STANDARD BUSINESS REPORTING IN AUSTRALIA: PAST, PRESENT, AND FUTURE

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ABSTRACT

Standard Business Reporting (SBR) is an Australian government initiative aimed at enhancing business productivity by reducing compliance costs. This initiative commenced in 2010 and is based on an international reporting language, eXtensible Business Reporting Language (XBRL). To date, general awareness or knowledge of the program is limited and the adoption rate by businesses is far below the government's expectations. The objective of this paper is twofold. First, it describes in detail the different components of SBR and provides a clear overview of how the components work together. Second, it examines the issue of SBR adoption in Australia using the diffusion of innovation (DOI) model and the technology, organization, and environment (TOE) framework. Results show that the most relevant factor in the DOI model is relative advantage. Compatibility does not appear to be a problem to businesses but complexity potentially is an issue. Moreover, enhancing trialability and observability can help promote SBR. In the context of the technological perspective in the TOE framework, perceived costs is an obstacle to SBR adoption as insufficient information is available. The quality of SBR reports has hardly been mentioned or discussed but it is an important factor for the long term success of the SBR. The most salient issue in the organizational perspective is the lack of awareness and expertise on SBR and XBRL among business managers and accountants. In the environmental perspective, there is an increasing pressure for SBR adoption but the external support to help businesses appears to be insufficient. The discussions in this paper provide useful information to managers and accountants on how the SBR components work together. The findings also provide specific recommendations to the government agency in charge of SBR to help the further development and adoption of the program.

Keywords: Standard Business Reporting, SBR, Extensible business reporting language, XBRL, Australia

INTRODUCTION

Standard Business Reporting (SBR) is a deregulated reform under the 2008 Council of Australian Governments (COAG) Seamless National Economic Reform (Productivity Commission, 2012a). Based on an international reporting language, eXtensible Business Reporting Language (XBRL), SBR is an Australian government initiative aimed at reducing the business-to-government (B2G) reporting burden for businesses by simplifying the reporting process. Based on the principle of 'recorded once, reported to many', the SBR initiative aims to achieve savings by reducing overlapping or redundant information in the government reporting process (Australian Government, 2012). SBR helps businesses and intermediaries such as accountants spend less time in the reporting process as well as minimize errors and delays in submitting government forms. The SBR project was officially begun in July, 2010. It was

estimated that SBR has 1.5 million prospective users. However, only 1,000 businesses have submitted 12,000 reports to SBR by 2011 (Productivity Commission, 2012a). Even though the number of reports lodged has increased to 148,000 by June 2013, the adoption rate still is far below the target (Australian Government, 2013).

Given the huge investments involved and the low adoption rate, Department of Treasury, the leader of the SBR program has conducted official reviews of the program (Power, 2013; Productivity Commission, 2012a). As a result of the official reports, the Australian government currently is contemplating to make SBR mandatory. A consultative document on Australian Securities and Investments Commission (ASIC) submission was issued in late 2012 inviting SBR stakeholders in particular accounting associations to comment on the proposal (Australian Government, 2012). To date a few studies have examined the reasons behind the low adoption rate of XBRL in Australia (Azam & Taylor, 2012; 2013; Doolin & Troshani, 2007; Troshani & Doolin, 2007; Troshani & Rao, 2007). Unfortunately, data in these studies were not current as they were gathered prior to the official start of the SBR program. Moreover, as senior management in Australia do not seem to have much knowledge of SBR (AIG, 2011), and the response rates in two survey studies were only about 10 percent of the top 500 listed companies (Azam & Taylor, 2012; 2013), it is arguable how useful the results of these studies are for understanding the reasons behind the non-adoption of SBR.

Because of the financial significance and the potential impacts of this new kind of reporting method on businesses, we believe a comprehensive analysis of SBR development in Australia beyond the mandatory or voluntary adoption argument is necessary to highlight important issues that have been overlooked by the existing literature. Moreover, we believe one of the major obstacles of SBR adoption is not just a low level of awareness of SBR (Productivity Commission, 2012a; 2012b) but a lack of comprehensive and easy-to-understand information to help the general public understand how the program works and its potential.

Hence, using secondary data gathered from the literature and government departments, this paper aims to achieve two objectives. First, it describes in detail the different components of SBR and provides a clear overview to managers and accountants on how the components work together. Second, based on the diffusion of innovation (DOI) model and the technology, organization, and environment (TOE) framework, it examines the SBR from a broad perspective and provides specific recommendations to the government agency in charge of SBR to help the further development and adoption of the program.

The remainder of this paper is organized as follows. The next section describes briefly the concept of XBRL. It is followed by a description of the analytical framework and the research methodology employed in this study. The next section then describes how different components of SBR work together. It is followed by an analysis of the SBR adoption in Australia. The final section summarizes the findings and recommendations.

EXTENSIBLE BUSINESS REPORTING LANGUAGE (XBRL)

As SBR in Australia is based on eXtensible Business Reporting Language (XBRL), a basic understanding of XBRL is essential if one wants to know how SBR works. Being a markup language originated from eXtensible Markup Language (XML), the XBRL is a programming language that is independent of any software or platform, and it facilitates the preparation and exchange of business information.

