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Analysis of decision makers' perceptions of XBRL prior to adoption

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XBRL (eXtensible Business Markup Language) is an electronic standard which can be used to enhance the meaning and context of business data during information transfer. Successful implementation of XBRL requires the investment of company resources as well as careful planning.

The purpose of this research was to discover the perceptions of decision makers from firms that are considering the potential implementation XBRL. The research was conducted utilizing qualitative research techniques and it relied on convergent interviews to reveal the perceptions of decision makers.

The motivation behind this research topic was to reveal how XBRL was perceived by decision makers operating in an environment where the standard was not yet mandated. The research results allow stakeholders and advocates of XBRL to understand the potential drivers and inhibitors to future adoption. Additionally, companies considering adoption could gain insight into factors which could influence the diffusion of XBRL in the local business environment.

The main findings demonstrate that the perceptions of decision makers with regard to XBRL adoption can be shaped by both internal and external sources. Factors related to technology, organization and the environment emerge as the most influential to the future consideration of XBRL by decision makers. Furthermore, the role of the government as a facilitator is revealed as significant in shaping the perceptions of decision makers.

Helsinki Metropolia University of Applied Sciences

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1   Introduction

XBRL (eXtensible Business Reporting Language) is a standard used to apply meaning and context to business information. Since its inception, XBRL has promised to deliver accurate, reliable and timely business information to internal and external stakeholders (Debreceny & Gray 2001: 65). One of the most powerful features of XBRL is its tagging capability, which allows users to add semantic meaning to data. XBRL allows each piece of tagged information to be computer readable as an individual entity and even transferred, without losing any of the associated context. The extensibility of XBRL allows data to be manipulated, analysed and compared easily (Carolyn et al 2011: 71). As such, XBRL adds another dimension to financial data processing and enables decision makers to analyse financial data in an enhanced way.

1.1   Research Background and Scope

The research was constructed with the aim of uncovering how XBRL is perceived by decision makers prior to adoption. Due to the multi-dimensional nature of XBRL the researcher had to consider several different ways to approach the topic (Doolin & Troshani 2004: 100). For the purposes of this research, the author felt it was appropriate to view XBRL as a technological artefact, which requires a planned process for correct implementation. Due to the complexity of XBRL the decision to adopt the technology requires careful consideration and planning. The investment of time and resources must be carefully weighed against the potential benefits of adopting XBRL. It is no surprise then that the subject of organizational adoption of XBRL is viewed by some as pertinent for academics and practitioners (Benson et al. 2009, as quoted in Pinsker 2008: 83)

In many cases within an organization, decision makers have a great deal of influence on the future actions of a firm; however, even for decision makers, certain guidelines exist, such as budget or time constraints. Therefore they must "…rely on information and derived knowledge to make more efficient and effective use of their [resources]" (Sachdeva, 2009: 2). Analysing how decision makers perceive XBRL could reveal more

about the implementation decision itself. Furthermore, exploring the factors that influence the perceptions of decision makers has the potential to establish a basis for future research.

1.2   Research Questions

Research questions were developed with the intent of encompassing the research objectives and serving as a guide for the entire process. The primary objective was to analyse how the decision makers perceived XBRL before it was utilized in their organizations. In addition, it was considered necessary to explore the factors which influenced the perceptions of the decision makers. Therefore, two questions deemed appropriate for this research were as follows:

1. How is XBRL perceived by decision makers prior to adoption?
2. Which factors influence perceptions of decision makers?

1.3   Real-Time Economy Programme

This research is part of the Real-Time Economy Programme (RTE). The RTE Programme and its affiliate organization operate with the purpose of creating a paperless business environment (RTE 2015a). More precisely the goal of the organization is that all transactions between parties are completed through an automated digital format, in real-time. The RTE initiative is operated through different phases which attempt to facilitate the ambitions of the programme. The support and interest for this research arose in the phase of the RTE project named SME 50 (RTE 2015b). The activities of the programme include research, education and projects affiliated with the programme. The RTE programme is collaborative effort and includes several key organizations, such as Tieto, Aditro, Tikon and Aalto University School of Business, as well as other university partners. The involvement of Helsinki Metropolia University of Applied Sciences in the RTE programme made this research possible.

2 XBRL Overview

XBRL provides a common, electronic format for exchanging business information on the Internet. In the following section, the evolution of XBRL is examined in order to understand the circumstances that led to the creation of the standard. XBRL is also compared to well-established technologies used for information exchange in the business environment. Various stakeholders of XBRL are introduced in order to clarify how the individual adopting organisations fit in the overall stakeholder environment. The main components of XBRL are summarised, so that the reader can understand the technology behind the standard. Lastly, the main styles of XBRL implementation are examined to reveal some of the issues related to XBRL adoption.

2.1   Emergence and Diffusion of XBRL

The creation of XBRL is often attributed to Charlie Hoffman who began investigating how XML could be used for electronic reporting of financial information in 1998. (Debreceny et al. 2007: 11). Hoffman proposed the idea to the High Tech Task Force of the American Institute of Certified Public Accountants (AICPA) and a joint industry and government consortium was established; it included the AICPA, six information technology companies, and five accounting and professional services firms (Roohani 2003: 18). The historic development of XBRL demonstrates that various interest groups were involved in establishing XBRL as a reporting standard. Furthermore, it is important to note that interest from both government and industry organizations was present from an early stage.

Owing to the nature of the financial industry itself and the needs of the parties involved, the utilization of technology in financial reporting has been contemplated even before the emergence of XBRL. Since the late 1990s, the standardization of financial reporting has been an important subject for the capital markets, regulators, administrators of accounting standards, analysts and software companies (Debreceny et al. 2009: 35). According to Lin (2014: 572), computers transformed the financial industry in the beginning of 1990s, and made it more dependent on machines to perform financial trading and investment management. It is only natural that new electronic reporting tools would emerge that would offer the ability to keep up with the intricacies of the computerization

of finance. It can then be said that XBRL emerged as a result of an increasingly computerized financial industry, and the rise in popularity of a suitable XML based technology. While the technology and objectives behind XBRL were not revolutionary, the emergence of the XBRL standard filled a certain need that was present at the time.

However, regardless of the benefits promised by XBRL, its popularity remained inconsistent throughout the years. The rate of diffusion of XBRL varied across organizations (Kernan 2008: 62; Garner et al. 2003: 2). The exact reasoning for the slow diffusion is yet unclear especially given the needs of the industry and the benefits promised by XBRL. It became apparent that unless a regulatory agency did not mandate the new technology, rapid industry wide adoption was not certain. As Carolyn et al (2011: 70) inform us, unless XBRL was mandated by a reporting agent or organization voluntary rates of adoption would vary. In the USA, under the Securities Exchange Commission's (SEC) voluntary financial reporting programme (2005-2008), only 137 companies out of over 10 000 filed using XBRL (Bonsón et al. 2009: 193). However, after the SEC mandated the use of XBRL for public company reporting, the results were dramatically improved (Efendi et al. 2009: 19).

2.2   Existing Alternatives to XBRL

In the domain of electronic business information exchange, there are notable alternatives to XBRL, some of which have been used for decades. Perhaps one of the most well-known electronic business communication technologies, which emerged in the mid-1960s, and is still utilized by many firms, is the Electronic Data Interchange (EDI) (Millman 1998: 83). EDI facilitates the secured exchange of business documents between trading partners utilizing a globally understood language. One of the strengths of the EDI system is that it standardizes the process of trading and tracking structured business documents, such as purchase orders, invoices, payments, shipping manifests, and delivery schedules. Operationally, EDI has offered the possibility, "…to reduce both cycle times and costs by improving the quality, speed and business value of standard document exchanges" (Zmud & Massetti 1996: 331). It should be noted that, EDI and XBRL offer parallel but different functionalities and thus are not interchangeable for all business related exchanges. While both systems can be used for exchanging data, EDI lacks

some of the information processing capabilities of XBRL. As Bergeron states, from a "…financial reporting perspective, EDI systems are limited because they're primarily transactions based and designed to track historical financial data" (2003: 47). Furthermore, the high cost and complexity of converting operations to an EDI based system, has traditionally placed the technology out of reach for smaller firms. As Bergeron notes in Figure 1, the high installation and fixed costs of EDI and the system's low flexibility make it a less versatile technology (2003:48).

Feature	XBRL	Traditional EDI
Extensibility	High	Low
Penetration	Low	Low
Network	Internet	VAN
Security	Moderate	High
Cost/Installation	Low	High
Geographical extent	Unlimited	Unlimited
Web compatible	Yes	No
Open system	Yes	No
Infrastructure	XML	C/BASIC/COBOL
Stability	Evolving	Stable
Flexibility	High	Low
Interfaces	Single	Multiple
Business rules	Separate	Embedded
Standards	Industry	Corporation
Transaction sets	Variable	Fixed
Standards evolution	Moderate	Slow
Fixed costs	Low	High

Figure 1. Technologies used for information exchange (Bergeron 2003: 48)

Other technologies have emerged that are more affordable, but less robust than EDI. Despite lacking the same features as EDI, they have proven to be considerably easier to implement. Electronic formats such as HTML, PDF and MS Excel have arisen in popularity, as ways of communicating financial information internally or externally. However, these formats have not enhanced the functionality of the data, they simply updated the medium of data transfer from paper to electronic (e.g. HTML, PDF, MS Excel). The problem is that most electronic formats are still not easily analysable and must be converted, in order to be interpreted with analytical software. Prior to the invention of XBRL, parties such as: investors, creditors, analysts, regulators and many other stakeholders spent much time reading existing paper or digital documents to find and use the information they needed (DiPiazza & Eccles 2002: 139). As some of the ubiquitous data formats do

not offer sufficient semantics to automate the analysis of financial data, their use on a large scale can be expensive (Debreceny 2007: 103; Debreceny et al. 2009: 2).

2.3   Stakeholders Involved With XBRL

Offering a simplified depiction of all XBRL stakeholders can be challenging due to the complexity of the relationship between present stakeholders. Organizations that have employed XBRL have benefitted from its utilization as well as its facilitation. Due to its multifaceted capabilities as a reporting standard and analysis tool, a broad and diverse range of users choose to utilize XBRL. According to XBRL International the users of XBRL are: regulators, companies, governments, data providers, analysts and investors and accountants (XBRL International 2015a). However, when one considers the role of an entity, such as government, the division between user and facilitator of XBRL becomes obscure. While governments can choose to utilize XBRL in their workings, they also have the legislative power to shape its use and even adoption. Doolin and Troshani acknowledge the problem of classification, and explain that when attempting to catego-rize stakeholders of XBRL "no matter how comprehensively performed… simple exami-nation of individual stakeholders is insufficient" (2007: 2).

