads to uncertainty that provides an opportunity for actors to engage in strategic actions.

The results of this thesis suggest a moderate degree of institutionalisation in the organisational field. The QFMA was established under Law No. 33 of 2005 to assume control of all supervisory and regulatory powers previously held by the Doha Securities Market. It officially assumed these responsibilities in September of 2007. Before its establishment, the QSE performed the role of both regulator and operator. The low degree of institutionalisation can be seen in the dynamic relationship that exists between the regulator (QFMA) and the operator (QSE). QFMA acknowledges the knowledge and experience that QSE possesses and is appreciative of the new initiatives they implement to maintain the integrity and increase the efficiency of Qatar's capital market.

Using the model proposed by Dorado (2005), the organisational field in this case study can be characterised as 'opportunity transparent'. The institutional entrepreneur was able to define a new disclosure arrangement using XBRL that would not only promote QSE's goals of enhanced technological capabilities and investor accessibility but also promote QFMA's goals, including investor protection and maintenance of the stability, integrity and transparency of Qatar's capital market.

6.2.2.2 Actor's Social Position

The findings of this thesis are somewhat in line with the propositions laid out by Dorado (2005) and Battilana (2006, 2008), which examined the role of actors' social position to understand how they are enabled to act as institutional entrepreneurs despite institutional pressures. Battilana (2006) suggested that an actor's position in the organisational field is not the only factor that influences their likelihood of initiating

organisational change. There are other factors that influence their likelihood of initiating different types of divergent change.

The results of this thesis aligned with and contradicted various of the propositions Battilana (2006) put forth in her paper. First, QSE is the primary stock market in Qatar and therefore has a high status. According to Battilana (2006), high-status organisations are tightly embedded in their organisational field, but this was not the case with QSE. Moreover, the institutional entrepreneur had a comparatively low social status within the organisation, another contradictory result. On other hand, the findings suggested that the entrepreneur was able to build a strong relationship with top management and thereby gained legitimacy and access to resources. Moreover, he had been working at the stock exchange for about 17 years and occupied the position of Senior Business Development Officer. Another factor that enabled him to initiate the institutional change was easy inter-organisational mobility. These findings were aligned with propositions formulated by Battilana (2006). The entrepreneur's in-depth knowledge of the organisation triggered his reflective capacity and allowed him to distance himself from the dominant institutional arrangement in order to evaluate it. He was also able to command substantial legitimacy in the eyes of other organisational members, which in turn gave him the necessary confidence and encouragement to implement XBRL. As suggested by Maguire et al. (2004), an actor's 'subject position' which is their formal position within a hierarchy can provide them with legitimacy and the ability to bridge the gaps between diverse stakeholders to access key resources.

6.2.3 Intervention Strategies

To successfully implement an institutional change, institutional entrepreneurs must ensure that the newly introduced institutional arrangements are widely adopted and accepted by other actors in the field. The process of institutional entrepreneurship

is politically and socially complex, requiring institutional entrepreneurs to mobilise allies, develop alliances and gain access to material resources. Characterising how institutional entrepreneurs are able to do this requires examining the strategies used by these actors.

6.2.3.1 Resource Mobilisation

Resource mobilisation is a central element of institutional entrepreneurship, as highlighted by DiMaggio (1988). Leca et al. (2008) categorised the various resources identified in institutional entrepreneurship literature into two broad categories, tangible and intangible resources.

- Tangible Resources

Institutional entrepreneurs can mobilise tangible resources during early stages of the change process in order to reduce the costs during the transition period, when the institutional arrangement is in its nascent stage and unknown to other stakeholders (Leca et al., 2008). They can also be used to build a partnership with other actors, as demonstrated by Garud et al. (2002) in their case study on Sun Microsystems. A similar approach was adopted by QSE during the implementation of XBRL. After completing the development stage of Q-Disclosure, the exchange entered 'testing' and 'pilot' phases during which they provided free access to their computers, operating systems and servers. This was performed to ensure that all listed companies and auditors were ready to use the Q-disclosure platform without any last-minute panic. QSE then initiated the User Acceptance Testing phase, which continued for 11 months, covering two reporting cycles, before the platform went live. During these 11 months, companies and auditors provided feedback on the taxonomy development. QSE reviewed these comments and suggestions and successfully modified the taxonomies with the help of the software vendor.

Greenwood and Suddaby (2006) highlighted the importance of political, financial and organisational resources, and how organisations occupying elite positions can mobilise these resources to challenge regulatory agencies. Although QSE did not contest the regulator, QFMA, it did use these resources to gain the necessary endorsement of the implementation of XBRL as the reporting standard. Q-Disclosure was a joint initiative by QSE and QFMA towards a single global electronic financial reporting standard.

- Intangible Resources

Actors can also mobilise intangible resources, including social capital, legitimacy and formal authority, to bring about institutional change (Leca et al., 2008; Percoco, 2012). Fligstein (1997) proposed that in order to be successful, institutional entrepreneurs should possess high levels of the social capital needed to build solid relationships between individuals in order to reduce uncertainties and transaction costs. In this case study, there was high level of trustworthiness among the members of QSE and between top management and the task force that was responsible for implementation of the XBRL platform, to such an extent that they can be represented as a collective entrepreneur. This result aligns with work by Coleman (1988) that suggested that a group within which there exists trustworthiness is able to accomplish much more than a group in which trustworthiness is lacking. This trustworthiness can be built by texts, which should be accessible, consumed and acknowledged by other actors and can take various forms (Phillips et al., 2004). The institutional entrepreneur was successful in gaining social capital by making use of his social skills, as described by Kim and Aldrich (2005). The results suggested that the institutional entrepreneur adopted a discursive strategy to shape the behaviours and understanding of other actors (internal and external) through the production of influential texts and discourse that was

structured and well-supported.

Institutional entrepreneurs require legitimacy in order to be taken seriously by other actors and stakeholders as well as to obtain the necessary approvals and resources (Ahlstrom et al., 2008; Maguire et al., 2004). This is primarily because institutional entrepreneurs are change agents who bring change and disruption to institutions, either by modifying the existing arrangements or creating entirely new structures and systems. Legitimacy is essential to ensure the validity of these changes. In this case study, the institutional entrepreneur was successful in gaining legitimacy and attaining congruence with the values and expectations of the key stakeholders. He did so by adopting a strategy of manipulation, which involved proactively shaping the opinions of key constituents. Although Ahlstrom et al. (2008) in their research suggested that manipulation is a collective strategy, in this case it was carried out by an individual. This suggests the existence of an amiable institutional setting, as described by Baig and Godley (2016).

It was a time-consuming process to promote XBRL to the regulatory bodies, listed companies, accountants and auditors. First the regulators attended the training to gather information about XBRL and understand how it could serve their objectives. Second, auditors at partner level were involved to ensure that system was able to produce appropriate financial statements and listed companies were given training to ensure they learn about its usage. The institutional entrepreneur was able to institutionalise XBRL as the new business reporting practice by gaining legitimacy from all key stakeholders of the information supply chain.

Formal authority is another important intangible resource identified by Fligstein (2001, 1997) and Phillips et al. (2000). Formal authority is defined as ‘an actor's legitimately recognised right to make decisions’ (Phillips et al., 2000). An actor can use

their formal authority to frame stories, as described by Fligstein (2001) and Fohim (2017), in order to encourage consumption of their discourse by other actors in the field (Phillips et al., 2004). In this case study, the institutional entrepreneur was able to use his formal position as the Senior Officer of Business Development to promote the usage of XBRL, which ultimately resulted in its adoption.

6.2.3.2 Theorisation

Strang and Meyer (1993) suggested that for new practices to be widely accepted they must be 'theorised'. Theorisation helps by simplifying the properties of new practices and explaining the outcomes they produce. Therefore, an institutional entrepreneur should 'theorise' an institutional change by highlighting the problems associated with the existing practice and proposing a new practice as the solution. The main objective behind theorisation is to frame the new institutional project in a way that resonates with the values and interests of potential allies and helps them solve their problems. Troshani et al. (2015) also pointed out that theorisation helps in reducing uncertainties about an innovation and its potential impact.

The findings of this case study showed that the institutional entrepreneur was able to theorise the institutional change as suggested by Tolbert and Zucker (1996), Greenwood et al. (2002) and Maguire et al. (2004). The institutional entrepreneur highlighted the problems associated with the existing filing process through 'Company News', including lack of standardisation, incomparability of information, and manual uploading of financial statements and non-financial disclosures, which increased the scope for errors. In addition, companies were unable to release disclosures automatically; in order to make a disclosure, a company official was required to be physically present. This is the first step called 'specification' of the organisational failing, according to the discursive frame suggested by Phillips et al. (2004). It can also

be characterised as ‘punctuation’, identifying the problem, according to the discursive frame suggested by Garud et al. (2002).

The next step is the ‘justification’ of the innovation as a means to help resolve the problems identified, or for diagnosing the problem to identify the cause and describing what is required to rectify the problem. In accordance with these frames, the institutional entrepreneur suggested XBRL as a solution to the problems discussed previously, as well as offering other potential benefits that would not only be available to the exchange but also to other stakeholders, including the regulators, listed companies, accountants, auditors, financial analysts and investors.

Garud et al.’s (2002) frame included a third step, called motivation, which involves encouraging actors to participate. In the case of XBRL adoption, the institutional entrepreneur encouraged actors to participate by creating resonance. For regulators, the process of collecting company data would become more efficient, comprehensive and reliable. Listed companies would be able to submit both financial and non-financial disclosures in a structured way. The XBRL platform would allow companies to be in line with the best practice of disclosure and reduce their compliance burden. Finally, investors would have access to data in a form that can be re-used.

6.2.3.3 Inter-Actor Relations

Research suggests that institutional entrepreneurship requires establishing new inter-actor relations to bring about change, as institutional entrepreneurs engage in changing and modifying deeply embedded norms, values and practices (Hardy & Maguire, 2008; Meyer, 2006). Successful institutional entrepreneurship requires the cooperation of other actors; as described by Fligstein (2001), it is ‘the ability to induce cooperation among others’. Early institutional studies portrayed institutional entrepreneurs as ‘heroes’ or ‘muscular’ actors who transformed institutions (Micelotta

et al., 2017). However, recent studies by Dorado (2005), Leca et al. (2008) and Hoogstraaten et al. (2020) are more progressive and acknowledge that actors cannot succeed on their own in initiating institutional change. Therefore, it is important for institutional entrepreneurs to possess social and political skills (Fligstein 1997; Maguire et al., 2004; Perkmann & Spicer, 2007). Institutional entrepreneurs can use inter-actor relations to mobilise material resources, induce collective actions, persuade other field members into supporting change and gain allies and support to legitimise new practices.

In line with the recent studies of institutional entrepreneurship, the results of this thesis show that the institutional entrepreneur was able to implement XBRL as the new business reporting practice by establishing inter-actor relations with members both inside and outside of the organisation. Within the organisation, a task force was built, consisting of various department representatives, that worked together collectively. Externally, he was able to establish relation with IRIS, the software vendor that played a major role both in increasing the awareness of XBRL and in the implementation of the Q-Disclosure platform.