The XBRL comprises two basic components: taxonomies and instance documents. An XBRL taxonomy is like a data dictionary and provides a complete list of data elements called tags that describe financial information. Without XBRL tags, receivers of information would not be able to understand

the meaning of data. For example, the following pair of tags in a balance sheet statement means that 5.5 million represents the Current Assets value:

<Current_Assets>5,500,000</Current_Assets>

Both XML and XBRL are extensible because the tags can be increased when necessary. In contrast to the Hypertext Markup Language (HTML), XBRL focuses on the meaning rather than the presentation of data. Similar to HTML, XBRL documents are simple text files which can be read by any computer. However, one should note that, despite its text format, XBRL documents "are generally only machine-readable" (Australian Government, 2012 p. 9) because the convoluted codes look awfully complicated to human eyes. A way to solve the problem is to adopt a technology called Inline XBRL (iXBRL) that turns XBRL documents into what you see is what you get (WYSIWYG) format and makes the documents human-readable. U.K.'s mandatory tax reporting is an example of the use of iXBRL.

Apart from being the dictionary of all elements, a taxonomy includes other interrelated XML files such as label linkbase, calculation linkbase, reference linkbase, presentation linkbase, and definition linkbase (Plumlee & Plumlee, 2008). Because of the differences in local legislations and accounting standards, specific taxonomies are required for different countries.

The second component of XBRL is instance documents. Instance documents are XBRL-formatted documents. They are financial reports coded with the taxonomy tags. A balance sheet formatted in XBRL format is an example of an instance document. The syntax and semantics of taxonomies and instance documents are stated in the XBRL specification issued by XBRL.org, an international organization that was established in 1999 to promote the language (XBRL International, n.d.).

ANALYTICAL FRAMEWORK

A considerable amount of research has focused on the adoption and implementation of new information technology. The different theoretical adoption models that researchers have used include diffusion of innovation (DOI) model (Rogers, 1995), technology acceptance model (TAM) (Davis, 1989), technology, organization, and environment (TOE) framework (Tornatzky & Fleischer, 1990), theory of planned behavior (TPB) (Ajzen, 1991), and unified theory of acceptance and use of technology (UTAUT) (Venkatesh et al., 2003). These IT adoption or diffusion models can be classified to either individual level or firm level (Oliveira & Martins, 2011). For example, the TOE framework and the DOI model have been extensively used to analyze IT innovation and adoption problems at the firm level. On the other hand, TAM, TPB and UTAUT models focus on the individual level (Jeyaraj et al., 2006).

In this research we combine the DOI model (Rogers, 1995) and the TOE framework (Tornatzky & Fleischer, 1990) to examine and discuss the factors influencing SBR adoption in Australia. According to the DOI model, five factors significantly affect the rate of adoption of an innovation such as new technologies. Those five factors are relative advantage, compatibility, complexity, trialability, and observability. Relative advantage refers to the relative benefits of the innovation in relation to the previous practice or technology. Compatibility refers to how much the innovation is being seen as consistent with existing value and practice. Complexity refers to how easy or difficult the innovation is for one to use. Trialability refers to the extent one can experiment with the innovation. Observerability refers to the extent one can view the results of the innovation.

The TOE framework is based on the assumption that three contexts (technological, organizational, and environmental) influence an organization's decision to adopt and implement a technological innovation. First, the technological context can be broadly described as 'both the internal and external technologies relevant to the firm' (Tornatzky & Fleischer, 1990, p153). This study examines two

technological characteristics of SBR: perceived costs, and quality. Second, the organizational context refers to specific internal characteristics of an organization. This study examines three major organizational characteristics: financial resources, expertise, and top management support. Third, the environmental context refers to the external pressure faced and external support received by businesses. This study also examines the role of software developers as a part of the environment of SBR.

The TOE framework and the DOI model are chosen for this study because they are based on the firm level view and are strongly grounded in the literature. For example, the TOE framework has been used to examine the adoption of XBRL (Troshani & Rao, 2007), enterprise resource planning systems (Pan & Jang, 2008), electronic data interchange (Kuan & Chau, 2001), e-business (Oliveira & Martins, 2011), and e-commerce (Teo et al., 2008). The DOI model also has been used to examine the adoption of personal information systems (Kim & Ammeter, 2014), enterprise systems (Ramdani et al., 2009), and e-commerce (Kendall et al., 2001).

METHODOLOGY

The adoption of IT innovations is a complex issue and is vital to the long term success of both the economy and individual organizations (Oliveira & Martins, 2011). Therefore, it is essential that businesses are responsive to new IT innovations and are fully aware of the factors that can impede or facilitate the adoption and diffusion of the technology. Yet the level of understanding of SBR is low and information about SBR is sketchy. We believe a meta-analysis of the existing literature would benefit SBR stakeholders by providing a comprehensive overview of the status quo of the program. Meta-analysis is a technique where findings from independent studies and secondary data from other sources such as government websites are combined and analyzed (Crombie & Davies, 2010). According to Church (2001), analysis of secondary data is an acceptable methodology when primary data such as survey results and interview transcripts are unavailable.