However, for the purposes of this research, it is important that a diagram be proposed, no matter how rudimentary, in order to give the reader a basic understanding of the parties involved. One such diagram is proposed by Doolin & Troshani, (2004: 96) (see Figure 2), which considers the various stakeholders in the development and utilization of local XBRL dictionaries (taxonomies). Different taxonomies may be required for vary-ing business reporting purposes, and are then used to generate XBRL reports that adhere to the guidelines of local accounting and reporting regulations (XBRL International 2015b). Thus XBRL International offers the mechanics and the basic set of guidelines that can then be customised by local XBRL jurisdictions. The diagram proposed by Doolin and Troshani clearly establishes the coordinating between XBRL International and local XBRL jurisdictions but omits the role of government. Government legislation can be im-portant in shaping how XBRL is used as was previously discussed (see page 4).

Figure 2. Summary of XBRL Stakeholders (Doolin & Troshani 2004: 100)

2.4 Main Components of XBRL

The technology behind XBRL is based on a commonly used computer language known as Extensible Markup Language (XML). One of the characteristics of XML is that it can be used to create other custom markup languages by using the data modelling process and defining rules in a construct known as a "schema" (Morrison 2006: 67). The schema outlines the rules which must be followed in order for a XML dataset to be considered valid. Using XML it is possible to create a language that is tailored for a specific purpose and to meet specific needs (Debreceny et al. 2007: 11). The XBRL standard was created with the intention of increasing the standardization during the transfer of business data.

"In a nutshell, XBRL provides a language in which reporting terms can be authoritatively defined" (XBRL International 2015c). Each piece of data becomes associated with an identifying tag (or metadata). The tagging requires the use of an open and closed set of chevrons, or angle brackets, to attach a relevant vocabulary to numerical data. "For example, with XBRL, the relationship between a value and the appropriate tag is established as follows: <payroll currency="US Dollars">15000</payroll>" (Troshani & Rao

2007: 99). Thus, a numerical value and relevant vocabulary term are associated with one another.

The tags provide context to the information, and as a set they form the XBRL taxonomy (Koschtial et al. 2014: 158). The XBRL taxonomy organizes the relationships between data according to a predetermined set of rules outlined by its creators. Different XBRL taxonomies can be created to suit different accounting standards, industries or organizations (XBRL International 2015d). Thus, the US GAAP Taxonomy and the IFRS Taxonomy, will differ from each other. Although taxonomies can be created by individuals for their own purposes, they can also be validated and officially recognized by XBRL International (XBRL International 2015e). When the data is properly tagged using the rules of the taxonomy, the computer is able to process it correctly, and the defined concepts remain the same across computer platforms and languages.

2.5   Common Styles of XBRL Adoption

While in some jurisdictions the use of XBRL to transmit information is influenced by government regulation, the actual construction of the company's reports is not directly controlled. Companies must decide how to implement XBRL, and how to use it in their day-to-day operations. As Koschtial et al. (2014: 150) point out, the XBRL implementation decision has to be made by the decision makers of the affected companies. Sledgianowski, et al. (2010: 69), propose three different styles of implementation which organizations can consider when choosing to utilize XBRL, they are:

1. Tagging financial statements at the end of the reporting process, as an extension to the current process, with the aim of converting the statements to XBRL format (bolt-on).

2. Integrating the capabilities of XBRL within information systems across the firm's value chain, as part of the overall process of financial reporting (built-in).

3. Standardizing the internal reporting and embedding it in enterprise resource planning (ERP) system (embedded).

There is a trade-off between the effort required and the degree of automation gained when considering the appropriate XBRL implementation strategy. Figure 3 shows that while the bolt-on approach requires the least amount of effort it also yields the lowest results in automating processes. Thus, organizations must consider which style of implementation is best suited for their business needs.
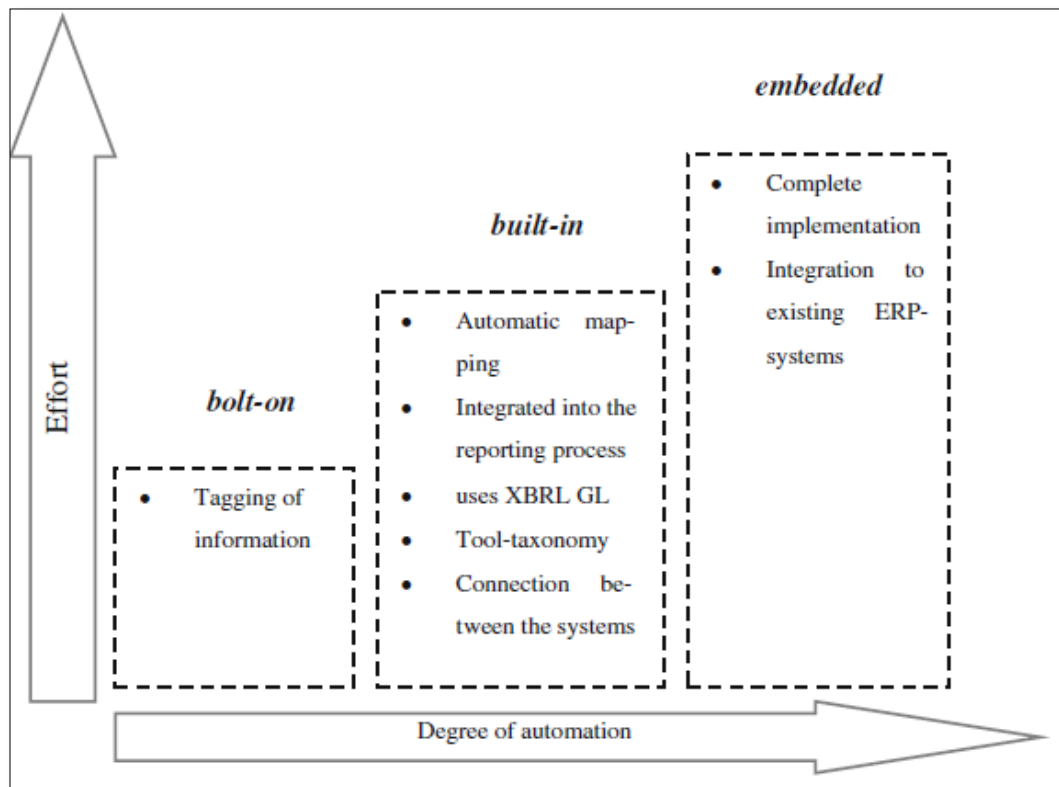

Figure 3. Implementation types of XBRL (Koschtial et al. 2014: 154)

3   Literature Review

In the literature review, the author prioritises the breadth of available literature by outlining specific themes, in order to contextualize the research process (Ridley 2012: 6). The author has identified seven significant themes related to innovation adoption that are explored both on their own, and in conjunction with XBRL. The themes emerged from the review of popular innovation adoption theory as well as research related to XBRL adoption. Presenting information in a thematic way, also provides a rationale for the theoretical framework that was selected for the research. The theoretical framework was chosen on its ability to encompass all of the significant ideas and issues that were discovered in the literature review.

3.1   The Definition of an Innovation

Innovation has been studied "…in many disciplines and has been defined from different perspectives" (Damanpour & Schneider 2006: 216). As a result of its broad usage in different settings, the term "innovation" has evolved to refer to a variety of meanings. Today, innovations can range from tangible tools such as the personal computer, to intangible inventions, such computer software. Furthermore, an innovation can also be a conceptual tool which outlines a systematic process for achieving a goal, such as the scientific method. However, the connection between process and innovation becomes less clear when one solely considers activities related to organizational change. While restructuring the workforce in an organization may be a type of process, it cannot be necessarily labelled as an innovation. Mothe and Li, propose the existence of organizational and product innovations and propose that the former is related to the improvement of the business activities of the firm, while the later are "…goods or services that are new or significantly improved…" (2010: 315). Thus, it can be said that innovations are linked to the advancement of current practices, and thus possess a quality similar to tools.

Rogers attempts to encompass the indefinite nature of an innovation by stating it is "…an idea, practice, or object that is perceived as new by an individual or other unit of adoption" (2003:12). From the perspective of Rogers, the nature of an innovation may take

several forms and must be perceived as new by the adopting unit. The newness of an innovation is significant because it sets it apart from previously known inventions. Moreover, the degree of novelty present in an innovation can dictate the level of change associated with the innovation (Dodgson, et al. 2008:54). Thus, innovations that are only incrementally different from existing ideas tend be associated with a lower degree of change than innovations which are radically new. The level of change associated with innovations is an important factor to consider when complex innovations are being adopted; for example while a simple tool such as a hammer can be used by almost anyone, the use of a computer requires a certain level of training. The requirement for additional knowledge makes technological innovations more complex and sets them apart from other innovations. Mothe and Li, go one step further and assert that, "technological innovation is usually seen as encompassing both product and process innovation. "(2010: 314). In other words, an innovation such as a computer emerges as a technological innovation that requires a planned process before value can be extracted. XBRL can also be viewed as a technological innovation which requires knowledge and must be used in a planned way (Doolin & Troshani 2007: 199).

3.2   Identifying the Unit of Adoption

In order to establish a clear direction for the research it is essential to consider various perspectives when attempting to understand the adoption of innovations. When analysing the innovation process within an organization, some authors propose the existence of two units of adoption: both the organization as a whole and its individual members (Bouwman et al. 2005: 8; Frambach & Schillewaert 1999: 163). During the organizational adoption of new technologies the individual is able to form an opinion which could be distinct from that of the organization. Disagreements can occur when management is in favour of adoption but the effort is resisted by the rest of the workforce. As Rogers (2003: 420) writes, "The innovation process does not happen instantly, even when an organization's leaders are strongly in favour of new…technology".

The contrast between the adoption process of the individual and that of the organization is further exemplified by Peansupap and Walker, (2006: 326), who in their research of IT technologies suggest innovation adoption could be grouped into macro, meso, and

micro levels. The macro level innovation theory focuses on adoption by organisations, micro level innovation theory examines individual adoption while meso innovation fits in between focusing on an organisation as consisting of series of individual adoptions. The notion that the individual can affect overall adoption on a firm level is interesting, because it infers that individuals can affect the quality or rate of organizational adoption.

When investigating how XBRL is perceived by decision makers prior to adoption, it is imperative to consider more than one perspective as it will allow the decision maker to be viewed as an individual functioning within the organizational environment. A distinction is necessary because decision makers, by their very nature have significant input into what organizations do, and thus their individual perspective have considerable decision viewed as individuals who may undergo a cognitive process similar to that of an average employee but with the power or ability to influence decisions. Thus, it can be said that the decision maker is an adopting unit that is somewhat separate from the individual and the organization. Given the fact that the majority of the literature does not focus specifically on the perspective of decision makers during the adoption process, a gap arises between the available literature and research objectives. The author aims to address the disparity by taking into account several different perspectives when examining innovation adoption. The hope is that, if adoption is viewed from multiple perspectives, a more coherent picture can emerge. Bouwman et al. followed the same approach when they analysed diffusion of ICT in organizations by including the role of the environment, the organization and the individual, in their four phase model (2005: 14). A similar multi-dimensional view is also supported by Tornatzky & Fleischer, who attempted to explore innovation adoption by analysing "…the context in which innovation takes place, both internal to the organization as well as its external environment" (1990: 151). It is necessary to view the decision maker as an individual with a capacity for independent reasoning, functioning within the rules of the organizational environment.