6.2.4 Concluding Remarks

In summary, this chapter has articulated the theoretical framework of the interview findings to provide more conceptualised insights to the reader. Institutional entrepreneurship theory was used to explore how an institutional entrepreneur was able to propagate a new organisational form. This chapter illuminated various aspects of institutional entrepreneurship, as well as attempting to bridge the gap between 'old' and 'new' institutionalism by considering which types of actors are more likely to engage in institutional entrepreneurship and how specific aspects of the organisational field and the organisation enable the activities of the institutional entrepreneur. Finally, the strategies deployed by the institutional entrepreneur seeking to introduced change in

the organisational field were analysed.

The findings of our study provide important insights into how institutional entrepreneurs propagate and create new forms of organisations. First, we examined the skills used by institutional entrepreneurs. Second, we explored how institutional entrepreneurs interact with their field environment in order to manipulate its context and use their social position in the process of implementing changes. Finally, we analysed how institutional entrepreneurs engage in discursive strategies to institutionalise new practices.

7. CHAPTER 7: CONCLUSION

7.1 Overview

Several factors motivated this investigation into the conditions and processes behind changing the method of communicating corporate reports. The first factor was the limited research into XBRL adoption conducted at the micro level. Another factor was the limited research on XBRL adoption that explores the interplay between the stakeholders present in the institutional environment and their influence on the adoption decision.

This thesis employed the concept of institutional entrepreneurship to investigate the process of XBRL institutionalisation at the Qatar Stock Exchange, which led the researcher to pull out insights for theory and practice. By considering empirical data within a conceptual framework, insights have been gathered into how the institutional entrepreneur used his skills and social position to influence the institutional environment, and the strategies he employed to obtain financial and non-financial resources.

7.2 Key Insights

The research motivation and context led to the use of the concept of institutional entrepreneurship to guide the overarching research question's development to provide insight into the factors that influenced XBRL reporting uptake in the Qatari capital market. The primary objective of this thesis was to investigate the conditions and processes by which the Qatar Stock Exchange recognised the need to change its highly embedded and institutionalised reporting system and implement XBRL as an alternative. Guided by this objective, two research questions were addressed:

1. What were the main micro- and macro-level factors that triggered the institutional entrepreneur to envision XBRL as the new reporting mechanism?

The Qatar Stock Exchange wanted to 'modernise and automate' their reporting and disclosure process. The previous reporting and disclosure process, 'Company News', was time-consuming and required significant effort. According to the institutional entrepreneur, a better disclosure system was needed to ensure that information was provided in a timely and accessible manner to the market participants. Second, there were various technical challenges associated with the previous reporting and disclosure mechanism. These challenges included a lack of standardisation, which reduced the comparability of data, and the format of disclosures, which posed a usability challenge. The third factor, social influence, was related to the external environment. The Qatar Stock Exchange realised that the technology of XBRL had been successfully adopted and used by neighboring exchanges, which meant that Qatar was lagging behind in the area of disclosures and listed companies were at a disadvantage related to cost of capital. The final factor was the support received from the vendor, who played a significant role in raising the level of awareness of XBRL and provided information regarding the technology and its applicability to the exchange.

2. How was the institutional entrepreneur able to persuade other actors present in the institutional environment and coalesce their efforts towards the adoption of XBRL?

First, he used his reflexive capacity to analyse the applicability of XBRL for the exchange's reporting and disclosure process. Later, using a combination of social skills and multi-dimensional skills, he was able to persuade the key players of the institutional environment and secure their cooperation for the adoption of XBRL. For example, in the pre-adoption stage he used his analytical and empathic skills to identify the inefficiency of the previous disclosure mechanism and its negative impact on the users of financial reports in terms of data accessibility and analysis. Accordingly, he used his

framing and translational skills to suggest that adoption of XBRL would help the exchange to increase the level of transparency, as financial reports in XBRL would be more accessible to users so that they could perform analysis much more easily and thereby make informed investment decisions. Furthermore, the institutional entrepreneur was able to respond effectively to the emerging nature of the financial reporting environment, identify the prevalant institutional contradictions within the traditional reporting practices and institutionalise XBRL as the new reporting practice, after gaining the endorsement of the top management and the regulator. He devised a number of strategies, including establishing inter-actor relations and use of theorisation, in order to mobilise necessary resources including legitimacy, social capital and formal authority.

This thesis provides key evidence of how an actor occupying a peripheral position was able to bring about change in a highly embedded context. He was able to use a combination of different factors, including his skills, the field-level conditions and intervention strategies, to interact with the institutional environment, identify the key actors and initiate collective and collaborative processes among them to advance the uptake of XBRL as the new business reporting standard, replacing a highly institutionalised, legitimised and accepted traditional financial reporting mechanism.

7.3 Research Contribution and Implications

First, this thesis contributes to filling the gap in the literature regarding institutionalisation of XBRL for reporting and disclosure practices highlighted by Troshani et al. (2015). It provides an account of the mechanisms and processes that established XBRL as the dominant filing mechanism. Second, it strengthens institutional entrepreneurship theory by highlighting the role of an institutional entrepreneur occupying a peripheral position in the adoption of an accounting innovation (Battilana et al., 2009). In doing so, the thesis attempts to resolve the

‘paradox of embedded agency’ that has been a major obstacle in the entrepreneurial research domain (Battilana et al., 2009; Hardy and Maguire, 2008), as well as the consistent portrayal of the institutional entrepreneur as a ‘hero’ or ‘hyper muscular agent’. The role of other actors and the institutional environment is duly acknowledged in this thesis, providing a richer approach to institutional entrepreneurship that enables actors occupying peripheral positions to initiate institutional changes. Third, it provides evidence that institutional change does not necessarily have to follow a top-down approach; change can arise as a result of improvising mundane day-to-day practices within and between organisations, as noted by Micelotta et al (2017). In addition, the thesis emphasises the importance of purposeful agency and intentionality as suggested by Modell (2020) and Micelotta et al. (2017). Purposeful agency and intentionality has been overlooked by prior institutional entrepreneurship research. The thesis also responds to the call made by Fine and Hallett (2014) by providing a multi-level analysis of the adoption process that highlights the roles of the institutional entrepreneur and other stakeholders.

At Qatar Stock Exchange, XBRL was adopted for the purpose of modernising and automating the reporting and disclosure process. The adoption of XBRL would increase the level of transparency and enhance the financial reporting supply chain by increasing the reliability, accuracy, comparability and accessibility of data for all market participants. Practically, this thesis can serve to increase the awareness and understanding of XBRL and encourage organisations operating within Qatar to adopt XBRL. For example, companies can extend their usage of XBRL from external purposes to internal purposes. XBRL can help the government to enhance their e-government initiatives by allowing seamless communication between ministries.

7.4 Research Limitations and Future Research

The researcher acknowledges the limitations of this thesis and will provide

suggestions for future research. The first limitation is the incorporation of the perspectives of listed companies only. The main focus of this thesis was the adoption of XBRL, which involved the participation of various stakeholders, including the regulator, external auditors and the vendor. Audit partners were involved during the taxonomy development phase of the adoption process. The researcher found it very difficult to gain access to those auditors. The researcher was able to contact members of two audit firms, but unfortunately they had no knowledge of XBRL. According to the research protocol (Appendix G), auditors and accountants with no knowledge of XBRL were excluded to ensure the reliability of the data collected. Second, this thesis captured XBRL adoption dynamics, and the decision process associated with that adoption over previous years, at a single point in time. Participants were asked during interviews about their past decisions regarding the adoption of XBRL. This increases the risk of biased or incomplete information. To minimise this risk, multiple interviews were arranged with research participants of the same organisation (as shown in Table 1).

For future research, efforts can be undertaken to provide a multiple-stakeholder perspective on the adoption of XBRL by including regulators, auditors and all listed companies. Quantitative research can be conducted to measure the impact of XBRL adoption on, for example, the level of information asymmetry; content analysis can be performed to identify differences in the disclosure practices pre- and post-XBRL adoption. Future research can also provide a comparative analysis of the adoption processes in Qatar, Saudi Arabia and the United Arab Emirates. This will help to further expand knowledge of the different factors that influence XBRL adoption.

References

Abdullah, A., Khadaroo, I., & Shaikh, J. (2008). A 'macro' analysis of the use of XBRL. *International Journal of Managerial and Financial Accounting, 1*(2), 213-223. doi:http://dx.doi.org/10.1504/IJMFA.2008.021243

Abhishek, N., & Ashoka, M. L. (2019). Impact of XBRL Reporting on the Quality of Financial Reporting System in India. *Review of Research, 8*(1), 1-9. doi:https://dx.doi.org/10.2139/ssrn.3317702

Ahlstrom, D., Bruton, G. D., & Yeh, K. S. (2008). Private firms in China: Building legitimacy in an emerging economy. *Journal of World Business, 43*(4), 385-399. doi:http://dx.doi.org/10.1016/j.jwb.2008.03.001

Ahmadpour, A., & Bodaghi, A. (2012). The Effects of XBRL on Financial Transparency., (pp. 65-76). Retrieved from https://ijism.ricest.ac.ir/index.php/ijism/article/view/140/123

Albertini, S., & Muzzi, C. (2016). Institutional entrepreneurship and organizational innovation: The start-up of a divergent new venture at the periphery of a mature field. *The International Journal of Entrepreneurship and Innovation, 17*(2), 110-119. doi:https://doi.org/10.1177%2F1465750316648578

Amalia, F. (2021). Implementation of XBRL in The Indonesian Capital Market: An Institutional Logics Perspective. Retrieved from https://eprints.qut.edu.au/213154/1/Fitri_Amalia_Thesis.pdf

APM Association for Project Management. (2021). *What is a business case?* Retrieved from apm: association for project management: https://www.apm.org.uk/resources/what-is-project-management/what-is-a-business-case/

Apostolou, A. K., & Nanopoulos, K. A. (2009). Interactive financial reporting using

XBRL: An overview of the global markets and Europe. *International Journal of Disclosure & Governance, 6*, 262-272. doi:https://0-doi.org.mylibrary.qu.edu.qa/10.1057/jdg.2009.3

Aurora, P. (2008). The possibilities for the creation of a language XML for the formalization of the accounting records. *Studies and Scientific Researches. Economics Edition*(13), 73-76. doi:http://dx.doi.org/10.29358/sceco.v0i13.22

Australian Government. (2012). *Use of standard business reporting (SBR) for financial reports.* Retrieved from https://treasury.gov.au/consultation/use-of-standard-business-reporting-for-financial-reports

Australian Government. (2013). *Report of the Australian Business Registrar 2012-13.*

Bai, Z., Sakaue, M., & Takeda, F. (2014). The Impact of XBRL Adoption on the Information Environment: Evidence from Japan. *The Japanese Accounting Review*, 49-74. doi:http://dx.doi.org/10.11640/tjar.4.2014.03

Baig, P., & Godley, A. (2016). Acquiring Legitimacy in Institutional Entrepreneurship: A Case for Emerging Economies. *Proceedings of the European Conference on Innovation & Entrepreneurship*, (pp. 897-903).