Using academic databases and the Internet in general, we gathered data from prior studies, official government websites and reports, and so on. Data were then analyzed and examined based on the DOI model and the TOE framework.

STANDARD BUSINESS REPORTING COMPONENTS

Although SBR has been described repeatedly in several government documents, those descriptions are rather clumsy and difficult to understand (Madden, 2010b; 2011; Miller, 2013). As a picture is worth a thousand words, we have summarized the relations among major components of SBR in Figure 1. Currently, more than 10 government agencies such as the Australian Taxation Office (ATO), Australian Securities and Investments Commission (ASIC), eight State and Territory Revenue Offices (SROs) are ready to accept SBR-enabled forms (SBR, 2010). To simplify the description, only two participating government agencies are shown in the diagram.

Before we describe each component of the SBR system, one should note that we have classified the SBR system into two parts: *front end* and *back end* because it is important for readers to distinguish which SBR components are directly relevant to system users and which components are operated without users' direct involvement.

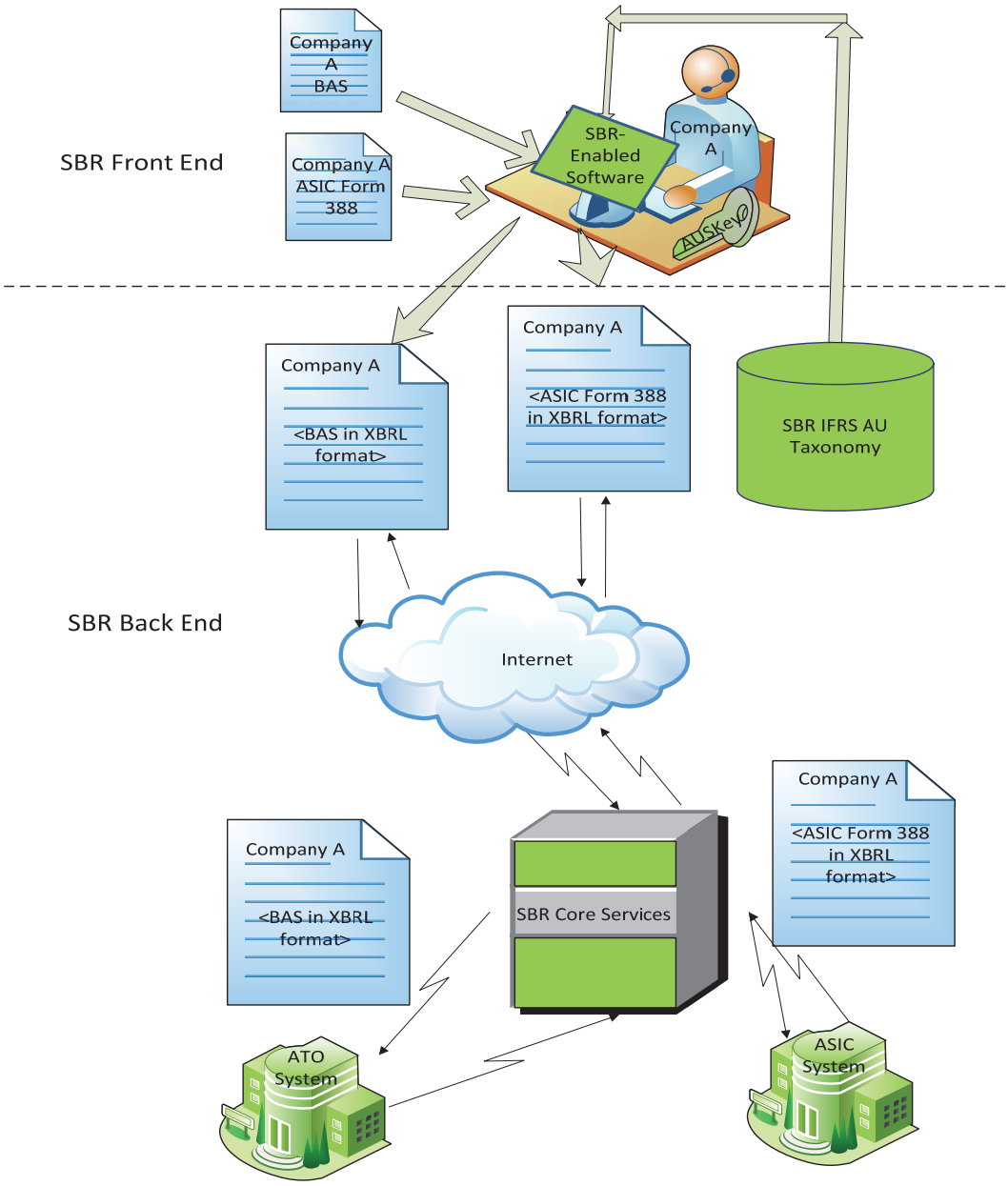

Figure 1: SBR Components

According to Madden (2011), the SBR system has four components: AUSKey, SBR taxonomy, SBR Core Services, and various government information systems. All these components are developed and maintained by government agencies. We have added SBR-enabled software as the fifth component even though software development is outside the responsibility of the Australian government agencies because under the current design, the SBR system cannot function without such software products.