3.3   The Cognitive Process of Adopting an Innovation

Some authors oversimplify the adoption process when they state that adoption is "…the point in the innovation process where the user moves from not having the innovation to having it" (Tornatzky & Fleischer 1990: 179). However, adoption can be more complex

than simply crossing an imaginary line. It can be an entire process with its own set of characteristics occurring over time (Rogers 2003:20). In their four-phase model, Bouwman et al. (2005: 11) view adoption as the first step of a linear-process which is followed by the implementation, use and effects phases (see Figure 4). The model takes into account three perspectives (Environment, Organization and Individual) and depicts adoption as principally an organizational process, while use and effects are seen as individual functions.
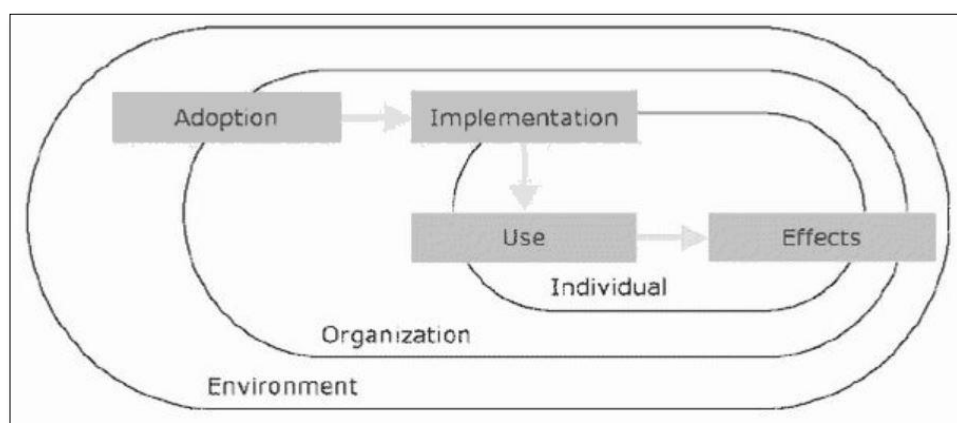

Figure 4. Four levels of analysis (Bouwman et al. 2005:14)

While the model proposed by Bouwman et al., (2005: 14) is comprehensive, it is not suitable for this research because it focuses on the activities occurring after the decision to adopt has already been made. Furthermore, it overlooks the activities which occur prior to adoption itself, such as exploration of alternatives, which could be important for the scope of the research. It is evident that a more expansive model is needed that will consider activities occurring prior to adoption.

Perhaps a more complete view of adoption is needed which takes into account activities occurring before and after the actual adoption decision is made, which offers a more complete picture of the cognitive adoption process. Rogers proposes a five step model which describes the innovation-decision process: (1) knowledge, (2) persuasion, (3) decision, (4) implementation, and (5) confirmation (2003: 170). The five step model depicts how the information reaches the adopting unit and the process which occurs as a result. The cognitive process which occurs in relation to the innovation is important to consider

when seeking an understanding of the perception of XBRL by individual adopting units. However, while the Five Stage Innovation-Decision Process proposed by Rogers is both relevant and well construed, it is not holistic enough to be suitable as a framework for this research. The model does not include any factors external to the adopting unit which could influence adoption. Interaction between the adopting unit, the environment and the innovation itself needs to be analysed in order to reveal how the cognitive process is shaped and adoption is affected. Thus, the author will consider the multiple perspectives of adoption by analysing several models which provide a more holistic understanding of the event.

3.4   The Perspective of an Individual Adopting Unit

When attempting to understand the perspective of the individual in the context of organizational adoption of XBRL, it is important to consider some of the more ubiquitous models related to the interaction between the individual and technology. By evaluating some of the more common theories, the reasons for their popularity can be revealed, as well as well as any limitations which may exist. However, owing to the fact that XBRL is a recent innovation, literature related to its adoption in organization is limited. As Troshani and Rao explain, "…there is little research about the organizational adoption and diffusion of the XBRL innovation" (2007: 108). The scarcity of literature can be overcome by looking at a similar style of IT technologies which have related technological characteristics and demand comparable proficiency from the adopting unit. For example, according to some XBRL is an innovation which can be classified as an Information Communication Technology (ICT) (Boyer et al. 2010; Norovuori 2012). Thus, it is possible to analyse XBRL using popular ICT theories.

In his analysis of frequency of theories related to ICT adoption, Korpelainen (2011: 14) observes that two models emerge as the most common: the Theory of Reasoned Actions (TRA) and the Technology Acceptance Model (TAM). The popularity of TRA and TAM is echoed by Sankaran, & Kouzmin, who also consider both in connection with innovation diffusion research (2005: 304). The TRA was originally introduced in the field of Social Psychology by Ajzen and Fishbein (Law 2010: 61), who proposed that behaviour is pre-

dicted by an individual's intention. The intention is predicted by two factors, the individual's attitude towards the outcome of the behaviour and the subjective norm (Fishbein and Ajzen, 1975: 334). Attitude toward the behaviour is constructed through an evaluation of one's beliefs in relation to the consequences arising from a behaviour. The subjective norm is related to an individual's perception of how those deemed important to them, and how they feel about a particular action. The TAM model, first proposed by Davis was constructed upon the foundations on the work done by Ajzen and Fishbein (Davis 1985: 25). The TAM model (see Figure 5) goes one step further in examining the interaction between individuals and technology. Davis hypothesizes that "…a potential user's overall attitude toward a given system is a major determinant of whether or not [they] actual use it. " (Davis 1985: 24). In the TAM, attitude is formed by a combination of how useful and how easy the individual perceives the system to be. The authors Jeroen et al. explain that TAM was the first model to state that,"… psychological factors, perceived usefulness and perceived ease of use of the new technology, are central in influencing its use" (2005: 497). Understanding the attitude of the users is vital because it directly affects the actual use of the system. Davis also maintains that there are a variety of external influences (Design Features) which directly influences the perceived usefulness and ease of use (Davis 1985: 24).
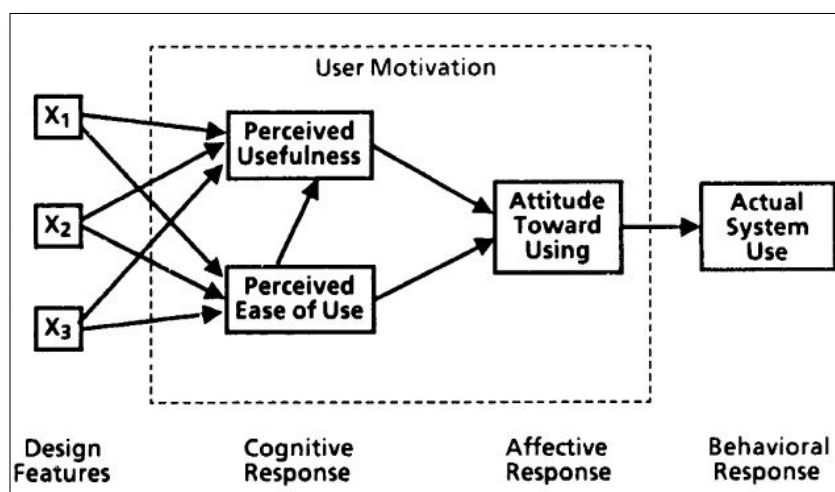

Figure 5. Davis' Technology Acceptance Model

Despite both the TRA and TAM models considering the individual perspective during the adoption of innovations, disagreements exist within the literature regarding their accuracy in predicting adoption in real life environments. Some authors maintain that both

TRA and TAM have strong behavioural elements and that they assume that when some-one forms an intention to act, that they will be free to act without limitation. (Lu et al. 2010: 144). Others dispute this claim, and point out that within the normal operating environment there is potential for many constraints, such as limited ability, time con-straints, environmental or organizational limits, or unconscious habits which will limit the freedom to act (Bagozzi et al., 1992: 1).

At first glance the TAM and TRA models are used to understand the perception of XBRL by decision makers. Debreceny et al. (2007: 7) write that "Perception is reality when it comes to technology adoption and we need to understand this when we come to re-search XBRL adoption". This view is supported by Rogers (2003: 16) who states that innovations will be more rapidly accepted if they are perceived more favourably by adopters. However, upon closer inspection we see they are inadequate for the purposes of this research because of their narrow focus. In organizations the decision to adopt innovations is not solely made by an individual adopting unit. As mentioned previously, when viewing adoption from an organizational level, there are internal and external forces which can influence the adoption decision (Bonsón, et al. 2009: 194). TAM and TRA fail to acknowledge the existence of factors other than those that directly shape the perceptions of the individual. Troshiani and Rao (2007: 100) agree and state that inno-vation adoption theories such as TAM may not be appropriate for XBRL adoption because their focus is solely on the individual and their perceptions of the technology.

3.5   The Perspective of an Organization as an Adopting Unit

The organisation often refers to a group of individuals working towards similar economic objectives. Organisations can be viewed as a social system made up of individuals, pos-sessing social roles and interactions, operating within a hierarchical structure towards an explicit common purpose (Karthick 2010: 6; Rogers 2003: 404). However, the organisa-tion can be regarded as more than just an entity functioning as a result of the interaction between employees and management. It can also be viewed as a group of individuals who hold a degree of interest in the decisions which are made, as they are affected by the outcomes of those decisions. In modern business jargon such individuals are referred to as stakeholders and defined as a group or individual who have the capacity to affect

or be affected by the achievement of the organization's objectives (Friedman & Miles 2006: 1). The group could be comprised of a range of people who are directly involved in the day-to-day operations, members of the board and even individuals external to the organisation, such as members of the public. The influence of various internal and external factors on the organization is significant since it could shape future decisions.

While there are numerous stakeholders who may exist in connection with the organization, the employees are a group most involved with the daily business processes of the firm. They are also in a strategic position to drive or inhibit the adoption of innovation in the organisation. Some authors assert that when an innovation decision is being made it can often have implications which are felt on the organisation level as well as on an individual level (Frambach & Schillewaert 2002: 3). Furthermore, according to Rogers, sometimes organisational innovation decisions can be: optional; where the individual have the freedom to adopt or reject, collective; made by consensus, or authority driven; imposed top down by decision makers (2003: 403). While the intricacies of revealing how organisational structures impact innovation adoption are beyond the scope of this research, it is important to note that the degree of freedom an individual possesses in organizational adoption can vary.

The ability of individuals to think and act independently within the context of a social system such as an organisation can be summed up as the relationship between "agency" and "structure". "The term "agency" in sociology refers to individuals' [agents'] capabilities to act independently and to make their own free choices" (Parag & Janda 2010: 4). Structure, by contrast, refers to rules in social systems that have the capacity to influence the decision of the agents and impose constraints upon their actions. The concepts of agency and structure are important because they are instrumental in the understanding of the interaction of individuals within the society and can often be utilized in the analysing of social phenomena (Friedman & Starr 1997: 3).