Baldwin, A. A., Brown, C. E., & Trinkle, B. (2006). XBRL: An Impacts Framework and Research Challenge. *Journal of Emerging Technologies in Accounting, 3*(1), 97-116. doi:http://dx.doi.org/10.2308/jeta.2006.3.1.97

Ball, I. (2006). *XBRL, Automation, and Enhancing the Credibility of Financial Reporting and Auditing.* Retrieved from IFAC: International Federation of Accountants: https://www.ifac.org/news-events/2006-12/xbrl-automation-and-enhancing-credibility-financial-reporting-and-auditing

Battilana, J. (2006). Agency and Institutions: The Enabling Role of Individuals' Social Position. *Organization, 13*(5), 653-676.

doi:https://doi.org/10.1177%2F1350508406067008

Battilana, J. (2008). Center or Periphery? : Identifying the Locus of Different Types of Divergent Organizational Change. Retrieved from http://scripts.mit.edu/~cwheat/ess/papers/Battliana_4.pdf

Battilana, J., Leca, B., & Boxenbaum, E. (2009). How Actors Change Institutions: Towards a Theory of Institutional Entrepreneurship. *The Academy of Management Annals, 3*(1), 65-107. doi:http://dx.doi.org/10.1080/19416520903053598

Baxter, P., & Jack, S. (2008). Qualitative Case Study Methodology: Study Design and Implementation for Novice Researchers. *The Qualitative Report, 13*(4), 544-559. doi:https://doi.org/10.46743/2160-3715/2008.1573

Beckert, J. (1999). Agency, entrepreneurs, and institutional change: The role of strategic choice and institutionalized practices in organizations. *Organization Studies, 20*(5), 777-799. doi:https://doi.org/10.1177%2F0170840699205004

Bhattacharya, N., Cho, Y. J., & Kim, J. B. (2018). Leveling the Playing Field between Large and Small Institutions: Evidence from the SEC's XBRL Mandate. *The Accounting Review, 93*(5), 51-71. doi:https://doi.org/10.2308/accr-52000

Blankespoor, E. (2019). The Impact of Information Processing Costs on Firm Disclosure Choice: Evidence from the XBRL Mandate. *Journal of Accounting Research, 57*(4), 919-967. doi:https://doi.org/10.1111/1475-679X.12268

Blankespoor, E., Miller, B. P., & White, H. D. (2014). Initial Evidence on the Market Impact of the XBRL Mandate. *Review of Accounting Studies, 19*, 1468-1503. doi:https://doi.org/10.1007/s11142-013-9273-4

Boritz, J. E., & No, W. G. (2005). Security in XML-based financial reporting services on the Internet. *Journal of Accounting and Public Policy, 24*(1), 11-35.

doi:http://dx.doi.org/10.1016/j.jaccpubpol.2004.12.002

Bovee, M., Kogan, A., Nelson, K., Srivastava, R. P., & Vasarhelyi, M. A. (2005). Financial reporting and auditing agent with net knowledge (FRAANK) and extensible business reporting language (XBRL). *Journal of Information Systems, 19*(1), 19-41. doi:http://dx.doi.org/10.2308/jis.2005.19.1.19

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77-101. doi:https://psycnet.apa.org/doi/10.1191/1478088706qp063oa

Brinkmann, S., & Kvale, S. (2015). *InterViews: learning the craft of qualitative research interviewing* (3rd ed.). Los Angeles: Sage Publications.

Bruton, G. D., Ahlstrom, D., & Li, H.-L. (2010). Institutional Theory and Entrepreneurship: Where Are We Now and Where Do We Need to Move in the Future? Entrepreneurship: Theory and Practice, 34(3), 421-440. doi:http://dx.doi.org/10.1111/j.1540-6520.2010.00390.x

Bryman, A., & Bell, E. (2015). *Business Research Methods* (4th ed.). Oxford: Oxford University Press.

Chen, S., Li, W., & Wu, D. (2014). How XBRL Affects the Cost of Equity Capital? Evidence from emerging market. *SSRN Electronic Journal, 14*(2), 123-145. doi:https://doi.org/10.2308/jiar-51211

Chen, Y. C. (2013). Improving Transparency in the Financial Sector: E-Government XBRL Implementation in the United States. *Public Performance & Management Review, 37*(2), 241-262. doi:https://doi.org/10.2753/PMR1530-9576370203

Chong, D., Shi, H., Fu, L., Ji, H., & Yan, G. (2017). The impact of XBRL on information asymmetry: evidence from loan contracting. *Journal of*

Management Analytics, 4(2), 145-158. doi:https://doi.org/10.1080/23270012.2017.1299047

Choudhury, F. (2014, September 2). *Making Financial Reporting Better: Strengthening the Financial Reporting Supply Chain*. Retrieved from IFAC: International Federation of Accountants: https://www.ifac.org/knowledge-gateway/contributing-global-economy/discussion/making-financial-reporting-better-strengthening-financial-reporting-supply-chain

Chouhan, V., & Goswami, S. (2015). XBRL Acceptance in India: A Behavioral Study. *ABC Research House, 2*(2), 71-78. doi:http://dx.doi.org/10.18034/ajtp.v2i2.385

Clemens, E. S., & Cook, J. M. (1999). Politics and Institutionalism: Explaining Durability and Change. *Annual Review of Sociology, 25*(1), 441-466. doi:https://doi.org/10.1146/annurev.soc.25.1.441

Coleman, J. S. (1988). Social Capital in the Creation of Human Capital. *The American Journal of Sociology, 94*, S95-S120. doi:10.1086/228943

Cong, Y., Hao, J., & Zuo, L. (2014). The Impact of XBRL Reporting on Market Efficiency. *Journal of Information Systems, 28*(2), 181-207. doi:http://dx.doi.org/10.2308/isys-50794

Cordery, C., Fowler, C., & Mustafa, K. (2011). A Solution Looking for a Problem: Factors Associated with the Non-Adoption of XBRL. *Pacific Accounting Review, 23*(1), 69-88. doi:http://dx.doi.org/10.1108/01140581111130634

Damanpour, F., & Schneider, M. (2006). Phases of the Adoption of Innovation in Organizations: Effects of Environment, Organization and Top Managers. *British Journal of Management, 17*(3), 215-263. doi:http://dx.doi.org/10.1111/j.1467-8551.2006.00498.x

Davey, L. (1990). The Application of Case Study Evaluations. *Practical Assessment,*

Research, and Evaluation, 2(9). doi:https://doi.org/10.7275/02g8-bb93

Davis, F. D. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. MIS Quarterly, 13(3), 319–340. https://doi.org/10.2307/249008

Debreceny, R., & Gray, G. (2001). The production and use of semantically rich accounting reports on the Internet: XML and XBRL. *International Journal of Accounting Information Systems, 2*(1), 47-74. doi:http://dx.doi.org/10.1016/S1467-0895(00)00012-9

Delgado, H. (2021). *HTML History - Origin and evolution of the Web hypertext*. Retrieved from akus.net Diseno Web: https://disenowebakus.net/en/html-history

Deloitte. (2009). *eXtensible Business Reporting Language.* Retrieved from https://www2.deloitte.com/content/dam/Deloitte/us/Documents/audit/us-assurance-XBRL-moving-to-a-global-standard-121814.pdf

Deloitte. (2011). *XBRL: The new world of reporting.* Retrieved from https://www2.deloitte.com/content/dam/Deloitte/in/Documents/risk/in-risk-xbrl-the-new-world-of-reporting-noexp.pdf

Denzin, N. K., & Lincoln, Y. S. (2005). *The Sage Handbook of Qualitative Research.* Thousand Oaks: Sage Publications.

Dimaggio, P. (1988). Interest and agency in institutional theory. In L. G. Zucker, *Research on Institutional Patterns: Environment and Culture* (pp. 3-22). Cambridge, MA: Ballinger Publishing Co.

DiMaggio, P. J., & Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality. *American Sociological Review, 48*, 147-160.

Dobre, F., Vîlsănoiu, D., & Popa, A. (2013). Financial Reporting under XBRL and the Impact on the Financial Audit. *Ovidius University Annals, Economic Sciences Series, 13*(1), 1199-1203.

Dong, Y., Li, O., Lin, Y., & Ni, C. (2016). Does Information-Processing Cost Affect Firm-Specific Information Acquisition? Evidence from XBRL Adoption. *The Journal of Financial and Quantitative Analysis, 51*(2), 435-462. doi:10.1017/S0022109016000235

Doolin, B., & Troshani, I. (2007). Organizational Adoption of XBRL. *Electronic Markets, 17*(3), 199-209. doi:http://dx.doi.org/10.1080/10196780701503195

Dorado, S. (2005). Institutional Entrepreneurship, Partaking, and Convening. *Organization Studies, 26*(3), 385-414. doi:https://doi.org/10.1177%2F0170840605050873

Efendi, J., Park, J., & Subramaniam, C. (2016). Does the XBRL Reporting Format Provide Incremental Information Value? A Study Using XBRL Disclosures During the Voluntary Filing Program. *ABACUS: A Journal of Accounting, Finance, and Business Studies, 52*(2), 259-285. doi:http://dx.doi.org/10.1111/abac.12079

Eierle, B., Ojala, H., & Penttinen, E. (2014). XBRL to enhance external financial reporting: Should we implement or not? Case Company X. *Journal of Accounting Education, 32*(2), 160-170. doi:http://dx.doi.org/10.1016/j.jaccedu.2014.04.003

Eisenstadt, S. N. (1980). Cultural Orientations, Institutional Entrepreneurs, and Social Change: Comparative Analysis of Traditional Civilizations. *American Journal of Sociology, 85*(4), 840-869. Retrieved from https://www.jstor.org/stable/2778709

Enachi, M. (2013). XBRL and Financial Reporting Transparency. *BRAND. Broad Research in Accounting, Negotiation, and Distribution, 4*(1), 10-19. Retrieved from https://lumenpublishing.com/journals/index.php/brand/article/view/1704

Faboyede, S., Nwobu, O., Akande, O., & Oladipo, O. (2016). Extensible Business Reporting Language (XBRL): A Tool for Accounting Education in the 21st Century. *Journal of Accounting, Finance and Auditing Studies, 2*(3), 85-97. Retrieved from https://jafas.org/articles/2016-2-3/6_XBRL_ABSTRACT.pdf

Farewell, S. (2010). XBRL OR CUSTOMIZED XML? Retrieved from https://www.xbrl.org/bpboarddocs/xbrlorcustomizedxml.pdf

Felden, C. (2011). Characteristics of XBRL adoption in Germany. *Journal of Management Control, 22*, 161-186. doi:https://doi.org/10.1007/s00187-011-0134-7

Fine, G. A., & Hallet, T. (2014). Group Cultures and the Everyday Life of Organizations: Interaction Orders and Meso-Analysis. *Organization Studies, 35*(12), 1773-1792. doi:https://doi.org/10.1177%2F0170840614546153

Fisher, L. (2008). The XBRL engine builds speed. *Internal Auditor, 65*(4), pp. 50-55.