On the front end, users need to obtain two components of SBR: AUSkey and SBR-enabled software. AUSKey is a single secure log on facility. With an AUSkey, businesses or their intermediaries such as tax agents no longer have to log on to different government agencies' online services using multiple IDs and passwords. Since July 2010 businesses that have a valid Australian Business Number (ABN) can register for an AUSkey digital identity with the Australian Business Register (ABR). Once registered, businesses are able to log onto a single web portal that provides access to all the participating agencies (Madden, 2011). By mid-2013, 800,000 AUSkeys were in use by 400,000 entities. However, one should be careful when interpreting these figures in relation to SBR adoption because about 40 percent of entities have multiple AUSkeys (Australian Government, 2013). Moreover, the AUSkey is an authentication mechanism for both SBR and non-SBR access to government agencies.

In addition to the AUSKey, businesses need to obtain SBR-enabled software to lodge government forms and reports. Businesses are expected to check with their own software providers to find out whether their existing software products support SBR. Developed by the Impact Management Group (IMG), Interactive Accounts Manager (IAM) is the first SBR-enabled software product that was available to businesses since May 2010. Currently, the two most prominent software products are GovDirect and GovReports, which support SBR for 10 government agencies. To date most software developers provide SBR-enabled software products to businesses by adding SBR functionality to existing accounting software such as QuickBooks and MYOB. Based on the number of SBR-enabled software products available for individual forms, we believe the form most commonly submitted to date is the ATO form 4195 Business Activity Statement (BAS). A comprehensive list of the SBR-enabled software for ATO forms, its software provider, and the number of forms supported by the software is shown in Appendix 1. The list is sorted chronologically according to the certified date to highlight the pioneers and late comers. As at mid-2012, 128 developers were licensed to develop SBR-enabled software (Australian Government, 2013).

Components on the SBR back end are the taxonomy, the Core Services, and various government information systems (Madden, 2010b; 2011). The SBR taxonomy represents the dictionary of definitions and rules about tags. Under the current design of the SBR program, the taxonomy is transparent to businesses via the SBR-enabled software they use. To lodge SBR forms or reports, businesses need to adopt the SBR International Financial Reporting Standards (IFRS) AU Taxonomy, an XBRL taxonomy specific to Australia. The taxonomy includes disclosure requirements set by the Corporations Act 2011, Australian Accounting Standards Board (AASB) accounting standards and Australian Securities Exchange (ASX) Listing Rules (SBR, 2012b). The development of the taxonomy involves standardizing items in forms mandated by various agencies. Over 33,500 data elements have been standardized and reduced to around 6,600 since 2007 (Australian Government, 2013). While the SBR Board is in charge of standardizing the data elements on government forms, it is the software developers that need to develop appropriate software according to the taxonomy.

The SBR Core Services refers to the functionality provided to end users by the SBR system. It is an invisible interface between businesses and government agencies (Miller, 2013). It provides users with the ability to pre-fill validated forms and reduces the lodgment time and recording errors. After forms are submitted via SBR-enabled software, the Core Services would then pass the information onto appropriate government agencies.

The third component on the SBR back end is information systems employed by government agencies to receive forms from users. SBR users do not need to know about these systems. They just need to know the Core Services works purely as a gateway and data submitted to various government agencies are handled independently like the pre-SBR system.

In summary, an Australian business obtains an SBR-enabled software product and uses its unique identification key, AUSkey, to log on to the SBR Core Services. Appendix 2 shows the screen when a

QuickBooks user is ready to submit a BAS via SBR. As shown in Figure 1, Company A can logon only once to submit a Business Activity Statement (BAS) to ATO and Form 388 to the ASIC. Once Company A has logged on to the Core Services, it can complete the forms quickly as forms are prefilled with data extracted from individual government systems. Data sent from the SBR-enabled software are XBRL instance documents ready to be sent over the Internet to the Core Services. After receiving forms from Company A, the Core Services will pass the data to information systems at ATO and ASIC for processing. To facilitate the readers, milestones of SBR development in Australia are shown in Appendix 3.

STANDARD BUSINESS REPORTING ADOPTION

This section analyses the factors influencing SBR adoption based on the DOI model and the TOE framework.