The relationship between independently thinking individual units and the formulation of the overall organisational innovation-adoption decision is important to examine because it can reveal the extent that individuals can affect the overall innovation level of organisations. For example, if an employee is an early adopter of a certain technology, could they also influence the organisation to adopt new innovations at a faster rate? According to some sources it is possible for an individual to undertake a leadership role to help

usher in a new innovation. For example a "champion" could emerge who would do much to promote the innovation to others in the organization and thus speed up diffusion and acceptance. The "idea champions" according to Rogers, were most effective when they occupied key linking positions in their organizations, possessed an understanding of the aspiration of various individuals and had a high level of interpersonal and negotiating skills in working with others (2003: 415). However in cases where a clear leader of innovation is not present, the organisation may rely on the experiences of its employees to stay innovative. Yolles acknowledges the role of individuals as holders of intelligence in the organization and suggests that "… a singular individual or a plurality of individuals…make up a collective organisation with intelligence" (2005: 102). The notion of "organisational intelligence" becomes especially important in the context of technological expertise of an organisation and can often shape the firm's capability to manage organizational change. Due to the fact that XBRL is different from other current reporting practices (Doolin & Troshani 2007: 199), its adoption brings with it a certain level of change which must be carefully managed.

Individuals within the organization can play an important part in driving or inhibiting the adoption of an innovation. However, in some cases the individual's perceptions, attitudes and capabilities do not have the same degree of effect on an organisation's decision to use an innovation. For example, in instances when adoption of a new innovation is legislated by the government the organisation must make arrangements to implement and use the innovation regardless of the readiness or capabilities of its employees. In the U.S when the SEC (Securities and Exchange Committee) mandated XBRL for financial reporting they also set a strict deadline (SEC 2010). While it should be noted that the SEC mandate was phased-in and implemented over a three-year span, eventually it was mandatory for all the firms to know and use XBRL when filing their financial information (Janvrin & Gyun 2012: 172). It is important to consider XBRL as an innovation which could be adopted by organizations; either on their own initiative, or due to an external influence. When the XBRL is coerced by legislation the organisation (or the decision makers) must comply and may go through a cognitive process similar to that of the individual adopting unit (see page 15).

3.6   The Role of Technology in the Adoption of Innovations

"The way people perceive the role and significance of technology very much depends on how they perceive reality" (Bouwman et al. 2005: 22). Models such as TAM attempt to understand how the perceptions of individuals are shaped in order to make predictions about the end result of use and adoption. Whether it is the consideration of a new process or product, adoption of technology relies on the individual to make an opinion regarding the adoption. Rogers proposes certain perceived attributes of innovation which can help explain their adoption rates: relative advantage, compatibility, complexity, trialability and observability (Rogers 2003: 15). Relative advantage is similar to the "perceived usefulness" concept proposed by Davis in the TAM (1985: 25). It concerns the opinion of the innovation being superior to other technologies with similar functions. Compatibility refers to the consistency between the current processes and the new innovation. Complexity is connected to the perceived difficulty of the innovation in terms of understanding and using it properly. Trialability and observability appertain to the ability of the users to experiment with the innovation on a limited basis and see others using it successfully as well (Rogers 2003: 15). Sometimes the value of a product or innovation is dependent not on the perceived attributes but on the number of people using it. When one considers an invention such as e-email, it is clear that an individual has little or no benefit from adopting it first, since without others users, its utility is low. However as more users choose to adopt e-mail, its usefulness increases greatly, and therefore a larger number of people seek to use the innovation. Thus, the promotion of certain innovations by its sellers becomes especially important, as it attracts more users.

In order to understand the interaction between technology and the organization it is necessary to examine the role of vendors. Vendors often create and market products to organizations seeking specific technologies. Like most organizations, a vendor company seeks profits from its offering and thus sales become an important motivator. According to Kramper (2010: 118) research into aspects which are important for quantity of sales in software markets indicates the following five factors: (1) Potential Market- maximum size of market (2) Number of customers (3) Word-of-Mouth Marketing and (4) Product Features. It is important to note that the actual product features (which can be perceived by users) are last on the list proposed by Kramper, while the market and existing cus-

tomer base are seen as significant for future sales. It seems that, unless a certain threshold of adoption has already occurred, or there is a significant market potential, vendor companies may not be so quick to invest resources into creating new products.

However, a paradox emerges if the vendors wait for the customers to signal a demand for new solution, while at the same time the customers wait for a readymade product. The paradoxical interaction between software vendors and consumers in the market, may explain why certain innovations diffuse extensively, becoming de facto standards, whereas others do not perform so well. Technologies which are innovative but fall below expectations to diffuse, could have fallen prey to the "wait-and-see paradox". In their research, Doolin & Troshani note a similar paradox in connection with producers and consumers of XBRL reports (2007: 107). For example firms may be slow to adopt XBRL when filing their financial information, unless required to do so by government tax office. Alternatively, the tax office may be slow to demand XBRL reports until firms have the capability to implement XBRL.

The effect of underlying motivations and driving forces behind the innovation of new technology can be summed up by the concepts of technology-push (TP) and need-pull (NP) (Chaua & Tamb 1999: 230). The TP and NP explain the key drivers of innovation adoption at the market environment where innovations are developed by vendors and sold to customers. The TP arises from the push on the side of the suppliers to spread the use of a technology. The NP, which is termed by Bouwman et al. (2005: 62) as "Market Pull", refers to the needs of the users as the factors that drive demand. The interaction of interests between the technology suppliers and potential buyers is further illustrated in Figure 6. As suppliers develop and market their innovations, the market environment signals its needs and intended adoption. When the two sides are out of sync a paradox of wait-and-see occurs.
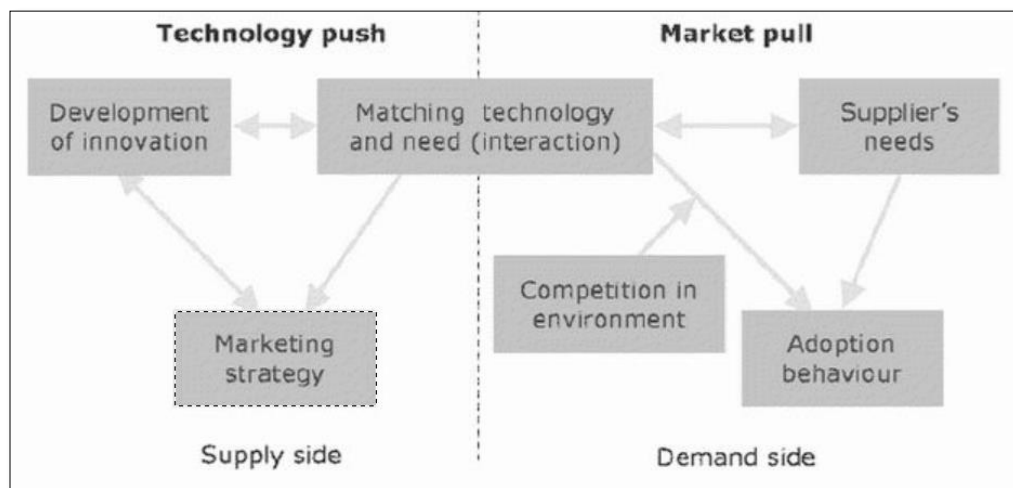
Figure 6. Technology Push and Market Pull (Bouwman et al. 2005: 63)

3.7 The Innovation Diffusion Environment

The market environment in which innovations either thrive or are shunned by adopters can be thought of as an eco-system with its own set of characteristics. When the innovation enters the market environment, adopter units (organizations and individuals) can acquire information about the innovation and decide if it's worth embracing. Rogers (2003: 11) refers to the process in which an innovation is communicated through channels over time to members of a social system as "innovation diffusion". The Diffusion of Innovation Theory (DOI) explains how, why, and at what rate new ideas and technology spread through cultures, operating at the individual and firm level (Oliveira & Martins, 2011: 111). Rogers views adopting units as possessing different degrees of willingness to adopt innovations, and he proposes that they can be segmented into five categories of innovativeness from earliest to latest adopters: innovators, early adopters, early majority, late majority, laggards (2003: 281). The reasons for the variance in the diffusion of innovation can vary between categories. For instance, while the early and late majority categories might wish to see the innovation proven effective before they adopt, the laggards might be slow to adopt due to a lack of information. Furthermore, the adopting units in each category might have their own reasons why they are hesitant to be among the first to embrace a new technology or innovation. While there could be many individual reasons for adoption to be postponed, some authors maintain that the rate of adoption is inherently tied with the perceived risk related to the new innovation. As Gupta &

Xu (2010: 23) put it, "Although there are inherent risks in a technology, nonetheless individuals and organizations adopt technology when they feel that the benefits provided by the technology far outweigh the costs involved in adopting the technology". However, it is possible that the reservations regarding the innovation could be mitigated by other units who adopt first and at the same time send a signal that the innovation is useful or worth considering. Bouwman et al. concur (2005: 61) and write that in ICT adoption, "…the behaviour of others plays an important part in justifying the adoption". Thus, it is possible, for an organisation to adopt a particular technological standard and in turn influence others to do the same. Furthermore Doolin & Troshani argue that, "…relation-ships with business partners, competitors, industry associations and government, may [all] influence adoption decisions" (2007: 201).

The aggregate amount of adoption in a particular business field or sector can eventually reach a state where the diffusion is perceived not just as a trend, but a new standard. The effect resulting from an individual adopting unit embracing an innovation and influ-encing others, eventually increasing the overall popularity of the innovation, is referred to as "critical mass" (Markus 1987: 496). When the popularity reaches a certain threshold among adopting units it reaches critical mass and the number of adopters starts to sig-nificantly increase from that point on. The reasoning for the rapid increase in adoption can be attributed to several factors, many of which are external to the adopting unit. One such outcome is referred to by Swann (2011: 204) as the "band wagon effect" which is manifested as a signal sent by competitors or suppliers that the innovation is no longer seen as risky as it once appeared. When a sufficient reduction of perceived risk occurs, adopting units may see the relationship between risk and reward in a more favourable light. In fact, Doolin & Troshani (2007: 205) argue that the explanation "…for the limited adoption of XBRL in Australia was the absence of a critical mass of XBRL applications, software tools and users". The authors also identify a dilemma which can occur when potential consumer of XBRL such as banks and regulators are reluctant to adopt the new standard until they see sufficient interest from other organisations. Dif-fusion is impeded however when the organisations also wait for banks and regulators to adopt XBRL first and thus send the signal that embracing the new technology is a worth-while investment. The effect resembles a variation of the "wait-and-see paradox" men-tioned earlier (see page 20).