Fligstein, N. (1997). Social Skill and Institutional Theory. *American Behavioral Scientist, 40*(4), 397-405. doi:http://dx.doi.org/10.1177/000276429704000403

Fligstein, N. (2001). Social skill and the theory of fields. *Sociological theory*, *19*(2), 105-125. doi:https://doi.org/10.1111%2F0735-2751.00132

Fohim, E. (2017). From a 'Cultural Dope' to a 'Heroic Entrepreneur' - Tracing the Origin of Institutional Entrepreneurs' Skills by Means of Reflection-in-Action. Retrieved from https://www.alexandria.unisg.ch/publications/251361

Fohim, E. (2019). Institutional Entrepreneurs' Skills: A Multi-Dimensional Concept. In P. S. Haack, *Microfoundations of Institutions (Research in the Sociology of*

Organizations, Vol. 65B) (pp. 169-192). Bingley: Emerald Publishing Limited.

Fuenfschilling, L., & Truffer, B. (2016). The interplay of institutions, actors and technologies in socio-technical systems — An analysis of transformations in the Australian urban water sector. *Technological Forecasting and Social Change, 103*, 298-312. doi:http://dx.doi.org/10.1016/j.techfore.2015.11.023

Gandhi, S. K. (2010). XBRL and Financial Reporting Taxonomy: A Revolution in Preparation, Communication and Analysis of Electronic Financial Reports. In S. K. Gandhi, *Contemporary Issues & Debates in Accounting.* Pearson.

Garner, D., Henderson, D., Sheetz, S. D., & Trinkle, B. S. (2013). The Different Levels of XBRL Adoption. *Management Accounting Quarterly, 14*(2), 1-10.

Garud, R., Hardy, C., & Maguire, S. (2007). Institutional Entrepreneurship as Embedded Agency: An Introduction to the Special Issue. *Organization Studies, 28*(7), 957-969. doi:http://dx.doi.org/10.1177/0170840607078958

Garud, R., Jain, S., & Kumaraswamy, A. (2002). Institutional Entrepreneurship in the Sponsorship of Common Technological Standards: The Case of Sun Microsystems and Java. *Academy of Management Journal, 45*(1), 196-241. doi:http://dx.doi.org/10.2307/3069292

Giddens, A. (1991). *Modernity and Self-Identity: Self and Society in the Late Modern Age.* Stanford: Stanford Univeristy Press.

Gray, G. L., & Miller, D. W. (2009). XBRL: Solving real-world problems. *International Journal of Disclosure & Governance, 6*(3), 207-223. doi:https://doi.org/10.1057/jdg.2009.8

Greenwood, R., & Suddaby, R. (2006). Institutional Entrepreneurship In Mature Fields: The Big Five Accounting Firms. *Academy of Management Journal, 49*(1), 27-48. doi:https://doi.org/10.2307/20159744

Greenwood, R., Suddaby, R., & Hinings, C. R. (2002). Theorizing change: The role of professional associations in the transformation of institutionalized fields. *Academy of Management Journal, 45*(1), 58-80. doi:https://doi.org/10.2307/3069285

Hameed, M. A., Counsell, S., & Swift, S. (2012). A conceptual model for the process of IT innovation adoption in organizations. *Journal of Engineering and Technology Management, 29*(3), 358-390. doi:http://dx.doi.org/10.1016/j.jengtecman.2012.03.007

Hao, L., Zang, J., & Fang, J. (2014). Does voluntary adoption of XBRL reduce cost of equity capital? *International Journal of Accounting and Information Management, 22*(2), 86-102. doi:https://dx.doi.org/10.2139/ssrn.2131001

Hardy, C., & Maguire, S. (2008). Institutional Entrepreneurship. In R. Greenwood, C. Oliver, & R. Suddaby, *The Sage Handbook of Organizational Institutionalism* (pp. 198-217). Los Angeles: Sage.

Henderson, D., Sheetz, S., & Trinkle, B. (2012). The determinants of inter-organizational and internal in-house adoption of XBRL: A structural equation model. *International Journal of Accounting Information Systems, 13*, 109-140. doi:http://dx.doi.org/10.1016/j.accinf.2012.02.001

Hodge, F. D., Kennedy, J. J., & Maines, L. A. (2004). Does Search-Facilitating Technology Improve the Transparency of Financial Reporting? *The Accounting Review, 79*(3), 687-703. doi:https://doi.org/10.2308/accr.2004.79.3.687

Hoffman, A. J. (1999). Institutional Evolution and Change: Environmentalism and the U.S. Chemical Industry. *The Academy of Management Journal, 42*(4), 351-371. doi:https://doi.org/10.2307/257008

Hoitash, R., Hoitash, U., & Morris, L. (2021). eXtensible Business Reporting Language

(XBRL): A Review and Implications for Future Research. *AUDITING: A Journal of Practice & Theory*(40), 107-132. doi:https://dx.doi.org/10.2139/ssrn.3595401

Hoogstraaten, M., Frenken, K., & Boon, W. (2020). The study of institutional entrepreneurship and its implications for transition studies. *Environmental Innovation and Societal Transitions*, 114-136. doi:https://doi.org/10.1016/j.eist.2020.05.004

Huang, Y., Shan, Y., & Yang, J. (2020). Information processing costs and stock price informativeness: Evidence from the XBRL mandate. *Australian Journal of Management*, *46*(1), 110-131. doi:https://doi.org/10.1177%2F0312896220907672

Hucklesby, M., & Macdonald, J. (2004, March). "The three tenets of XBRL- adoption, adoption, adoption!". *Chartered Accountants Journal*, 46-47.

Husband, G. (2020). Ethical Data Collection and Recognizing the Impact of Semi-Structured Interviews on Research Respondents. *Education Sciences, 10*(8), 206. doi:https://doi.org/10.3390/educsci10080206

Ilias, A., & Ghani, E. (2015). Examining the Adoption of Extensible Business Reporting Language among Public Listed Companies in Malaysia. *Procedia Economics and Finance, 28*, 32-38. doi:https://doi.org/10.1016/S2212-5671(15)01078-3

Ilias, A., Abd Razak, M. Z., & Rahman, R. A. (2015). The Expectation of Perceived Benefit of Extensible Business Reporting Language (XBRL): A Case in Malaysia. *Journal of Developing Areas, 49*(5), 263-271. doi:http://dx.doi.org/10.1353/jda.2015.0060

Ilias, A., Ghani, E. K., Azhar, Z., & Said, J. (2016). Governance Issues On Non-

Adoption Of Xbrl In Malaysia. *International Conference On Accounting Research And Education (Icare 2016)*, 1-9.

Ilias, A., Ghani, E. K., Baidi, N., & Rahman, R. A. (2020). XBRL Adoption: An Examination on the Malaysian Business Reporting System (MBRS). *Humanities and Social Sciences Letters, 8*(2), 202-214. doi:http://dx.doi.org/10.18488/journal.73.2020.82.202.214

Ilias, A., Ghani, E., & Azhar, Z. (2020). Early Evidence on the XBRL Adoption Process in Malaysia: Drivers and Challenges on the Technological Perspective. *Humanities & Social Sciences Reviews, 8*(2), 957-968. doi:http://dx.doi.org/10.18510/hssr.2020.82106

IRIS CARBON. (2019). About us. Retrieved from IRIS: https://iriscarbon.com/us/about-us/

IRIS CARBON. (2020). *How regulators around the world are tapping the potential of XBRL*. Retrieved from IRIS CARBON: https://iriscarbon.com/eu/blog/how-regulators-around-the-world-are-tapping-the-potential-of-xbrl/

IRIS. (n.d.). MCI, Saudi Arabia Drives Digital Agenda with XBRL-based QAWAEM Program. Retrieved from https://irisbusiness.com/sites/default/files/case-studies/qawaem_mci_case_study_final_0.pdf

IRIS. (n.d.). SCA Pioneers Structured Financial Reporting in the Middle East. Retrieved from https://irisbusiness.com/sites/default/files/case-studies/esca_case_study_03_web_version.pdf

James, G. (2007). XBRL: Opportunities and Challenges in Enhancing Financial Reporting and Assurance Processes. *Current Issues in Auditing, 1*(1), A36-A43. doi:https://doi.org/10.2308/ciia.2007.1.1.A36

Janvrin, D. J., & No, W. G. (2012). XBRL Implementation: A Field Investigation to

Identify Research Oppurtunities. *Journal of Information Systems, 26*(1), 169-197. doi:https://doi.org/10.2308/isys-10252

Janvrin, D. J., Pinsker, R. E., & Mascha, M. (2013). XBRL-enabled, spreadsheet, or PDF? Factors influencing exclusive user choice of reporting technology. *Journal of Information Systems, 27*(2), 35-49. doi:http://dx.doi.org/10.2308/isys-50569

javapoint. (n.d.). *HTML Tags*. Retrieved October 19, 2021, from javapoint: https://www.javatpoint.com/html-tags

Jepperson, R. L. (1991). Institutions, institutional effects, and institutionalization. In W. W. Powell, & P. J. DiMaggio, *The new institutionalism in organizational analysis* (pp. 143-163). Chicago, IL: Chicago University Press.

Jones, A., & Willis, M. (2003). The challenge of XBRL: business reporting for investor. *Balance Sheet, 11*(3), 29-37. doi:http://dx.doi.org/10.1108/09657960310491172

Kamal, M., Weerakkody, V., & Irani, Z. (2011). Analyzing the role of stakeholders in the adoption of technology integration solutions in UK local government: An exploratory study. *Government Information Quarterly, 28*(2), 200-210. doi:https://doi.org/10.1016/j.giq.2010.08.003

Kim, J., Lim, J.-H., & No, W. (2012). The Effect of First Wave Mandatory XBRL Reporting across the Financial Information Environment. *Journal of Information Systems, 26*(1), 127-153. doi:https://doi.org/10.2308/isys-10260

Kim, J.-B., Li, B., & Liu, Z. (2018). Information-Processing Costs and Breadth of Ownership. *Contemporary Accounting Research, 36*(4), 2408-2436. doi:https://doi.org/10.1111/1911-3846.12451

Kim, P. H., & Aldrich, E. H. (2005). Social Capital and Entrepreneurship. *Foundations*

and Trends® inEntrepreneurship, 1(2), 55-104. doi:http://dx.doi.org/10.1561/0300000002

Kloeden, P. (2006). XBRL: Origins, implementation and acceptance. Retrieved from https://scholarworks.rit.edu/article/1626

KPMG. (2004). *IMPROVING REGULATORY REPORTING.* KPMG. Retrieved from http://www.xbrl.org/business/regulators/kpmg-regulatory-reporting.pdf

Kumar, P., Kumar, S. S., & Dilip, A. (2019). Effectivness of the Adoption of the XBRL Standard in the Indian Banking Sector. *Journal of Central Banking Theory and Practice, 1*, 39-52. doi:http://dx.doi.org/10.2478/jcbtp-2019-0002

Kuo, H.-C., & Lin, H.-C. (2014). Disclosure Levels, Stock Market Liquidity, and Earnings Quality: Evidence from Taiwan. *Austin Journal of Accounting, Audit and Finance Management, 1*(1), 1-11.