DOI: Relative advantage

First, the primary benefit of SBR is cost savings for businesses when they file reports or forms to government agencies, and cost savings has been the focus of promotion by the Australian government. It was estimated the SBR initiative would save Australian businesses around A$800 million per year when fully implemented (Brands, 2012b; Madden, 2011). We argue that an emphasis of total cost savings is not an effective approach in enhancing the relative advantage of SBR as businesses are more interested in how much cost savings they can achieve individually. While the Treasury had provided estimated cost savings figures for businesses of different sizes, those figures do not seem attractive. Based on the 2006/07 figures from the business case prepared by the Treasury, the annual cost savings for small and large businesses were expected to be A$324 and A$4,023 respectively. These figures show that the cost savings for Australian businesses is rather small. If one takes into the account the unknown extra costs businesses incur in relation to SBR adoption, the cost savings might be smaller or become negative. Hence, it is unsurprising that perceived relative advantage does not affect SBR adoption (Azam & Taylor, 2013). However, these figures are based on the Treasury business case, not a real business. Australian businesses would be more willing to take up SBR if empirical data, such as the United Technologies Corporation (UTC) case in the U.S., are available. The UTC case provides hard evidence that the total process time of financial reports is reduced by 17 percent after the switch to XBRL reporting (Boritz & No, 2009; Stantial, 2007). A real case of an Australian business with actual cost saving figures would be more effective than reiterating the theoretical cost savings (Madden, 2010b; Miller, 2013; Productivity Commission, 2012a).

Second, two major contributing factors for cost savings are the number of participating government agencies and the number of SBR-enabled forms that agencies are ready to receive via the SBR channel. Logically, the more participating government agencies and the more SBR-ready forms, the greater the cost savings. When SBR first began in 2010, 10 government agencies were SBR-ready and currently the Treasury is pushing to get more agencies such as Australian Charities and Not-for-profits Commission (ACNC) on board (Miller, 2013).

Currently, ASIC has six and each SRO has two to three SBR-ready forms. In the last three years, ATO and Australian Prudential Regulation Authority (APRA) have increased the number of SBR-ready forms steadily to more than 30 and 200 respectively (APRA, 2013). However, the slow increase of forms due to resource constraints was identified by Productivity Commission (2012a) to be a reason for the low take-up rate of SBR by businesses. In view of political uncertainty and possible changes in funding priorities in the Australian Government, we agree with the Productivity Commission (2012b, p.46) that "it would be beneficial to bed down the existing scope of SBR before extending it to other sectors of the economy." It would be more beneficial to focus on working with agencies already

involved in the project and identify forms that could lead to maximum cost savings instead of rushing to extending the SBR program to other agencies.

Third, apart from highlighting the cost saving for individual businesses, it would be a good idea to emphasize other potential benefits of SBR. For example, SBR reduces the need to rekey data and hence data errors. Moreover, it overcomes the problem of incompatible financial report formats such as PDF files and Excel files (Debreceny & Gray, 2001). The adoption of SBR might even improve internal processes and controls that will in turn lead to enhanced corporate governance (Ahmadpour, 2011; Baldwin & Trinkle 2011; Callaghan & Nehmer, 2009).

Another major benefit of XBRL reiterated in the literature is its ability to meet the information needs of stakeholders (Debreceny & Gray, 2001). Examples include improving the quality of financial information such as timeliness, reliability and transparency (Baldwin et al., 2006; Fang, 2011; Richards & Tower, 2004). Shortening the time for companies to provide financial information to regulatory agencies or general investors is one of the objectives of SBR (Arnold et al., 2012). Yet such timeliness benefit is hardly mentioned in Australia's SBR. Promoting the benefit of transparency of financial reports is likely to enhance businesses and general public's acceptance of SBR (Farewell & Pinsker, 2005; Thomson & Iyer, 2011). The use of SBR may even reduce information asymmetry in a stock market context and lead to market efficiency (Kim et al., 2012; Yoon et al., 2011).

SBR is also beneficial to auditing because it enhances the audit trail. It might lead auditors to better risk assessment because more updated information is used (Baldwin & Trinkle, 2011). Chironna & Zwikker (2010) argue that with the use of XBRL, auditors can conduct audit test procedures on the population to reduce the audit risk. All these benefits will ultimately help companies comply with government rules and regulations (i.e., SOX/CLERP9) and reduce the risk of litigation because of errors in reports (Alles & Gray, 2012).

DOI: Compatibility and Complexity

Based on the results of a survey, Azam and Taylor (2013) found that compatibility and complexity had no significant influence on SBR adoption, but they could not explain why that was the case. We believe compatibility is not an obstacle for Australian businesses adopting SBR because software developers are responsible to provide SBR-enabled software after referring to the latest Australian-specific taxonomy. Business users just need to make sure they pick SBR-enabled software products that are compatible with their existing systems. Similarly, the complexity of the SBR system is hidden at the back end as shown in Figure 1.

However, we would like to point out that the design of SBR taxonomy is a complex issue that is hidden from businesses and is hardly mentioned in the Australian literature. Based on the IFRS taxonomy, Australia has developed its country-specific taxonomy after taking into account its own legislation and accounting reporting requirements. While evidence from U.S. businesses shows that extensions to pre-established taxonomies are common (Bovee et al., 2002), Australia has adopted a closed XBRL reporting approach as no industry specific taxonomies or taxonomy extensions are allowed.

On the one hand, one can argue that the restriction is good for businesses because the single taxonomy simplifies the adoption process and reduces the complexity of SBR. It avoids the use of inappropriate taxonomy or errors that may arise from taxonomy extensions (Boritz & No, 2008; Debreceny et al., 2010; Zhu & Wu, 2011). Studies in the U.S. have shown that errors such as creating tags unnecessarily can happen in taxonomy extension (Weirich & Harrast, 2010). The restrictions help investors and analysts compare financial reports of businesses not only within the same industry but across different industries.