3.8   The Technology Organization and Environment Framework

Several key ideas that are derived from the previous sections are now summarised in order to establish a logical progression from the literature review to the selected framework. "The innovation" emerged as a manifested idea which is perceived as new by the adopting unit and can take tangible or intangible form. Due to their complexity, technological innovations can encompass both the innovation itself and planned strategy for implementation. When attempting to explore technological innovation adoption, the existence of several different perspectives is possible. Therefore, it is important to define the unit of adoption, in order to provide the correct context for the research. When examining organizational adoption of innovation, the perspectives of the individual and the organization emerges. Since decision makers are individuals that function within the context of the firm and also have the power to influence future decisions, they are a distinct adopting unit from the individual and the organisation. All adopting units, undergo a cognitive process, in which information about the innovation is acquired, and future implementation decisions are made. Individual employees can affect organisational adoption since they are independently thinking units that can form their own opinion about an innovation. The attributes of technological innovations can have an impact on how it is perceived by individuals, as well as its rate of adoption. Innovation decision making is not a linear process but an interaction between the adopting unit, the environment and the innovation itself.

The technology organization and environment framework (TOE) encompasses many of the key ideas which were revealed in the literature review. The TOE, was developed by Tornatzky & Fleischer M (1990: 154). "It identifies three aspects of an enterprise's context that influence the process by which it adopts and implements a technological innovation: technological context, organizational context, and environmental context" (Oliveira, & Martins 2011: 112). The TOE framework (see Figure 7) proposes that organizational innovation decision-making is shaped by the influence of technological, as well as organisational and environmental contexts. Furthermore, each context is affected by the presence of the others, thus establishing the view that adoption is not simply a linear process but a result of various interdependent factors.
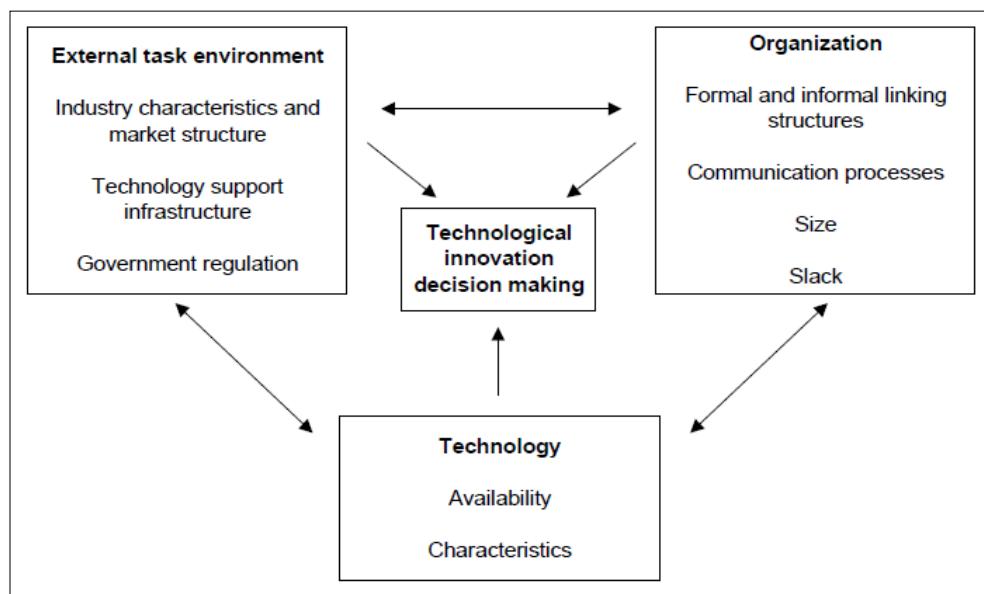
Figure 7. Technology Organization & Environment Framework (Tornatzky & Fleischer 1990:154)

The organizational context is comprised of various organizational characteristics as well as its organizational structure. Tornatzky & Fleischer defined the organizational context according to "…several descriptive measures: such as: firm size; the centralization, formalization and complexity of its managerial structure; the quality of its human resources; and the amount of slack resources available internally" (1990: 153). The formal and informal links which comprise the organizational structure of the firm can be viewed as either "organic" or "mechanistic". Organic organizational structures have a more relaxed communicational structure and involve a higher degree of participatory decision making. Mechanistic structures have a more traditional hierarchical structure and are relatively closed with a higher degree of bureaucracy (Statt, 1999: 106). According to Tornatzky & Fleischer, various studies have concluded that organic styles of organizational structures were more highly associated with frequent adoption of innovation than were mechanistic structures (1990: 155). Organizational size and slack were also included in the organizational context. These two related phenomena appertain to the size of the firm and the availability of slack resources (extra resources). The larger the company tends to be, the more likely it has resources available beyond what is necessary for normal operation. Since, according to Rogers both size and slack were indicators of organizational innovativeness (1995: 410), the researcher concluded that larger organization have the potential to be more innovative than smaller ones.

The technological context in which the firm operates involves the availability of new technologies and how they correspond with the existing processes. "Decision to adopt technology depends on what is available, as well as how the available technology fits with the firm's current technology (Tornatzky & Fleischer 1990: 163). When implementing an innovation the firms has to select an appropriate technology that can be best harmonized with existing systems. Rogers agrees that organizations adopt new technologies based on how well the innovations' characteristics can help achieve the organization's objectives (1995: 423). In the case of XBRL the matching between the innovation and the needs of the organization occurs during the selection of the styles of implementation (See page 9).

The environment context presents both constraints and opportunities for technological innovation (Oliveira & Martins 2011: 112). The industry is comprised of agents whose actions impact decision making for the firm. The characteristics of the industry may include the level of competition, the influence of trading partners and regulatory and government agenda (Carolyn et al. 2011: 73). The effect of the competitor's actions on the firm is significant because the adoption of new technologies could allow them to increase their market share. Doolin & Troshani explain that an intense competitive environment puts pressure on the organization to adopt new innovations in order to gain or maintain competitive advantage (2007: 201). Trading partners are parties which function within the organizations supply chain, they include: customers, suppliers, partners and software vendors (Carolyn et al. 2011: 73). Trading partners might influence the organization by adopting a new innovation or moving to a new technological standard. If an important customer or supplier insisted on paperless billing for all transactions the organization would need to consider the value of implementing such a system. The effects of government regulatory activity could have a strong impact on the firm in the form of operational constraints and additional costs for the industry (Tornatzky & Fleischer 1990: 173). Regulation can also impose a technological requirement, such as when the U.S Securities and Exchange Commission (SEC) mandated the use of XBRL for public company reporting (see page 4).

There are several reasons why the TOE framework is suitable for this research project. First, it avoids taking a subjective view of an adopting unit and analyses the influences on the decision to adopt. The TOE framework avoids depicting adoption as a linear series

of steps, but acknowledges that it is a decision that is shaped by various internal and external influences. The framework is also consistent with the DOI theory (see page 22), in which the individual characteristics, and both the internal and external characteristics of the organization, are seen as drivers for organizational innovativeness (Martins 2011: 112). Lastly, the framework includes the effects of technology, organization and external environment, which were all identified in the research as significant influences on decision making. In fact there are several studies that have successfully utilized the TOE framework for exploring adoption of XBRL in organizations (Carolyn et al. 2011; Doolin & Troshani 2007; Henderson et al. 2012).

While, the framework establishes a clear division between categories, it overlooks the influence of the individual in organizational adoption. Although the opinion of an average employee may not be authoritative, individual decision makers maintain a higher degree of power and influence in the firm. The importance of considering the perspective of the individual is especially evident in cases where the push for adoption comes from the top of the organizational hierarchy. Rogers explains, that in authority driven innovation decisions, the judgement to adopt or reject an innovation is made by relatively few individuals within a system who possess influence or power (2003: 403). According to Oliveira & Martins (2011: 116), some researchers attempting to analyse the adoption of technology, have decided to overcome the limitations of the TOE framework by combining it with other theories. One such modification of the TOE framework was used by Sophonthummapharn (2009: 388) in his analysis of techno-relationship innovations (see Figure 7). The modified version of the TOE framework not only includes the individual perspective, but also divided the internal and external forces which shaped adoption. The individual factors include some elements related to other notable adoption theories, such as the concept of subjective-norm borrowed from the TAM (see page 15). When using the modified TOE framework to analyse innovation adoption the individual emerges as one of four important factors that can shape adoption.
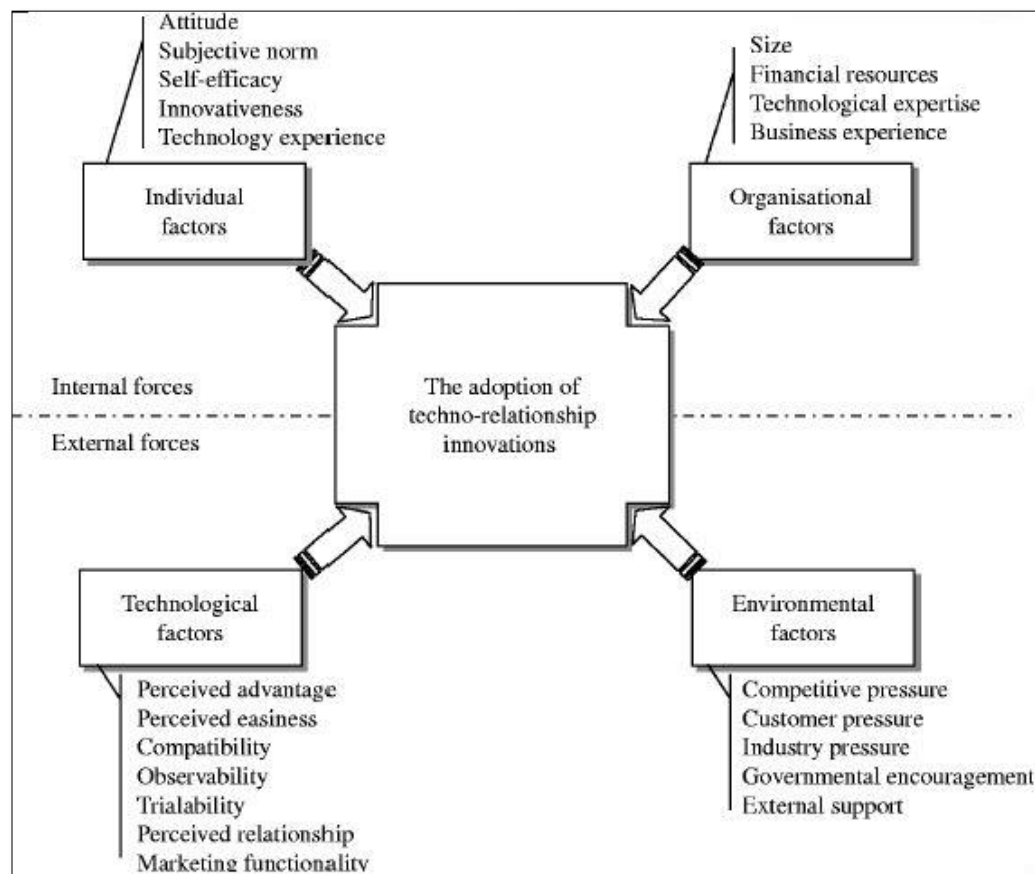
Figure 8. Modified TOE Framework (Sophonthummapharn 2009: 388)

The modified TOE is a suitable framework for this research because it encompasses important topics, which were discovered in the literature review. The framework builds on relevant theories related to innovation adoption and includes the perspective of the individual. Therefore, when attempting to answer the research questions the author aimed to utilize the framework in order to explore the related issues.