Lakovic, T., Rondovic, B., Backović, T., & Ivanovic, I. (2018). The Determinants of XBRL Adoption: An Empirical Study in an Emerging Economy. *15th European, Mediterranean, and Middle Eastern Conference, EMCIS 2018*, (pp. 532-546). doi:http://dx.doi.org/10.1007/978-3-030-11395-7_41

Lawrence, T., & Suddaby, R. (2006). Institutions and Institutional work. In S. R. Clegg, C. Hardy, T. B. Lawrence, & W. R. Nord, *Sage Handbook of Organization Studies* (2nd ed., pp. 215-254). London: Sage.

Lawrence, T., Suddaby, R., & Leca, B. (2011). Institutional Work: Refocusing Institutional Studies of Organization. *Journal of Management Inquiry, 20*(1), 52-58. doi:http://dx.doi.org/10.1177/1056492610387222

Leca, B., Battliana, J., & Boxenbaum, E. (2008). Agency and Institutions: A Review on Institutional Entrepreneurship. Retrieved from http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.461.6523&rep=rep1

&type=pdf

Lim, N., & Perrin, B. (2014). Standard Business Reporting in Australia: Past, Present, and Future. *Australasian Journal of Information Systems, 18*(3), 29-51. doi:http://dx.doi.org/10.3127/ajis.v18i3.895

Liu, C. (2013). XBRL: A New Global Paradigm for Business Financial Reporting. *Journal of global information management, 21*(3), 60-80. doi:http://dx.doi.org/10.4018/jgim.2013070104

Liu, C., Luo, X., & Wang, F. (2017). An empirical investigation on the impact of XBRL adoption on information asymmetry: Evidence from Europe. *Decision Support Systems, 93*, 42-50.

Liu, C., Luo, X., Sia, C., O'Farrell, G., & Teo, H. (2014). The impact of XBRL adoption in PR China. *Decision Support Systems, 59*(1), 242-249. doi:https://doi.org/10.1016/j.dss.2013.12.003

Liu, C., Wang, T., & Yao, L. J. (2014). XBRL's Impact on Analyst Forecast Behavior: An Empirical Study. *Journal of Accounting and Public Policy, 33*(1), 69-82. doi:https://doi.org/10.1016/j.jaccpubpol.2013.10.004

Ma, G., & Olayinka, O. (2019). A 'Qualitative' Analysis of Critics on Qualitative Research in Management. *Management Today, 9*(2), 129-135.

Maguire, S., Hardy, C., & Lawrence, T. B. (2004). Institutional Entrepreneurship in Emerging Fields: HIV/AIDS Treatment Advocacy in Canada. *Academy of Management Journal, 47*(5), 657-679. doi:https://doi.org/10.2307/20159610

Malhotra, R., & Garritt, F. (2004). Extensible Business Reporting Language: The Future of E-Commerce-driven Accounting. *International Journal of Business, 9*(1), 60-82.

Mandilas, A., Maditinos, D., Pipiliagkopoulos, M., & Passaportis, A. (2009). A Cross

Country Assessment of the Determinants of the XBRL Adoption. *7th International Conference Accounting and Finance in Transition.* London, UK: Greenwich University Press.

Mao, Y., & Zhang, L. (2017). The influence of XBRL to audit and countermeasure research. *3rd International Conference on Economics, Social Science, Arts, Education and Management Engineering (ESSAEME 2017). 119.* Atlantis Press. doi:http://dx.doi.org/10.2991/essaeme-17.2017.454

Markelevich, A., Shaw, L., & Weihs, H. (2015). The Israeli XBRL Adoption Experience. *Accounting Perspectives, 14*(2), 117-133. doi:https://dx.doi.org/10.2139/ssrn.1632562

Mbachu, I. C., & Bizien, Q. (2017). ADOPTION OF INNOVATION: A qualitative research about employees' adoption of information technological tool.

McConnell, B. (2019, November 28). *What is brainstorming? And why is it important?* Retrieved from MindManager Blog: https://blog.mindmanager.com/blog/2019/11/what-is-brainstorming-and-why-is-it-important/

Medico, D. (2005). Introduction to qualitative analysis of in-depth interviews. *Qualitative Research*. Retrieved from https://www.gfmer.ch/Medical_education_En/PGC_RH_2005/pdf/Qualitative_analysis.pdf

Messner, M., Moll, J., & Strömsten, T. (2017). Credibility and authenticity in qualitative accounting research. In Z. Hoque, L. D. Parker, M. A. Covaleski, & K. Haynes (Eds.), *The Routledge Companion to Qualitative Accounting Research Methods.* New York: Routledge.

Meyer, R. E. (2006). Review Essay: Visiting Relatives: Current Developments in the

New Sociology of Knowledge. *Organization, 13*(5), 725-738. doi:https://doi.org/10.1177%2F1350508406067011

Micelotta, E., Lounsbury, M., & Greenwood, R. (2017). Pathways of Institutional Change: An Integrative Review and Research Agenda. *Journal of Management, 43*(6), 1885-1910.

Miniaoui, H., & Oyelere, P. (2013). Determinants of Internet Financial Reporting Practices: Evidence from the UAE. *Review of Pacific Basin Financial Markets & Policies, 16*(4), 1-25. doi:http://dx.doi.org/10.1142/S0219091513500264

Modell, S. (2020). Accounting for Institutional Work: A Critical Review. *European Accounting Review*. doi:https://doi.org/10.1080/09638180.2020.1820354

Mousa, R. (2011). E-Government Adoption Process: XBRL Adoption in HM Revenue and Customs and Companies House. Birmingham: University of Birmingham. Retrieved from https://etheses.bham.ac.uk//id/eprint/1752/1/Mousa11PhD.pdf

Mousa, R. (2013). E-Government Adoption in the U.K.: XBRL Project. *International Journal of Electronic Government Research, 9*(2), 101-119. doi:http://dx.doi.org/10.4018/jegr.2013040106

Mousa, R., & Pinsker, R. (2020). A case study of XBRL implementation and development at the Federal Deposit Insurance Corporation (FDIC). *Qualitative Research in Accounting & Management, 17*(2), 263-291. doi:http://dx.doi.org/10.1108/QRAM-12-2018-0096

Müller-Wickop, N., Schultz, M., & Nüttgens, M. (2013). XBRL: Impacts, Issues and Future Research Directions. *International Workshop on Enterprise Applications and Services in the Finance Industry*, (pp. 112-130). doi:http://dx.doi.org/10.1007/978-3-642-36219-4_7

Mutch, A. (2007). Reflexivity and the Institutional Entrepreneur: A Historical

Exploration. *Organization Studies, 28*(7), 1123-1140. doi:https://doi.org/10.1177/0170840607078118

Myers, M. D., & Newman, M. (2007). The qualitative interview in IS research: Examining the craft. *Information and Organization, 17*(1), 2-26. doi:https://doi.org/10.1016/j.infoandorg.2006.11.001

Nitchman, D. (2015). *New Saudi Filing Mandate*. Retrieved October 19, 2021, from XBRL: https://www.xbrl.org/news/new-saudi-filing-mandate/

Oliver, C. (1992). The Antecedents of Deinstitutionalization. *Organization Studies, 13*(4), 563-588. doi:https://doi.org/10.1177%2F017084069201300403

O'Reilly, M., & Parker, N. (2013). 'Unsatisfactory Saturation': A critical exploration of the notion of saturated sample sizes in qualitative research. Qualitative Research, 13(2), 190–197. https://doi.org/10.1177/1468794112446106

Oxford Business Group. (2021). *Introduction of new products in Qatar's capital markets drives growth*. Retrieved from Oxford Business Group: https://oxfordbusinessgroup.com/overview/marked-resilience-overcoming-challenges-and-introducing-new-instruments

Palthe, J. (2014). Regulative, Normative, and Cognitive Elements of Organizations: Implications for Managing Change. *Management and Organizational Studies, 1*(2), 59-66. doi:http://dx.doi.org/10.5430/mos.v1n2p59

Percoco, M. (2012). Entrepreneurship, Social Capital and Institutions: Evidence from Italy. *Spatial Economic Analysis, 7*(3), 339-355. doi:https://doi.org/10.1080/17421772.2012.694144

Perdana, A., Robb, A., & Rohde, F. (2015). An Integrative Review and Synthesis of XBRL Research in Academic Journals. *Journal of Information Systems, 29*(1), 115-153. doi:http://dx.doi.org/10.2308/isys-50884

Perkmann, M., & Spicer, A. (2007). ‘Healing the scars of history’: Projects, skills and field strategies in institutional entrepreneurship. *Organization Studies, 28*(7), 1101-1122. doi:https://doi.org/10.1177%2F0170840607078116

Perumal, S. V. (2020, August 10). *Consistent upgrades make QSE hopeful of securing 'developed' market category*. Retrieved from Gulf Times: https://www.gulf-times.com/story/670324/Consistent-upgrades-make-QSE-hopeful-of-securing-d

Phillips, N., Lawrence, T. B., & Hardy, C. (2000). Inter-Organizational Collaboration and the Dynamics of Institutional Fields. *Journal of Management Studies, 37*(1), 23-43. doi:https://doi.org/10.1111/1467-6486.00171

Phillips, N., Lawrence, T. B., & Hardy, C. (2004). Discourse and Institutions. *Academy of Management Review, 29*(4), 635-652. doi:https://doi.org/10.2307/20159075

Pinsker, R. (2003). XBRL awareness in auditing: a sleeping giant? *Managerial Auditing Journal, 18*(9), 732-736. doi:http://dx.doi.org/10.1108/02686900310500497

Pinsker, R. E., Gara, S. C., & Karim, E. K. (2003). XBRL Usage: A Socio-Economic Perspective. *Review of Business Information Systems, 9*(4), 59-72.