On the other hand, such restrictions disallow company or industry specific information to be captured in the XBRL-formatted financial reports. As a result, the quality of financial reports may suffer.

Potentially businesses that have their own proprietary accounting system may need to make adjustments to their existing system and financial reports to suit the taxonomy.

Currently, ACNC aims to align financial reports with the SBR taxonomy, but it is unsure whether the AU SBR taxonomy is appropriate for submissions to ACNC (ACNC, 2011). This is an example of how a one-size-fit-all taxonomy might not be a good idea. Before the SBR Board considers whether industry specific taxonomies or extension to approved taxonomy should be allowed, we recommend it to investigate how well the current taxonomy is in meeting the reporting needs of Australian businesses. For example, are certain tags never used in forms or would certain tags be appropriate for specific industries? We suggest researchers to conduct studies similar to Bovee et al. (2002) or Bonsón et al. (2009) and examine how closely the current Australian taxonomy meet the reporting needs of businesses. After the quality of the existing taxonomy is examined, the SBR Board can then consider whether industry specific taxonomies or extension to taxonomies should be allowed.

DOI: Trialability and Observability

Trialability is an issue for SBR. Some SBR-enabled software such as LodgeIT allows businesses and individuals who have an ASUkey to test SBR submission using the software. However, one needs to be an existing customer and the number of forms allowed to be submitted is limited. Another problem is even if some software is free, businesses often do not know about it. As shown in Appendix 1, there are already more than 20 software products for ATO forms and the list is growing. We believe it is the responsibility of the developers to promote their SBR-enabled software. Perhaps they should let more people in particular accountants try their software. Moreover, the SBR Board may consider providing temporary AUSKeys (session keys) to facilitate software trials.

The U.S. Securities and Exchange Commission (SEC) website (www.sec.gov) allows people to easily access company reports and compare them in different formats. With the black box design of SBR in Australia and limited information on costs, observability is also an issue. It is difficult for anyone to see how an XBRL instance document looks like, how SBR works, or any relative advantages brought by SBR. We would recommend the SBR Board consider providing sample documents in both XBRL and non-XBRL format for the general public's perusal.

TOE Technological Perspective: Perceived Costs

Reducing business compliance costs is the primary objective of SBR. It was estimated the SBR initiative would cost around A$320 million over six years (Brands, 2012b; Madden, 2011). Nevertheless, the cost of SBR to businesses such as development or purchase of SBR-enabled software, quality assurance, training, and software maintenance which might offset the targeted cost savings is hardly mentioned by the Australian government agencies (Alles & Gray, 2012). Cost to other groups of stakeholders, such as software developers, accountants, and financial reports users, also have not been mentioned.

Prior literature provides a good guidance of the potential costs related to XBRL in general (Alles & Gray 2012; Pinsker & Li 2008). For example, Alles & Gray (2012) estimated the various types of costs related to the preparation of XBRL reports over the phasing-in periods in the U.S. In another study, the initial filing of XBRL reports to the SEC required over 120 hours and the estimated cost was between $47,000 and $89,000 (Weirich & Harrast, 2010).

Yet because of the specific design of SBR, costing estimates for U.S. companies are not applicable in the Australian context. One possible explanation for the insignificant correlation between perceived financial cost and SBR adoption in Azam & Taylor (2012) is that Chief Financial Officers had insufficient knowledge about SBR costing to answer the survey questions. Therefore, we believe empirical studies of the costs of SBR in the Australian environment are required to provide businesses

with first-hand information. For example, for those businesses that have adopted SBR, which software product have they adopted and how much did they spend in the first year of adoption? A breakdown of costs would be useful to Australian businesses. Such information would be particularly useful in persuading businesses if the SBR Board decides to keep SBR voluntary for ASIC.

TOE Technological Perspective: Quality

An important question that seems to be overlooked is how much businesses, government agencies and other stakeholders can trust and rely on the SBR-enabled software and ultimately the submitted forms and reports. The quality of forms and reports submitted through SBR depends largely on the quality of software. Prior research in the U.S. repeatedly shows that the tagging process is error-prone and poor quality control reduces the usefulness and acceptance of XBRL financial reports (Boritz & No, 2008). It is easy for software developers to use tags incorrectly because of the large number of tags in a taxonomy (Weirich & Harrast, 2010). Other errors include tagging a figure with negative instead of positive value (Bartley et al., 2010; Debreceny et al., 2010). Research has also shown that some XBRL software products provide better data checking than the others (Debreceny et al., 2010). Yet in Australia, SBR-enabled software products are allowed to be self-certified and the issue of quality assurance is hardly mentioned by SBR promoters. The fact that software developers re-issue the same version of SBR-enabled software proves that quality of SBR-enabled software is not guaranteed (SBR, 2013). But how should SBR-enabled software be tested by businesses? Perhaps validation software like that described in Bortiz & No (2008) need to be considered. Future research that examines the quality of SBR-enabled software would be useful to businesses.