1. *How is XBRL perceived by decision makers prior to adoption?*

In answering the first research question, the framework can be utilized to examine the views of the respondents regarding XBRL and understand if they are formed as a result of influences from inside or outside of the organization. The dual analysis allows the researcher to understand if the perceived advantages or disadvantages associated with XBRL, can be managed by solely by organization, or will require cooperation with outside parties.

2. *Which factors influence perceptions of decision makers?*

When examining the second question, the framework reveals that the perceptions of XBRL, as well as the adoption decision itself, can be simultaneously influenced by several different factors. The influence of the four factors in connection with XBRL can analysed in order to build on the insight gained from answering the first question. Furthermore, by evaluating which factors are significant for all responders, conclusions can be made about how perceptions of XBRL were shaped.

4 Methodology

The methodology chapter establishes the principles and assumptions that served as a guide for the research, as well as the specific methods of data collection, analysis and interpretation. Furthermore, justifications for the research approach are provided and alternative methods of investigation are discussed. The aim of the chapter is to present the research purpose as well as other issues related to the investigation process.

4.1 Elements of Inquiry

The purpose of the research is to analyse the decision makers' perception of XBRL prior to adoption and examine the factors which shaped those views. In order to achieve the research objectives two questions were created to guide the investigation. The first research question aimed to uncover: how XBRL was perceived by decision makers prior to adoption? The second research questions asked: which factors influence perceptions of decision makers? The data collected from the investigation was evaluated using various means to accomplish the purpose of the research.

Some authors believe that selecting an appropriate research methodology cannot be done without also considering of the ontological and epistemological assumptions, which underpin the research in question (Ryan et al. 2003: 36; Gray 2014:19). The objectives of the research attempted to examine investigate the perceptions of a select group of individuals. Since, the perceptions of individuals are subjective in nature (Walsham 2006: 320), it was necessary to adopt an approach that would acknowledge the role of the researcher as an investigator with the capacity to analyse data and make conclusions. Therefore, an interpretive approach was the most suitable, as it enabled the researcher to adopt a more flexible research structure in order to explore the perceptions of individuals in a meaningful way.

The investigation attempted to explore the perceptions of individuals, thus it was natural that it also drew elements of phenomenological research. Phenomenology maintains that the experiences of individuals need to be considered when attempting to analyse reality. In other words "Phenomenology holds that any attempt to understand social reality has

to be grounded in people's experiences of that social reality" (Gray 2014: 25). Moreover, it is Gray's contention that the phenomenological approach allows for the use of small samples to establish models from the data by way of inductive reasoning. (2014: 24).

4.2   Research Approach

A qualitative approach was selected for this research, since the objective was to uncover phenomena that were unfamiliar but could still be investigated systematically (Jonker 2009: 77). For the research process to be meaningful, the investigation had to be exploratory in nature, and allow the researcher interpret the findings in order to make conclusions. Exploration allowed the researcher to investigate the selected topic, not to create or test a theory that was universally true. In order for data to be considered valuable, it had to be rich in detail so that the nature of the phenomena could be identified and adequately explored. A similar approach was used by other researchers who explored the topic of XBRL adoption (Carolyn et al. 2011; Troshani & Rao 2007). Although a quantitative approach was also considered, it was seen as unsuitable for this research due to its limitation on exploring undefined phenomena. As Jonker explains, "Quantitative research is initialised by means of a closed question that results in a problem definition appearing at the start of the research" (2009: 66). Due to the fact that the phenomena being investigated had not yet been identified, the creation of a closed question was not yet possible, thus the quantitative approach could be more suited in future research concerning related phenomena.

4.3   Methods of Research

Several methods of research were considered in terms of the objective of research and the availability of resources, before a strategy for information collection was selected. Methods such as questionnaires and surveys were rejected because their inability to gather data that would be rich enough for the ambitions of the research. The case study method offered an in-depth approach when investigating small sample sizes but it was seen as difficult to implement due to several constraints. During the case study approach, the researcher collects detailed information over sustained period of time (Creswell 2003: 15). The time constrains and the lack of suitable participants made the case study

method difficult to implement. The researcher decided that the in-depth interview method could yield the desired research data given the circumstances. However, due to the small sample size, a specific type of interview method had to be adopted that would enable meaningful data to emerge. As a result convergent interviewing was selected as the information gathering technique, based on the aims of the research and previous success in similar research initiatives. The same approach was used by Hill & Troshiani (2009: 208) in analysing emergent innovation in e-business as well as in research exploring drivers and inhibitors of XBRL Troshani & Rao (2007: 102). During convergent interviewing the researcher gathers data through in-depth interviews with several different participants. A central aspect of the convergent interviewing technique is the analysis of data and identification of key issues in the interviews. Convergent interviewing derives its name from converging nature of the data - that is, issues converge in in interviews to become key issues (Jepsen & Rodwell 2008: 654). Williams & Lewis (2005: 220-221) maintain that, convergent interviewing is highly suitable for exploratory research and propose an approach that includes the identification of key themes from literature, so that they can be compared with significant issues that emerge in the interviews. The researcher adopted the approach of Williams & Lewis and identified several key themes from the literature review to help guide the interview process. The researcher found that the technological, organisational and environmental contexts of innovation adoption were significant enough to be classified as reoccurring themes in organizational innovation adoption. Moreover, the researcher acknowledged the significance of the themes, and used them to create a portion of the research questions. The researcher identified several experts and interviewed them using questions derived from the themes. After each interview the data was reviewed in order to establish any attitudes, opinions or beliefs which emerged and were related to the research topic. Lastly, when all the interviews were concluded key points were noted and any similarities and differences between respondents were acknowledged.

4.4   Data Collection

Participants of an upcoming XBRL pilot-project were interviewed using a semi-structured interview approach. Due to the fact that XBRL was relatively new to Finland and the

availability of future potential adopters was limited, a non-probabilistic sampling approach was seen as most suitable and respondents were selected by the purposive sampling method. The aim was include information-rich cases that would yield insight related to the research objectives even with a smaller sample size. The selected research sample consisted of several individuals participating in an upcoming XBRL pilot-project. The pilot-project was one of the earlier initiatives of its kind in Finland and it was facilitated by the Chairman of XBRL Finland, Esko Pentinen. The project granted individuals and their respective organizations the ability to test the XBRL standard in order to evaluate the functionality of the technology. While the form of participation in the pilot-project varied slightly between organizations, the successful filing of a financial statement using XBRL was seen as a key objective to all of those involved. It is significant to note the existence of a fourth participant that originally agreed to participate in the XBRL pilot-project but eventually withdrew, and was therefore not included in the interview process.

The interview segment of the research involved three decision makers from different companies that were in the process of evaluating the adoption of XBRL. The decision makers were interviewed using questions derived from the themes emerged as the result of the literature review. The themes were related to the influence of technology, the organization, environment and the individual. Prior to the interview, the responders were informed via email about the themes of the questions as well as the objectives of the research. Two interviews were done face-to-face and one was performed over the telephone. Each interview was recorded with the permission of the participants using a digital recording device. At the request of the interview participants, the responses were kept confidential and real names were not used. The author chose to follow the approach interviewing technique outlined by Jepsen, & Rodwell (2008: 653) which involved three requirements. First, the questions were constructed to be specific enough in their clarity and focused to suit the experiences of the interviewees. Second, the exact wording of the questions was adaptable to suit the responses of the person being interviewed. Lastly, at the start of each interview, the researcher began with open-ended questions and then introduced probing questions in order to reveal additional information regarding key issues

4.5   Data Analysis

Data analysis involves processing the information gathered from research to extract meaning. "Editing and reducing accumulated data to a manageable size, developing summaries, looking for patterns, and applying statistical techniques"(Jonker et al. 2009: 142). Adhering to the previously outlined principles of convergent interviews research, the author transcribed each interview in a non-verbatim style and subsequently analysed the data. Due to the subjective nature of the data that was being explored it was necessary to establish a suitable interview strategy that could be adapted to steer the conversation and focus on the more closely toward the objectives of research. The research questions were derived from key themes identified in the literature review and served as a common starting point for all the interviews. The researcher deviated from the original questions only to probe any new themes that emerged and understand their significance to the research topic. Elements of thematic analysis were employed to identify and code key issues and themes in each interview as well as take note of agreements and disagreements amongst the interview participants. Williams & Lewis suggest that interviews continue until a"… stable pattern of clear agreements or disagreements emerges between all or most of the interviewees, and where different opinions and beliefs can be explained" (Williams, & Lewis, 2005: 223). When all the interviews were completed the data was analysed once again to gain a more comprehensive understanding of the issues involved (Jepsen & Rodwell 2008: 655).

4.6   Reliability and Validity of Data

When examining the limitations of qualitative research Merriam, (2014: 213) maintains the existence of internal, external validity and reliability when compared to the quantitative research approach. Internal validity concerns the congruency between the research results and the real world. The author recognizes that when researching the perceptions of decision makers, the data gathered is subjective in nature, and may not be true for other decision makers or entire organizations. "Reliability of the study means that if some other researcher does the same study again, he or she will end up with the same results" (Suosalo 2013: 48). Owing to the fact that the research analysed subjec-

tive experiences, some specific aspects of the study may be difficult to replicate. However, the themes which emerged should be universal enough for future researchers to find relevant and explore with comparable results. Therefore, external validity is established on a more general level rather than the validity of specific results.

Some authors warn that during qualitative research it is possible that the perceptions of the researcher and respondent are not kept separated (Jonker et al. 2009: 77). The researcher attempted to combat interviewer biases by starting each interview with open-ended questions, which gave respondents some time to explain their ideas without interference. Additionally at the end of each interview the researcher took time to summarize the key points in order to ensure that the responses were recorded correctly. Lastly, triangulation techniques were utilized to analyse the experience of several different individuals (Merriam 2014: 216).

4.7   Limitations of the Research Approach

While qualitative research has the ability to produce a meaningful exploration into an issue, it also has disadvantages that must be acknowledged. In order to gain adequate insight into a topic the number of interviews must be sufficient. During this research the number of participants was low for an investigation of this type. Furthermore, the diversity of the participants was kept low which could have limitations on the outcomes of the study. However, the objective of the research was not to identity opinions that were universally true for all decision makers in every industry. Rather, the research ambitions attempted to uncover the perceptions of XBRL from the participants of the pilot project. Working with a small sample size meant that the researcher could focus on exploring the topic through an in-depth analysis.