Pinsker, R., & Li, S. (2008). COSTS AND BENEFITS OF XBRL ADOPTION: EARLY EVIDENCE. *Communications of the ACM, 51*(3), 47-50. doi:http://dx.doi.org/10.1145/1325555.1325565

Pope, C. (2001). Qualitative research methods: a health focus. *International Journal of Epidemiology, 30*, 185-188. doi:https://doi.org/10.1093/ije/30.1.185

Premuroso, R., & Bhattacharya, S. (2008). Do early and voluntary filers of financial information in XBRL format signal superior corporate governance and operating performance? *International Journal of Accounting Information*

Systems, 9(1), 1-20. doi:https://doi.org/10.1016/j.accinf.2008.01.002

Qatar Financial Markets Authority. (2016). *QFMA Authorizes the Practice of Margin Trading Activity*. Retrieved from Qatar Financial Markets Authority: https://www.qfma.org.qa/English/MediaCenter/News/Pages/news55.aspx

Qatar Financial Markets Authority. (2018). *QFMA Licenses the Listing of QSE Index ETF*. Retrieved from Qatar Financial Markets Authority: https://www.qfma.org.qa/English/MediaCenter/News/Pages/news100.aspx

Qatar Financial Markets Authority. (2020). *QFMA Approves on Amendments of Qatar Stock Exchange Rulebook*. Retrieved from Qatar Financial Markets Authority: https://www.qfma.org.qa/English/MediaCenter/News/Pages/news147.aspx

Qatar Financial Centre. (2020). Qatar Capital Market Report 2020. Retrieved from https://qfc-cdn.azureedge.net/ /media/project/qfc/qfcwebsite/documentfiles/ publications/research--insights-2020/qatar-capital-market-report-2020.pdf

Qatar Financial Markets Authority. (2021). *Who We Are*. Retrieved from Qatar Financial Markets Authority: https://www.qfma.org.qa/English/AboutUs/Pages/Whoweare.aspx

Qatar Stock Exchange. (2020). *About Qatar Stock Exchange*. Retrieved from Qatar Stock Exchange: https://www.qe.com.qa/historical-background

Qatar Stock Exchange. (2020). *Annual Report 2020.* Retrieved from https://www.qe.com.qa/documents/20181/24c22f35-9cc5-7119-b8a5-dd2084ac3f3f

Qatar Stock Exchange. (2020). *Listed Companies*. Retrieved from Qatar Stock Exchange: https://www.qe.com.qa/listed-securities

Qatar Stock Exchange. (2020, September 16). *Qatar Stock Exchange – Q-Disclosure.* Retrieved from Qatar Stock Exchange:

https://www.qe.com.qa/documents/20181/979666/QBRL+QA.pdf/52722723-b0eb-74ba-62c9-278fe68cf45d?t=1601196743806

Qatar Stock Exchange. (2020). *Qatar Stock Exchange- Q-Disclosure*. Retrieved from Qatar Stock Exchange: https://www.qe.com.qa/q-disclosure

Qatar Stock Exchange. (2020). *Vision and Mission*. Retrieved from Qatar Stock Exchange: https://www.qe.com.qa/vision-mission

Qu, S. Q., & Dumay, J. (2011). The qualitative research interview. *Qualitative Research in Accounting & Management, 8*(3), 238-264. doi:https://doi.org/10.1108/11766091111162070

Quintão, C., Andrade, P., & Almeida, F. (2020). How to Improve the Validity and Reliability of a Case Study Approach. *Journal of Interdisciplinary Studies in Education, 9*(2), 273-284. doi:http://dx.doi.org/10.32674/jise.v9i2.2026

Ra, C.-W., & Lee, H.-Y. (2018). XBRL Adoption, Information Asymmetry, Cost of Capital, and Reporting Lags. *Scientific Research Publishing, 10*, 93-118. doi:http://dx.doi.org/10.4236/ib.2018.103006

Rawashdeh, A., & Selamat, M. H. (2013). Critical Success Factors Relating to the Adoption of XBRL in Saudi Arabia. *Journal of International Technology and Information Management, 22*(2), 49-69. Retrieved from https://scholarworks.lib.csusb.edu/jitim/vol22/iss2/4

Rogers, E. M. (2003). Diffusion of Innovations (4th ed.). New York, NY: The Free Press

Roncagliolo, E., Fabio, C., Avallone, F., & Ramassa, P. (2017). The Effects of XBRL Adoption: A Literature Review. *11th European Conference on Information Systems Management (ECISM 2017).* Genova.

Roohani, S. (2008). *Section Six: What is the History of XBRL?* Retrieved from XBRL

Education: http://www.xbrleducation.com/edu/history.htm

Roohani, S., Furusho, Y., & Koizumi, M. (2009). XBRL: improving transparency and monitoring functions of corporate governance. *International Journal of Disclosure and Governance, 6*, 355-369. doi:https://doi.org/10.1057/jdg.2009.17

Ruan, L., Liu, H., & Tsai, S. (2021). XBRL Adoption and Capital Market Information Efficiency. *Journal of Global Information Management (JGIM), 29*(6), 1-18. doi:http://doi.org/10.4018/JGIM.20211101.oa35

Sassi, W., Othman, H. B., & Hussainey , K. (2021). The impact of mandatory adoption of XBRL on firm's stock liquidity: a cross-country study. *Journal of Financial Reporting and Accounting, 19*(2), 299-324. doi:https://doi.org/10.1108/JFRA-07-2020-0207

Scapens, R. W. (2004). Doing Case Study Research. In C. Humphrey, & B. Lee, *The Real Life Guide to Accounting Research* (pp. 257-279). Elsevier.

Scott, W. R. (2008). Institutions and Organizations: Ideas and Interests. In W. R. Scott, *Institutions and Organizations: Ideas and Interests.* Thousand Oaks, CA: Sage Publications.

Seetharaman, A., Subramanian, R., & Seow, Y. S. (2005). INTERNET FINANCIAL REPORTING: PROBLEMS AND PROSPECTS. *Corporate Finance Review, 10*(1), 29-35.

Seo, M.-G., & Creed, W. D. (2002). Institutional contradictions, praxis and institutional change: A dialectical perspective. *Academy of Management Review, 27*(2), 222-247. doi:https://doi.org/10.2307/4134353

Shan, Y., & Troshani, I. (2014). Does Xbrl Benefit Financial Statement Auditing? *Journal of Computer Information Systems, 54*(4), 11-21.

doi:http://dx.doi.org/10.1080/08874417.2014.11645718

Singerova, J. (2015). XBRL: Different Approach of Utilization. *16th Annual Conference on Accounting and Finance* (pp. 134-140). Procedia Economics and Finance. doi:https://doi.org/10.1016/S2212-5671(15)00721-2

Sledgianowski, D., Fonfeder, R., & Slavin, N. S. (2010). Implementing XBRL Reporting. *The CPA Journal, 80*(8), 68-72.

Smith, M. (2019). Research methods in accounting: SAGE Publications Limited.

Steenkamp, L., & Nel, G. (2012). The adoption of XBRL in South Africa: an empirical study. *The Electronic Library, 30*(3), 409-425. doi:https://doi.org/10.1108/02640471211241672

Strang, D., & Meyer, J. W. (1993). Institutional Conditions for Diffusion. *Theory and Society, 22*(4), 487-511. Retrieved from https://www.jstor.org/stable/658008

Strang, D., & Sine, W. D. (2002). Interorganizational Institutions. In J. Baum, *Companion to organizations* (pp. 497-519). Oxford: Blackwell.

Tao, J. (2016). A Literature Review on Institutional Change and Entrepreneurship. *Open Journal of Business and Management, 4*(4), 629-648. doi:http://dx.doi.org/10.4236/ojbm.2016.44064

Taylor, E. Z., & Dzuranin, A. C. (2010). Interactive Financial Reporting: An Introduction to eXtensible Business Reporting Language (XBRL). *Issues in Accounting Education, 25*(1), 71-83. doi:http://dx.doi.org/10.2308/iace.2010.25.1.71

Teixeira, A. (2007). The Implications of XBRL for Financial Reporting. In *New Dimensions of Business Reporting and XBRL*. DUV.

Tolbert, P. S., & Zucker, L. (1996). Institutionalization of institutional theory. In S. Clegg, C. Hardy, & W. Nord, *Handbook of organization studies.* London: Sage

Publications.

Tolbert, P. S., & Zucker, L. G. (1983). Institutional sources of change in the formal structure of organizations: The diffusion of civil service reform, 1880-1935. *Administrative Science Quarterly, 28*(1), 22-39. doi:https://doi.org/10.2307/2392383

Tornatzky, L. G., Fleischer, M., & Chakrabarti, A. K. (1990). Processes of technological innovation: Lexington Books.

Troshani, I., & Doolin, B. (2007). Innovation diffusion: a stakeholder and social network view. *European Journal of Innovation Management, 10*(2), 176-200. doi:https://doi.org/10.1108/14601060710745242

Troshani, I., & Rao, S. (2007). Drivers and Inhibitors to XBRL Adoption: A Qualitative Approach to build a theory in under-researched areas. *International Journal of E-Business Research, 3*(4), 98-111. doi:http://dx.doi.org/10.4018/jebr.2007100106

Troshani, I., Parker, L. D., & Lymer, A. (2015). Institutionalising XBRL for financial reporting: resorting to regulation. *Accounting and Business Research, 45*(2), 196-228. doi:10.1080/00014788.2014.980772

Valentinetti, D., & Rea, M. (2013). Critical reflection on XBRL: A "customisable standard" for financial reporting? *International Journal of Accounting and Financial Reporting, 3*(2), 110-132. doi:10.5296/ijafr.v3i2.3870

Vasal, V. K., & Srivastava, R. P. (2002). eXtensible Business Reporting Language (XBRL) –The Digital Language of Business: An Indian Perspective. *Indian Accounting Review, 6*(1), 41-59.

Vasarhelyi, M. A., Chan, D. Y., & Krahel, J. P. (2012). Consequences of XBRL Standardization on Financial Statement Data. *Journal of Information Systems,*

26(1), 155-167. doi:https://doi.org/10.2308/isys-10258

Via, N., & Garbelloto, G. (2015). Internal Reporting with XBRL Global Ledger. *Strategic Finance, 97*(10), pp. 46-53.

Wagenhofer, A. (2003). Economic Consequences of Internet Financial Reporting. *Schmalenbach Business Review, 55*, 262-279.

Walsh, N. (1998, October 3). *A Technical Introduction to XML*. Retrieved from XML.com: https://www.xml.com/pub/a/98/10/guide0.html

Wang, Z. (2015). Financial Reporting with XBRL and its Impact on the Accounting Profession. Retrieved from https://www.napier.ac.uk/~/media/worktribe/output-172494/wangzhenkun05016817phdpdf.pdf

Weber, R. A. (2003). XML, XBRL, and the Future of Business and Business Reporting. In D. J. Roohan (Ed.), *Trust and Data Assurances in Capital Markets: The Role of Technology Solutions* (1st ed., pp. 3-6). Bryant College.