Currently APRA is the only agency that specifies the audit requirements of different SBR forms. All other agencies seem to have a trusting attitude toward SBR-enabled software and SBR-enabled forms and have not set specific requirements. Such a lax attitude of the participating agencies in Australia is surprising given the U.S. experience. Under the SEC mandatory filing program, 25 percent of approximately 400 companies had errors in their furnished XBRL reports (Debreceny et al., 2010) and the quality of XBRL reports do not necessarily improve over time (Boritz & No, 2008). Such results suggest that mandatory filing or reduced data re-entry does not guarantee data accuracy. Hence, measures should be taken to assure that lodged SBR forms are accurate.

The SBR Board and Australian businesses might find validation frameworks proposed by researchers useful (Boritz & No, 2011; Srivastava & Kogan, 2010). Moreover, enforcing accountability could help tackling the quality assurance problem. For example, who should be responsible for the quality of financial reports generated from the SBR-enabled software and lodged with the ASIC? Moreover, should businesses be given a grace period to comply with the quality assurance requirements? Of course, the level of assurance required or expected from financial reports depends on whether SBR supplements or replaces traditional reporting channels or formats (Plumlee & Plumlee, 2008). If ASIC requires business to submit XBRL forms in addition to PDF or paper forms, it needs to state clearly whether Chief Executive Officers (CEOs) will be asked to certify the XBRL documents.

The level of responsibility of auditors is another vital issue surrounding quality (Richards & Tower, 2004). In the U.S., the Auditing Standards Board specifies the requirements for auditing XBRL documents (Farewell & Pinsker, 2005). Currently ASIC forms submitted via SBR are not required to be audited and external auditors have no responsibility for the optional XBRL financial reports (Madden, 2011). If auditors have to certify the accuracy of XBRL reports, the key issue is not just what constitutes an error, but what constitutes a material error that would warrant auditors to flag the reports and how sampling should be done (Plumlee & Plumlee, 2008). Given the importance of data quality of XBRL forms, the SBR Board should clarify the expected requirements on CEOs, auditors, and any other related parties. Researchers may want to explore the quality issue surrounding SBR.

TOE Organizational Perspective: Financial resources

The availability of financial resources to invest in a new technology is a prerequisite for its success. Hence, large businesses are more likely to have the ability to adopt SBR. When the U.S. SEC began its phase-in approach of mandatory XBRL reporting, it started from the largest listed companies. It is important to remember that SBR in Australia was originally developed to target businesses that already use electronic channels. Hence, we believe it would be unreasonable to mandate all businesses to use SBR.

TOE Organizational Perspective: Expertise

Another factor that affects SBR adoption is the availability of experts that understand XBRL and SBR. With the successful development of taxonomies, Australia does not seem to have an expertise problem similar to that of New Zealand (Cordery et al., 2011). Similarly, the continual development of SBR-enabled software products suggests that there is no lack of SBR expertise in software developers. Nonetheless, experts are required to help businesses ensure a smooth transition to the use of SBR.

The International Education Practice Statement (IEPS) *2 Information Technology for Professional Accountants* describes the general IT and IT control knowledge and competencies that professional accountants are expected to have to fulfil their roles of manager, evaluator, or designer (IAESB, 2007). Although XBRL is included in the IEPS2, research has shown that accountants often are ill-trained or even completely ignorant of the new technology and only few universities offer relevant courses or cover the topic in their curriculum (Fang, 2011; Pinsker, 2003). More effort is definitely required to promote the awareness of SBR and provide appropriate training to bookkeepers, accountants and managers. An increased coverage of XBRL and SBR in the accounting curriculum is necessary. Existing accounting information systems textbooks have a limited coverage of XBRL and even less on SBR. We would suggest Australian educators to fill this gap and write books on SBR. In the meantime, the basic information of SBR provided in this paper can be used temporarily by relevant courses.

TOE Organizational Perspective: Top Management Support

Azam and Taylor (2012) found that top management support is important for SBR adoption in Australia. Top management is unlikely to support SBR unless they have at least some knowledge of it. Yet recent studies show that CEOs lack knowledge of SBR (AIG, 2011; Productivity Commission, 2012b). Government agencies could consider sending out easy to understand information flyers with the basic information about the new approach of report submission to businesses. We believe our description of SBR components would be useful to the government agencies.

TOE Environmental Perspective: External Pressure

The SBR Board has failed to encourage businesses to adopt the reporting system voluntarily. In view of the 'wait-and-see' attitude of Australian businesses (Troshani & Rao, 2007 p. 107), the government is shifting gradually toward a mandatory approach. The Association of Superannuation Funds Australia (ASFA) began mandatory SBR since July 2013. Superannuation funds are required to adopt the SuperStream data and payment standards that are based on SBR (Parkinson, 2012). The ASFA mandatory SBR reporting will be extended to large and medium-sized companies in 2014 (Parkinson, 2012). ATO also has decided to transit from its Electronic Lodgment Service (ELS) to SBR completely in 2015.

What has not been decided is the submission requirement to ASIC. The current submission to ASIC requires a PDF format report or a hard copy, and XBRL format is optional. In November 2012 a consultative paper was issued to gather feedback on the use of SBR for financial reports lodged with ASIC (Australian Government, 2012).