Perhaps the most significant limitation is the constraints of the interview technique itself. Denscombe (2014: 200) contend that the information gathered from interviews is established on what people say rather than what they do. For the researcher it can be difficult to analyse the accuracy of the responses gathered in the interviews for several reasons. First, the interview participant could choose to misrepresent certain information which may be sensitive. Additionally the individual may not possess sufficient knowledge of the

subject matter and may provide inaccurate information inadvertently. Because the objective of this research is to analyse perceptions which are subjective in nature there is not a guaranteed way to ensure responses are accurate. However, it is possible to use logic based techniques to identify any discrepancies or contradictions in responses and obtain a more accurate picture of experiences. Ryan et al. maintain that, the use of logic could "…help in the identification of inconsistency and invalidity in the statements…second, it forces a careful interpretation of what is presented" (2003: 222). The researcher utilized logic-based techniques both during the interview process and during the analysis of the transcribed material. During the interview, if contradictions arose between statements provided by the respondent, the researcher took note, and attempted to probe further in order to clarify the issue. During analysis of data, any significant discrepancies were exposed in the Research Findings section of the thesis (see page 34).

5   Research Findings

The findings section summarizes the responses gathered during the interview process and presents them in a logical and coherent order. First, backgrounds of the participants are summarized to provide context for the responses that follow. Next, results related to the primary research question are outlined by presenting the first contact with XBRL and the perceptions of the responders. Lastly, factors of influence related to the secondary research questions are presented utilizing the themes identified in the chosen framework as a guide (see page 26). In the latter section, four factors (individual, organizational technological and environmental), are viewed in connection with XBRL, and their influence is evaluated according to the responses of the interview participants.

5.1   Background of Respondents

The participants were selected from small and large companies with both local and international business presence. Table 1 summarizes the background of the interview participants. All three respondents were in a position of influence within their respective organizations. The largest difference between interview participants was that Respondent 1 was from a large organization with an international presence, while the remaining participants were from smaller firms with a local presence. Respondent 1 and 3 were part of the accounting department while Respondent 2 had a more sales focused role. All three respondents understood accounting related business processes and used them on a daily basis. The first respondent was an Accounting Manager from a large IT firm while the remaining respondents were co-founders of smaller accounting firms. Due to the fact that Respondents 1 and 3 were from accounting firms which could offer XBRL services to future clients, they can be thought of as both vendors and adopters. Thus, a distinction had to be made to clarify the roles of the respondents. Since all the interview participants have joined the pilot-project with the intention of exploring the implementation of XBRL in their respective organisations, it was suitable to treat them all as XBRL adopters. Whether the firms choose to utilize XBRL for their own purposes or plan to sell their expertise to others, they all had to go through a similar process of understanding and implementing XBRL within the scope of the pilot-project.

Table 1. Background of respondents

Firm Characteristics	Respondent 1	Respondent 2	Respondent 3
Company position of re-spondents	Manager	Co-Founder	Co-Founder
Department	Accounting	Sales	Accounting
Industry of firm	IT Wholesale	Accounting	Accounting
Size of company	Large	Small	Small
Business Presence	Global	Finland	Finland
Estimated Turnover	420 million (world-wide)	1.5 million	1 million

5.2   The Perception of XBRL by Respondents

Two of the respondents stated that they first learned about XBRL at an information seminar (Interview 1 & Interview 3). For one respondent in particular the initial contact through a presentation by a representative of XBRL Finland (Interview 1). XBRL Finland is part of the consortia working under the XBRL International, and can be seen as a proponent of the standard in the region. Interestingly, two respondents identified the previous head of the Finnish tax office as a source from which they learned about XBRL (Interview 2 & 3). The role of government officials introducing a new innovation is significant because it could signal to individuals that the use of such a technology may increase in the future. As previously mentioned, in the U.S (see page 4) government legislation helped increase the rate of national adoption of XBRL. Due to the fact that "government encouragement" falls into the category of Environmental factors of influence (see Figure 7), this was an early indication that forces outside of the firm were having some influence on perception of XBRL. In their study of XBRL adoption in organizations across industries, Garner et al. found that firms which acquired information regarding XBRL from outside sources generally had a more favourable perception of XBRL (2013: 9).

The views held by the interview participants regarding XBRL are summarized in Table 5. All the respondents viewed XBRL as an innovative technology which could be advantageous for their organizations (Interviews 1, 2, 3). Respondent 1 viewed XBRL as potentially benefiting both internal and external operations of the organization, while Respondents 2 and 3 believed the advantage was mostly external; meaning that XBRL could benefit their interaction with outside parties (Interviews 1, 2, 3). The automatization of

accounting processes emerged as a key benefit of XBRL for all three participants, particularly when automating tax reporting to the government (Interviews 1, 2, 3). However, for Respondent 1, the automatization also involved regular bookkeeping and reporting activities, and not just tax filing (Interview 1).

Table 2. Perception of benefits of XBRL by respondents

Interview Questions	Respondent 1	Respondent 2	Respondent 3
Is XBRL an innovative technology?	Yes	Yes	Somewhat
Which type of business interactions do you think will benefit most from XBRL, internal or external?	Both internal and external	More external	More external
Which business areas could be improved using XBRL?	Automatization of accounting, tax reporting	Automatization of tax reporting	Automatization of tax reporting
What is the business value of using XBRL?	Reduced cost and time	Better service to customers	Time savings, better service to customers
What are the negative aspects of XBRL?	Requires accounting & IT skills for implementation	Must be implemented with vendor assistance	Accounting industry is slow to embrace novelty

When asked about the negative aspects of XBRL, the responses varied significantly. Respondent 1 stated that, due to the characteristics of the technology behind XBRL, its correct implementation required individuals to possess both accounting and IT skills (Interview 1). Accounting skills were necessary for the correct identification of data to be converted and IT skills were required in perform the actual tagging and processing. Respondent 2 maintained that the implementation challenges associated with XBRL could only be overcome with the assistance of vendors in the form of new solutions (Interview 2). The reliance on vendors meant that the firm may have to wait until adequate XBRL solutions would emerge, before adoption could be seriously considered. The negative perception of XBRL by Respondent 3, was not related to the innovation itself but the reluctance of the accounting industry to embrace new ideas (Interview 3). The slow diffusion of technology in certain industries could be related to the perceived attributes of the innovation; something discussed further in the subsequent section (see page 39).

5.3   Internal Factors of Influence

Following the pattern established by the Modified TOE framework (see Figure 8), the author attempted to understand the influence of various factors on the respondents' perception of XBRL. Factors proposed by Sophonthummapharn (2009: 388) related to the individual and the organization are evaluated in order to analyse their influence on perception of XBRL. For the individual factors, the objective was to identify basic attitudes regarding technology, such as the use and adoption of new innovation. For the organization the focus was on firm characteristics as well as the level of its previous technological experience.

5.3.1   Individual Factors of Influence

All of the interview respondents were identified as proponents of XBRL in their respective firms, meaning they were championing the pilot-initiative in their organizations (Interview 1, 2, 3). It means that the desire to learn more about XBRL through the pilot-project was at least part due to their own initiative, after learning about XBRL through their first contact. Rogers uses the term "champion" to refer to individual in the organization who "throws his or her weight behind an innovation", overcoming indifference or resistance (2003: 414). The individuals seemed to be at least partly championing the idea of XBRL adoption in their organizations. Various individual factors were also examined to understand if personal outlook of technology had an impact on the perception on XBRL. Respondent 1 stated that they were not very interested in the new technology "…but from a financial point of view we need all the time…in my work that I have to be able to use different to kinds of software but I am not…an expert in it" (Interview 1). Respondent 2 however, mentioned previous experience with various aspects of IT, including knowledge of information databases and some previous basic experience of XML (Interview 2). Other than the use of various accounting business software, Respondent 3 did not mention specific technology expertise but maintained that they were early adopter of new technologies outside of work (Interview 3). All the respondents viewed XBRL as useful in some way. For Respondent 1 the advantages were related to their own duties and improving accounting processes in the firm, while for Respondents 2 and 3,

the benefits were seen in connection with better service for clients. This variance between responses could be related to the fact that two of the respondents were working in firms which provided accounting services, while one was not.

5.3.2 Organizational Factors of Influence

According to Sophonthummapharn (2009: 388), organizational factors are comprised of: firm size, financial resources, technological expertise and business experience. Furthermore the author believed it was necessary to probe the support for XBRL on an organizational level. Respondent 1 was employed at the largest firm with the highest annual revenue, while Respondents 2 and 3 were both from smaller firms (see Table 1). Although Roger (1995: 410) stated that both size and slack (resources) were indicators of organizational innovativeness this may not hold true for Respondents 2 and 3 since they both come from smaller firms but claim they are innovative in their industry (see Table 1). When asked about the firm's technology expertise in their respective business sectors, both Respondents 2 and 3, indicated that their firms were one of the more advanced in the accounting industry (Interviews 2, 3). Respondents 1 indicated that their firm was technologically advanced when it came to using business technology such as ERP. However, when it came to innovative accounting practices in particular Respondent 1 indicated that compared to other large firms their technological expertise in financial reporting is quite low (Interview 1). The differences in level of innovation in accounting processes is most likely related to the fact that Respondents 2 & 3 were accounting companies which offered various services to clients and thus evolved quicker to meet the needs of clients (Interview 2, 3). In fact, Respondent 3 indicated that certain clients have already expressed interest in experimenting with XBRL "…we already have pilot customers who would like to try [XBRL]" (Interview 3).

5.4 External Factors of Influence

The influence of external factors, such as the role of technology and environment, were considered in shaping the perceptions of XBRL. In the analysis of the technological factors of influence, the perceived attributes of innovations proposed by Rogers were used as a guide (2003:15). Respondents were asked to rate XBRL according several different

attributes, which provided insight on how they viewed the technology. The external environmental factors were also analysed and included factors proposed by Sophonthummapharn (see Figure 8) whereby the pressures of: competitors, customer, industry and government were seen as significant (2009: 388).

5.4.1 Technological Factors of Influence

When attempting to understand the influence of technological factors, the researcher sought to examine how the responders understood the characteristics of XBRL. Rogers (2003: 16) holds the view that "Innovations that are perceived by individuals as having greater relative advantage, compatibility, trialibility, and observability and less complexity will be adopted more rapidly than other innovations". In order to assist in uncovering the perceptions of respondents, some interview questions were structured to allow the respondents to describe XBRL, based on the attributes identified by Rogers; similar to the approach utilized by Carolyn et al. (2011: 82). The respondents were asked to rate the five attributes proposed by Rogers, the summarized results can be seen in Table 3.