Weik, E. (2011). Institutional Entrepreneurship and Agency. *Journal for the Theory of Social Behaviour, 41*(4), 466-481. doi:http://dx.doi.org/10.1111/j.1468-5914.2011.00467.x

Wu, J., & Vasarhelyi, M. (2004). XBRL: A New Tool For Electronic Financial Reporting. In M. Anandarajan, A. Anandarajan, & C. A. Srinivasan, *Business Intelligence Techniques.* Berlin, Heidelberg: Springer. doi:https://doi.org/10.1007/978-3-540-24700-5_5

XBRL. (n.d.). *Does XBRL cause a change in accounting standards?* Retrieved October 19, 2021, from XBRL: https://xbrl.ca/about/faqs/167-does-xbrl-cause-a-change-in-accounting-standards

XBRL. (n.d.). Extensible Business Reporting Language (XBRL) 2.1. Retrieved

October 19, 2021, from http://www.xbrl.org/Specification/xbrl-recommendation-2003-12-31+corrected-errata-2005-04-25.htm

XBRL. (n.d.). *Getting Started for Regulators*. Retrieved from XBRL: https://www.xbrl.org/the-standard/how/getting-started-for-regulators/

XBRL. (n.d.). *Jurisdictions*. Retrieved from XBRL: https://www.xbrl.org/the-consortium/about/jurisdictions/

XBRL. (n.d.). XBRL: The Business Reporting Standard. Retrieved from An intorduction to XBRL: https://www.xbrl.org/the-standard/what/an-introduction-to-xbrl/

Yang, S. Y., Liu, F.-C., & Zhu, X. (2018). The Impact of XBRL on Financial Statement Structural Comparability. In *Network, Smart and Open.* doi:http://dx.doi.org/10.1007/978-3-319-62636-9_13

Yang, Z., Kankanhalli, A., Ng, B.-Y., & Lim, J. Y. (2015). Examining the pre-adoption stages of healthcare IT: A case study of vital signs monitoring systems. *Information & Management, 52*(4), 454-467. doi:https://dx.doi.org/10.1016%2Fj.im.2015.01.007

Yin, R. (2003). *Case Study Research: Design and Methods* (3rd ed.). Thousand Oaks, California: Sage Publications.

Yin, R. K. (2017). *Case Study Research and Applications: Design and Methods.* Thousand Oaks: Sage Publications.

Yoon, H., Zo, H., & Ciganek, A. P. (2011). Does XBRL adoption reduce information asymmetry? *Journal of Business Research, 64*(2), 157-163. doi:https://doi.org/10.1016/j.jbusres.2010.01.008

Zainal, Z. (2007). Case study as a research method. *Jurnal Kemanusiaan bil*. Retrieved from https://core.ac.uk/download/pdf/11784113.pdf

Zucker, L. G. (1977). The Role of Institutionalization in Cultural Persistence. *American Sociological Review*, *42*(5), 726-743. doi:https://psycnet.apa.org/doi/10.2307/2094862.

Appendix A: Timeline of XBRL Development 1998–2000

Table 5: Timeline of XBRL Development 1998–2000

Year	Milestone achieved
April, 1998	Charles Hoffman started investigating the possible use of eXtensible Mark-up Language for financial reporting.
July, 1998	Charles Hoffman approached Wayne Harding, Chairman of the American Institute of Certified Public Accountants (AICPA) about the potential use of XML for financial reporting.
September, 1998	Charles Hoffman briefed the AICPA High Tech Task Force on XML. Creation of a prototype set of financial statements using XML called 'Product Description'. This was headed by Karen Waller, Member of the AICPA.
October, 1998	Wayne Harding presented the prototype results to the AICPA Committee. The AICPA committee approved the project and decided to provide the funding.
December, 1998	Charles Hoffman, Mark Jewett and Jeffery Ricker started developing the initial prototype set of financial statements in XML. The first financial statement created in XML was by Great Plains Software, a public company.
January, 1999	The prototype was completed and presented to the American Institute of Certified Public Accountants (AICPA), New York.
June, 1999	Business Plan for eXtensible Financial Reporting Mark-up Language (XFRML) was created.
July, 1999	AICPA started funding the XFMRL effort; 12 companies joined the effort as members of the XFRML Steering Committee. Charles Hoffman started creating an Experimental Prototype of XFRML.
August, 1999	AICPA began implementing the business plan. An official announcement was made stating that an XML financial reporting specification would be created.
October, 1999	The prototype was created. The financial statements of ten companies were created to further test the concept of XML-based financial statements. The first XFMRL consortium meeting was held.
April, 2000	The name of the organisation was officially changed from XFMRL to the eXtensible Business Reporting Language (XBRL). XBRL.org, a non-profit organisation, was established.
July, 2000	XBRL specification 1.0 and taxonomy for financial reporting under U.S. GAAP was published.

Appendix B: Market Notice for Q-Disclosure

Market Operations Department

بورصة قطر
Qatar Stock Exchange

إدارة عمليات السوق

Market Notice (026) إشعار السوق

The Q-Disclosure Platform, an XBRL-based system for Financial and Non-Financial Disclosures

Date:	20/09/2020

The State of Qatar, through a joint initiative of Qatar Stock Exchange and the Qatar Financial Markets Authority is preparing to implement an XBRL-based reporting and disclosure system (the "Q-Disclosure platform") to facilitate financial and non-financial disclosures as currently required from QSE listed companies under section 6.7.13 and 6.7.14 of the QSE Rulebook. The Q-Disclosure platform is an integrated web-based solution, available in Arabic and English.

With the introduction of the Q-Disclosure platform, the submission requirements for financial disclosures (annual, semi-annual and quarterly reports) and non-financial disclosures (corporate announcements, corporate actions and other regulatory announcements) will change. The changes will consist of the amendments to the QSE Rulebook shown in Appendix 1, and further mandatory requirements as provided for in this Market Notice.

In summary, effective 1 October 2020, all QSE listed companies will be required to use the Q-Disclosure platform for their financial disclosures (starting with the 2020 Q3 reports) and for their non-financial disclosures, in addition to having to report the same information through the existing channels of Company News. The Company News service will remain a back-up mechanism until further notice. For further details, kindly refer to the timelines below.

Note that the introduction of the Q-Disclosure platform does not entail any material changes to the reporting obligations themselves; what will change is the way in which submissions are made. Nevertheless, QSE has taken the opportunity to reword section 6.7.10 of the QSE Rulebook to clarify and emphasize the baseline obligation for Issuers to timely disclose complete and accurate information that enables securities holders to exercise their rights (see Appendix 1).

Financial disclosures on the Q-Disclosure platform will be made under IFRS, with a sector specific taxonomy for Banks and Financial Institutions, Insurance Companies (Commercial and Islamic) and Real Estate and Other Companies (including Consumer, Industrial, Telecom and Transport businesses). For non-financial disclosures, a range of web forms and templates will be made available on the Q-Disclosure platform for standard corporate actions (e.g. dividends, rights issues, issuance of bonus shares, capital changes) and company announcements (Board Meetings, AGMs, EGMs, changes to the Board, ownership limits, disclosure dates of financial information, etc.).

Issuers of ETF and REITs and similar non-corporate entities will be exempted from using the Q-Disclosure platform for their financial disclosures (not for their non-financial disclosures) and should continue to use the existing Company News mechanism for financial disclosures until further notice.

APPENDIX 1

Disclosure Obligations:

6.7.10 The Issuer shall undertake to disclose all necessary information and data, which enable holders of its securities to exercise their rights. The issuer shall also ensure that the information is disseminated in a way allowing timely access to such information by the public as well as ensuring accurate and comprehensive evaluation thereof by the public[1].

6.7.11 The Issuer shall provide the Exchange with any disclosure information related to the Admitted Securities at such time as the Exchange determines.

6.7.12 The accuracy, correctness, completeness, and timelines of information provided to the Exchange shall be the sole responsibility of the Issuer and shall include the following:

1. Annual, semi-annual, and quarterly reports as required by the Rules or Applicable Law;
2. Information required to be filed with the Authority;
3. Changes to the nature of the Issuer's activities or amendments to its Articles of Association;
4. Announcements of general meetings;
5. All price sensitive information related to the Issuer, as well as information to be disclosed by the issuer to the public[2].

6.7.13 The Exchange may publish such information, which we have been submitted as disclosure, on its website without any review or approval concerning the content or timing of such disclosures. Such publication by the Exchange does not exempt the Issuer from adhering to the disclosure and reporting requirements specified by the Exchange and the Authority[3].

6.7.14 Upon receipt of the documents referred to in the previous Article, the Exchange may publish such information on its website without any review or approval concerning the content or timing of such disclosure. Such publication by the Exchange is made for convenience and centralization of relevant information.

The Issuer's submission of the said information does not exempt it from fulfilling its disclosure requirements by disseminating to the public investors such information as is required pursuant to the requirements of the Exchange and the Authority.

6.7.15 The Exchange is not obligated to review the information before it is published on its website nor shall the Exchange be liable if the information is false or incomplete or has not been disclosed in a timely manner. The Issuer shall be solely responsible for all such information published by the Exchange.

---

[1] Amended according to QFMA letter No.(2020-110- صادر م ر ت / هـ ق) dated in 06/08/2020

[2] Amended according to QFMA letter No.(2020-110- صادر م ر ت / هـ ق) dated in 06/08/2020

[3] Amended according to QFMA letter No.(2020-110- صادر م ر ت / هـ ق) dated in 06/08/2020

Appendix C: XBRL Tagging

This is a small example of XBRL -- intended for reading by computers, not humans.

```
<ifrs-gp:AssetsHeldSale contextRef="Current_AsOf" unitRef="U-Euros"
  decimals="0">100000</ifrs-gp:AssetsHeldSale>
<ifrs-gp:ConstructionProgressCurrent contextRef="Current_AsOf"
  unitRef="U-Euros" decimals="0">100000</ifrs-
  gp:ConstructionProgressCurrent>
<ifrs-gp:Inventories contextRef="Current_AsOf" unitRef="U-Euros"
  decimals="0">100000</ifrs-gp:Inventories>
<ifrs-gp:OtherFinancialAssetsCurrent contextRef="Current_AsOf"
  unitRef="U-Euros" decimals="0">100000</ifrs-
  gp:OtherFinancialAssetsCurrent>
<ifrs-gp:HedgingInstrumentsCurrentAsset contextRef="Current_AsOf"
  unitRef="U-Euros" decimals="0">100000</ifrs-
  gp:HedgingInstrumentsCurrentAsset>
<ifrs-gp:CurrentTaxReceivables contextRef="Current_AsOf" unitRef="U-
  Euros" decimals="0">100000</ifrs-gp:CurrentTaxReceivables>
<ifrs-gp:TradeOtherReceivablesNetCurrent contextRef="Current_AsOf"
  unitRef="U-Euros" decimals="0">100000</ifrs-
  gp:TradeOtherReceivablesNetCurrent>
<ifrs-gp:PrepaymentsCurrent contextRef="Current_AsOf" unitRef="U-Euros"
  decimals="0">100000</ifrs-gp:PrepaymentsCurrent>
<ifrs-gp:CashCashEquivalents contextRef="Current_AsOf" unitRef="U-
  Euros" decimals="0">100000</ifrs-gp:CashCashEquivalents>
<ifrs-gp:OtherAssetsCurrent contextRef="Current_AsOf" unitRef="U-Euros"
  decimals="0">100000</ifrs-gp:OtherAssetsCurrent>
<ifrs-gp:AssetsCurrentTotal contextRef="Current_AsOf" unitRef="U-Euros"
  decimals="0">1000000</ifrs-gp:AssetsCurrentTotal>
```

What the XBRL example represents. This is the same XBRL data in human readable form.