Table 3. Perceived attributes of XBRL

Perceived Attributes	Respondent 1	Respondent 2	Respondent 3
Does XBRL offer advantages over current process?	Yes	Somewhat	Yes
Is XBRL compatible with existing processes?	Not Sure	Yes	Somewhat
Is XBRL complex?	Yes	Somewhat	Somewhat
Is XBRL easily tried or experimented with?	Somewhat	No	No
Can you observe implementations of XBRL (in any way)?	No	No	Not Sure

All the respondents viewed XBRL as an advantageous tool with value-adding benefits for their organizations (Interviews 1, 2, 3). Furthermore, the decision to participate in the pilot-project was seen as a way to evaluate XBRL and understand how it can best be harmonized with current business processes. The compatibility of XBRL was seen as most suitable with existing processes for Respondents 2 and 3. However in both cases, the notion rested on the hope that their vendor partner would offer solutions which would allow integration with current systems (Interviews 2, 3). All three respondents viewed XBRL as an innovation that is complex in some way but were confident in being able to overcome difficulties either with the help of vendors (Interview 2, 3) or with

consultants (Interview 1). It is significant that the responders viewed XBRL as complex because as Rogers states, perceived complexity can impede the diffusion of an innovation (2003: 16). Furthermore the respondents did not see XBRL implementation as a highly observable innovation. The respondents view regarding the limited ability to experiment with XBRL and observe its implementation is important because it makes it harder for organizations to ascertain the added value and costs in adopting it. During one study of XBRL adoption"…the interviewees indicated that the technology would need to be able to be tested or observed in order to ascertain the benefits, costs and challenges of adopting that technology…" (Carolyn et al. 2011: 84).

5.4.2 Environmental Factors of Influence

The influences of environmental factors arise from pressure to adopt XBRL from various external sources, such as: competitors, partners and government sources (Carolyn et al. 2011: 73). The reliance of external support of partners such as vendors was reoccurring theme present in the responses of the participants and thus can be taken as a significant factor of influence. Due to the fact that the use of XBRL is relatively new in Finland Respondents 2 and 3 were not aware of any partner or competitors who were using XBRL or considering adoption in the future. However, due to the fact that Respondent 1 worked for an organization which had a global business presence, the influence of other industry actors was perhaps more present. Respondent 1 indicated that prior to the current initiative, the firm had already considered the adoption of XBRL in areas outside of Finland (Interview 1). Government pressure to adopt XBRL through future legislation was not a factor of influence since, at the time of writing, no such requirement existed or was anticipated. However, when one considers the listed advantages of XBRL listed in Table 2, the automatization of tax reporting seems to be of vital importance to the respondents. Thus, it could be that participation in the pilot-project was driven by the ambition to improve current tax reporting processes, and not by anticipation of coming legislation. However, the influence of the government on the perception of XBRL was still plausible.

6   Conclusion and Future Considerations

In the conclusion of this study the researcher provides an answer to the primary and secondary research questions and provides relevant background information. In order to achieve this several topics of interest are discussed in connection with the research objectives. After summarizing the results, the researcher reflects on the limitations of the research in order to establish the research focus. Lastly, the implications for further research are examined which take into account the achieved results and the constraints which were present. The aim of the researcher is to present the research as a stepping-stone to further exploration into uncovering the perception of decision makers regarding XBRL.

6.1   Investigation of Research Questions

Research question 1: How is XBRL perceived by decision makers prior to adoption?

One way to present the finding related to the perceptions of XBRL by decision makers is to highlight the commonalties between respondents. It was no surprise that all the respondents saw XBRL as an innovative tool with potential advantages over existing accounting processes. The majority of the respondents viewed the automatization of tax reporting as a key benefit of XBRL. Additionally, respondents cited the time and cost savings associated with XBRL as key value-adding features. Understanding how the respondents believed XBRL could add value to their organization explained the motivation of the individuals and their respective organizations to participate in the XBRL pilot-project.

Some interesting findings arose when responders were asked about how well they understood the technology behind XBRL. Two of the respondents indicated that they did not understand the technical side of XBRL but they believed that it was not a problem since either vendors or consultants could bridge the gap in knowledge. However, although two of the respondents knew of upcoming initiatives by vendors to offer XBRL solutions, they were not able to recall any examples of local XBRL implementations which

already occurred. The fact that vendors were slow to offer XBRL solutions could be attributed to the "wait-and-see paradox" (see page 20), where a waiting game occurred between the producers and the consumers of XBRL reports. For future researchers it could be beneficial to examine if XBRL related solutions have emerged as the respondents have hoped.

Another interesting response occurred from Respondent 1 who proposed that for successful implementation of XBRL, both accounting and IT skills were required (Interview 1). The perception of XBRL as a multi-faceted technology which demands a dual skill set could be related to the XML technology which the innovation is based on. The suggestion of an employee with a dual-skill set is interesting because it could mean that additional training, hiring or outside expertise would be needed to better prepare the firm for adoption of XBRL. Furthermore, all participants perceived XBRL as a relatively complex tool that is not easily used or understood, and that requires additional expertise (Interview 1, 2, 3). For proponents of XBRL it may be of some interest to further examine the barriers of XBRL experimentation and if they can be alleviated.

Research question 2: Which factors influence perceptions of decision makers?

Using the themes established in the modified TOE framework (see figure 8), the researcher sought to identify the influence of individual, technological, organisational and environmental factors on the perception of XBRL. All the respondents used technology at work on a daily basis but did not identify themselves as "IT experts". Although all the respondents saw value in using XBRL, their individual outlook on adoption of new technology varied. Only one respondent stated that they readily adopted new technology, and that they could be referred to as "an early adopter" outside of work. Thus it was concluded that individual factors contributed somewhat to the perception of XRBL but the results seemed to suggest that past experience and perceived value were stronger drivers than the willingness to be the first to try XBRL.

From a technological context, the automation of tax reporting was mentioned by all the respondents as the most significant advantage of XBRL. The drive towards experimentation with XBRL seemed to overcome the lack of complete understanding of the technology behind XBRL and the perceived absence of observable existing implementation.

The fact that the respondents indicated that they were interested in XBRL regardless of the complexity and other uncertainties, indicated that they perceived the advantages to be significant. The technological factors seemed to influence the perception of XBRL significantly as its complexity does not deter from its potential value.

The organizational factors also varied as sources of influence. While authors such as Rogers (2003: 409) argue that organizational size is positively correlated with organizational innovativeness because they have more resources, the research results indicated different. The interview participants were from both large and small organizations and in fact, the two of the three respondents were from firms with less than 50 employees. Tornatzky & Fleischer (1990: 92) acknowledge that the slack resources are not always an indicator of R&D activity, thus it is not always clear if they contribute to organizational innovativeness. Furthermore, due to the fact that the organizations were not from the same industry it was difficult to measure technological expertise and experience. Thus, the effect of the organizational factors on the perception of XBRL by respondents was inconclusive. Future researchers could choose to examine respondents from similar firm size and industry, in order to gain a clearer picture of the influence of organizational factors.

The external environment played a significant part in shaping the perceptions of the decision makers. Although the pressure of industry partners and competitors was not present for all the respondents, the influence of government was indirectly affecting how the decision makers viewed XBRL. The biggest clue into the role of government as a factor of influence for the decision makers is the acknowledgment from all three respondents that the automation of tax-reporting was a potential benefit of XBRL. If we consider the perceived business value stated by all the respondents, it could be that the respondents see value of improving the current tax reporting processes by making it faster and less resource intensive. The government in particular emerged as a notable source of influence in shaping the perceptions of decision makers.

6.2 Suggestions for Future Research

The scope of this research was intended to be the first step in revealing how decision makers viewed XBRL. Although the researcher aimed to identify the perceptions of XBRL and not focus on the technology behind it, the complexity of the innovation needed to be addressed. While the researcher took precaution to research the topic in depth, it was difficult to understand the level of knowledge each of the respondents had. Due to the fact that all the respondents were interviewed prior to adoption, many of the issues related to XBRL were not yet understood. In order to establish an approach which would yield valuable results the research had to take into account that the respondents may not be familiar with various vocabulary or technical concepts found in literature associated with XBRL.

Due to the diversity of the respondents and the characteristics of their respective organizations, the investigation process was somewhat challenging. The questions used to gather data had to acknowledge the differences between the organizations, which affected the depth of investigation. As a result a more general approach was chosen which could build on the commonalities present between the organizations. Additionally, due to the small sample size the validity of the results is affected. In order for research to yield results which can be used to make concrete conclusions a larger sample set is needed. However, the aim of the research was not to establish findings which were universally true but to analyse the perceptions of a single pilot-project. With the scope of the research in mind, the author has successfully achieved the ambitions of the research.

Lastly the scope of this research focused on establishing a basic view of the perception of XBRL from the point of view of the decision makers, it did not allow for the identification of a single most influential factor. Future researchers could gain more insight into how XBRL is perceived by attempting to uncover the ordinal ranking of the factors which influence perception. Understanding which factors are most significant could be useful in formulating future XBRL adoption strategy.

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Appendix 1: Interview Questions

1. Background Information of respondent and organization

What is the industry of the organization you work for?

What is the size and estimated turnover of your organization?

How would you describe the general growth of your industry? Global or local?

What is your position in your organization?

Could you briefly describe the financial filling process in your firm?

How did you first learn about XBRL?

2. Perceptions of XBRL

Please explain your views regarding XBRL.

How would you describe you firm's motivation in considering XBRL?

Do you feel XBRL is an innovative technology? Why?

Are there any advantages associated with the use of XBRL?

Are the advantages of using XBRL more internal or external?

What is the business value of using XBRL?

What are the negative aspects of XBRL?

3. Technological Factors

What is the level of technology in financial reporting in your organization?

How would you describe the technological expertise of your organization in regards to how internal financial information is shared (Accuracy, speed, cost) and externally

How would you describe the level of technological expertise need to utilize XBRL?

Please describe your firm's technological skills in adopting XBRL in the next few years?

Are you aware if XBRL solutions exists? Which ones?

What is your knowledge regarding the different styles of XBRL implementation?

Please explain your view on the following in regards to XBRL:

- relative advantage
- trialability
- compatibility
- observability

- complexity

Are there any other technological factors which you feel are significantly related to XBRL?

4. Environmental Factor. (push/pull factor)

Are you aware of any competitors in Finland or abroad who are using XBRL?

Are you aware of any suppliers in Finland or abroad who are using XBRL?

Are there any customers which are aware of XBRL?

Are you aware of any vendor partners which currently offer, or will offer XBRL solutions?

What is you view regarding the likelihood of future legislation push mandating XBRL?

Are there any other external influences on your firm which have fuelled interest in XBRL?

Are there any other external influences which have shaped your perception of XBRL?

5. Organizational Factor

How would you describe the organizational culture in your firm?

How would you describe the diversity of your organization?

How would you describe the intra-firm communication in your firm?

How would you describe how business information is shared externally?

What is role of outsourcing in your organization in filling financial information?

How would you describe the level of support from top management?

Describe your firm's experience in implementing technologies similar to XBRL?

How would you describe the current XBRL implementation strategy of your firm?

What is the level of resources you are willing to allocate for XBRL implementation?

Is there a sort of idea champion in the XBRL pilot test? Change agent?

Are there any other organizational factors which have shaped your perception of XBRL?

6. Individual Factors

How would you describe your personal technology expertise?

What is your opinion about embracing new technologies at work? Outside of work?

What is your personal opinion of XBRL?

How do you view innovativeness of XBRL? Is XBRL useful for your daily work?

Are you aware of any successful implementation of XBRL? Unsuccessful?

How radical do you feel XBRL is when compared other similar solutions?

Are there any other individual factors which have shaped you perception of XBRL?