CURRENT ASSETS	
Assets Held for Sale	100,000
Construction in Progress, Current	100,000
Inventories	100,000
Other Financial Assets, Current	100,000
Hedging Instruments, Current (Asset)	100,000
Current Tax Receivables	100,000
Trade and Other Receivables, Net, Current	100,000
Prepayments, Current	100,000
Cash and Cash Equivalents	100,000
Other Assets, Current	100,000
Current Assets Total	1,000,000

Exhibit 2. Example of XBRL tagging (XBRL International 2011).

participants in the SEC Voluntary Filing Program (VFP). In brief, the SEC indicates that the average cost of the first submission was $30,933, and the second submission averaged $9060. We have to remember that these were all large listed companies. The substantial drop for the second submission reflects

Appendix D: Q-Disclosure Templates (English)

Sr. No	Disclosure Name
1.	Disclosure Of Board Of Directors Meeting
2.	Disclosure Of The Results Of The Board Of Directors Meeting
3.	Disclosure For Adding A New Item To The Agenda (Board Of Directors/General Assembly)
4.	Disclosure Of The Date Of (AGM/EGM) And The Agenda
5.	Disclosure Of The Results (AGM/EGM) Agenda
6.	Disclosure For Postpone Of The General Assembly
7.	Disclosure Of Opening Of Nomination For Membership Of The Board Of Directors
8.	Disclosure For The Closure Of Nomination For Membership Of The Board Of Directors
9.	Disclosure Of The Appointment Of A New (Chairman / Chief Executive Officer)
10.	Disclosure Of The Resignation Of (Chairman / Chief Executive Officer)
11.	Date Of The Disclosure Of The Financial Results
12.	Disclosure Of Quarter1/Quarter3 Financial Results
13.	Disclosure Of Quarter1/Quarter3 Financial Results (For First Time Filing)
14.	Disclosure Of Annual/Semi-Annual Financial Results
15.	Disclosure Of Annual/Semi-Annual Financial Results (For First Time Filing)
16.	Disclosure Of Judgement
17.	Disclosure Of Signing An Agreement/MOU
18.	Disclosure Of Confirmation Of Credit Rating
19.	Disclosure Of Withdrawing The Credit Rating
20.	Generic Disclosure
21.	Bonus Shares
22.	Market Announcements
23.	Investor Relations (IR) Disclosure

Appendix E: Q-Disclosure Templates (Arabic)

م	إسم نموذج الإفصاح
.1	إفصاح عن اجتماع مجلس الإدارة
.2	إفصاح عن نتائج اجتماع مجلس الإدارة
.3	إفصاح عن إضافة بند على جدول أعمال (مجلس الإدارة / الجمعية العامة)
.4	إفصاح عن موعد إنعقاد الجمعية العامة (العادية / غير العادية) وجدول الأعمال
.5	إفصاح عن نتائج إجتماع الجمعية العامة (العادية / غير العادية)
.6	إفصاح عن تأجيل انعقاد الجمعية العامة
.7	إفصاح عن فتح باب الترشيح لعضوية مجلس الإدارة
.8	إفصاح عن غلق باب الترشيح لعضوية مجلس الإدارة
.9	إفصاح عن تعيين (رئيس مجلس الإدارة / رئيس تنفيذى) جديد
.10	إفصاح عن إستقالة (رئيس مجلس الإدارة / رئيس تنفيذى)
.11	إفصاح عن تحديد موعد الإفصاح عن البيانات المالية
.12	الإفصاح عن النتائج المالية للربع الأول / الربع الثالث
.13	الإفصاح عن النتائج المالية للربع الأول / الربع الثالث تعد القوائم المالية للمرة الأولى منذ تأسيسها
.14	الإفصاح عن النتائج المالية السنوية / نصف السنوية
.15	الإفصاح عن النتائج المالية السنوية / نصف السنوية القوائم المالية للمرة الأولى منذ تأسيسها
.16	إفصاح عن حكم في دعوى قضائية
.17	فصاح عن توقيع إتفاقية
.18	افصاح عن تثبيت التصنيف الائتماني
.19	افصاح عن سحب التصنيف الائتماني
.20	افصاح عام
.21	افصاح عن الاسهم المجانية
.22	إعلانات السوق
.23	الإفصاح عن موعد المؤتمر الهاتفي للمستثمرين

Appendix F: Consent Form

كلية الإدارة والإقتصاد
College of Business and Economics
QATAR UNIVERSITY جامعة قطر

"Interview Consent Form"

Research project title: ***"Institutional Entrepreneurship of XBRL Implementation and Accounting Change Process: Case of Qatar Stock Exchange"***

Research investigator/Student: Nudrat Nishat

Dear Participant,

Thank you for agreeing to be interviewed as part of the study which is approved by the Qatar University Institutional Review Board with the approval number .....

The main research objective of this paper is to examine the emergence of eXtensible Business Reporting Language (XBRL) an Accounting Information System in Qatar (Qatar Stock Exchange) and the process of its implementation. Your input is an essential element for this study to identify the factors inhibiting and influencing the adoption and implementation process.

eXtensible business reporting language (XBRL) was conceived in 1998 by Charles Hoffman, a certified public accountant (CPA) as an open international standard aimed to enhance the exchange and the distribution of financial information. eXtensible Business Reporting Language (XBRL) as a disclosure mechanism has been gaining momentum and becoming the new model for reporting business information. Appreciating and acknowledging the various benefits it offers in terms of accountability and transparency, XBRL has and is being adopted as a business reporting standard globally.

XBRL provides a standard format to prepare, publish, extract, exchange, aggregate and analyze data. XBRL is based on XML standard a mark-up language that uses tags to define data elements within a document. These tags provide semantic information to the reports and make them both human and machine-readable. XBRL is believed by many to have the potential to "revolutionize" and "transform" the process of business reporting. XBRL represents a paradigm shift from "readable information" to "usable information". It allows users to interact with the data with its "search facilitating feature" which earlier was not possible with HTML, Excel, Word or PDF formats.

Note to Participants:

Ethical procedures for academic research require that interviewees explicitly agree to being interviewed and how the information collected in the interview will be used. This consent form is necessary for us to ensure that you understand the purpose of your involvement and that you agree to the conditions of your participation. Would you therefore read the following and then sign this form that you approve the following:

جامعة قطر
QATAR UNIVERSITY
Institutional Review Board (IRB)
APPROVED

- We do not anticipate that there are any risks associated with your participation.
- The interview will take (20-30 minutes). It will be semi-structured based.
- The interview will be recorded by mobile, and transcript will be produced. You have the right to disagree for audio recording.
- You have the right to stop the interview or withdraw from the research at any time.
- You will be sent the transcript and given the opportunity to correct any factual errors.
- The transcript of the interview will be analyzed by "Ms. Nudrat Nishat" as research investigator
- Access to the interview transcript will be limited to the student, supervisor and other researchers who might collaborate as a part of the research process.
- Any summary interview content, or direct quotations from the interview, that are made available through academic publication or other academic outlets will be anonymized so that you cannot be identified, and care will be taken to ensure that other information in the interview that could identify yourself is not revealed.
- The actual recording will not be reused in future and will destroyed once the study submitted.
- Data will be used for the research purposes only and stored in protected files with password known by researcher and supervisor only.
- Any variation of the conditions above will only occur with your further explicit approval or a quotation agreement could be incorporated into the interview agreement

Quotation Agreement

To be able to present the results of the research, quotations will be used. With regards to being quoted, please initial next to any of the statements that you agree with:

	I wish to review the notes, transcripts, or other data collected during the research pertaining to my participation.
	I agree to be quoted directly if my name is not published and a made-up name (pseudonym) is used. For example, according to Mr. A, Ms. B

By signing this form, I agree that;

1. I am voluntarily taking part in this project. I understand that I don't have to take part, and I can object to answer any question, pause the recording or stop the interview at any time.
2. The transcribed interview or extracts from it may be used as described above;
3. I have read the Information sheet;
4. I don't expect to receive any benefit or payment for my participation;
5. I can request a copy of the transcript of my interview and may make edits I feel necessary to ensure the effectiveness of any agreement made about confidentiality;
6. I have been able to ask any questions I might have, and I understand that I am free to contact the researcher with any questions I may have in the future.

Participants Signature & Date

.....

Researcher Signature & Date

.....

Contact Information:

This research has been reviewed and approved by the ***Qatar University Institutional Review Board.***

If you have any further questions or concerns about this study, please contact:

Student: Nudrat Nishat
Address: Doha, Qatar
Mobile: 33657743
Email: nn1512278@qu.edu.qa

Supervisor:
Dr Sameh Ammar
Office: R213, Building I03
Work tel.: 4403 6759
Mobile: 50306768
Email: sammar@qu.edu.qa
College of Business and Economics, Qatar University
University Road
Doha, Qatar

Appendix G: Research Protocol (Sample)

Inclusion Criteria:

Members that were involved in the team responsible for the implementation of xbrl at the exchange will be included.

1. owner of the idea (institutional entrepreneur)

2. members that helped him in advancing the idea

3. accountants of public listed companies that are a part of the financial reporting process.

4. External Auditors that were a part of the project, helped in the development of XBRL Taxonomy.

Exclusion Criteria:

Members that were not involved in the team responsible for the implementation of xbrl at the exchange will be excluded, and auditors and accountants that possess no knowledge about XBRL will be excluded.

E. Sampling and Sample Size

Sampling Technique:

The sampling technique: Purposive sampling approach will be employed to select the interviewees. This is because only those members that were a part of the adoption and implementation process of XBRL will be chosen. For example, the owner of the idea will be chosen, followed by actors that helped him in the endevor of XBRL implementation.

Sample Size Determinations/Power Analysis:

The sample size: The target is to conduct at least 10 interviews that will help in fulfilling the research objectives.

F. Data Collection Information

Type of Intervention(s):

- ☐ Behavioral interventions (e.g. cognitive behavioral therapy, counseling, etc.)
- ☐ Physical interventions (e.g. physical exercise or training)
- ☐ Drugs, diets, medical products, medical devices
- ☐ Radioactive isotopes or radiation
- ☐ Invasive procedures (e.g. venipuncture, tissue sampling, etc.)
- ☑ Intrusive procedures (e.g. interview, focus group, questionnaire, etc.)
- ☐ Collection of existing secondary data
- ☐ Other:

Research and Data Collection Procedures:

Semi-structured interviews (audio recording will be used based upon the participant consent). We will tell the participants that the study involves the use of voice recordings to keep the original verbatim of their answers. Respondents will be informed on the research title, purpose, scope, brief description of the research topic,confidentiality, information related to consent, and the study LPI contact details. The interviews will be approximately 20-30 minutes long.

Interviewees will be assured that confidentiality will be maintained at all times.