Our response to the consultative paper is that iXBRL is a better choice than XBRL because iXBRL facilitates users of the ASIC forms. But more information and education on iXBRL to various groups of stakeholders is required. In view of the U.S. experience and the limited availability of SBR-enabled software products for ASIC (currently only two), we recommend a transition period of at least five years. However, we would suggest the SBR Board win businesses over by demonstrating the costs and benefits in a clearer and more demonstrable way instead of focusing on mandating businesses to lodge reports to ASIC using SBR.

TOE Environmental Perspective: External Support

Because of a lack of knowledge of SBR, businesses need external support to help them participate in the program. Yet currently the support provided by the government is inadequate. The first place businesses would go to obtain relevant information is probably the SBR official website (www.sbr.gov.au) or websites of participating government agencies. Our review of those websites shows that the information for businesses is scattered, limited, inconsistent and sometimes outdated (e.g., information on SBR-enabled software). Moreover, information on the SBR official website is mainly for software developers. For example, it provides an implementation checklist and a step-by-step explanation on what software developers need to do to create products that support SBR (SBR, 2012a). Yet when business users click on 'How to get SBR', all they see is a list of participating agencies and a list of SBR-enabled software. If the SBR Board wants to encourage the adoption of SBR by businesses, it needs to improve the SBR website and provide more concrete information such as a better description of the components of SBR. Currently the website provides video case studies that describe the potential benefits of SBR. Addition of information such as cost saved and cost incurred would be useful.

Several conferences on SBR have been held in Australia in the last few years. An example is the SBR/XBRL International Conference held in Brisbane in November, 2007. However, the attendance of such conferences was limited. A more effective way to introduce the SBR program to the general public especially the accounting professions is free or low-cost training classes held by regulatory or professional accounting organizations or webinars run by software developers (Brands 2012a; Weirich & Harrast, 2010). Currently, such training is limited in Australia. We recommend the SBR Board co-operate with the professional accounting associations or universities to organize low or no cost workshops on a regular basis. Such co-operation should lead to better training and hence benefit Australian businesses.

Another way to support businesses is through publications. Except for government publications that promote SBR (Madden, 2010a; 2010b; 2011; Miller, 2013), to date there are limited publications that are relevant to Australia's SBR (Azam & Taylor, 2012; 2013; Troshani & Rao, 2007). Publications aim at educating the accounting professionals are available (Farewell, 2006; Gomaa et al., 2011; Mahoney & White, 2007; Phillips et al., 2008). For example, Gomaa et al. (2011) teach students how to extract XBRL reports from U.S. SEC website and compare companies using financial ratio analysis. Unfortunately, these publications focus on U.S. SEC filing and are inapplicable to the Australian context. More Australian specific publications are required to help stakeholders understand the program.

Another source of support for businesses is non-governmental organizations that promote XBRL such as XBRL International. Being a branch under XBRL International, XBRL Australia has played a minor role in promoting the adoption of XBRL in Australia since the initiation of the SBR program in 2010. Currently information on its website, www.xbrl.org/au, seems to be outdated (e.g., on taxonomy development), and there are broken links on the website. To help promote SBR, education material on this website should not be restricted to its members but be made available to the general public.

TOE Environmental Perspective: Software Developers

Software developers is another important group of stakeholder whose role is often neglected in the promotion of SBR. With the exception of APRA, which allows businesses to download a software tool, Direct2APRA (D2A), from APRA website to enter data directly and submit forms, a key obstacle to the take-up of SBR is the limited availability of SBR-enabled software, particularly for large businesses (Miller, 2013). It is a catch-22 situation (Doolin & Troshani, 2007; Productivity Commission, 2012a). Because of limited resources, software developers are likely to be unwilling to invest in SBR-enabled software unless a critical mass of users exists. Yet businesses would not be interested in SBR unless a critical mass of relevant software is available. According to the SBR website, ATO forms appear to be well supported by popular accounting packages such as MYOB and QuickBooks. However, software developers of large and complicated accounting systems do not seem to have participated. This is unsurprising as developing SBR-enabled software for large organizations is particularly costly because of the complexity involved.

Currently two SBR-enabled software products are available for lodging ASIC reports. Moreover, even though ASIC has six forms ready for SBR, only four forms are supported by software products. Businesses are unlikely to be interested in adopting SBR if only several forms can be submitted as the time saved is little. The number of software developers that provide SBR-enabled software for ATO has risen sharply in the last several years. However, about half support only one or two forms (Appendix 1). We believe that it is pointless mandating SBR unless more forms are supported by existing software. Even though several software products do support many SBR forms, how likely would businesses be willing to switch from their current accounting system to another one for the sake of SBR?

CONCLUSION AND RECOMMENDATION

SBR is an Australian government initiative aimed at enhancing business productivity by reducing compliance costs. As outlined in the paper, general awareness or knowledge of the program is limited and the adoption rate by business is far below government's expectations. To date, the savings for government and Australian businesses have been far below the projected $800 million savings.

In this study, we fill a gap in the literature by providing a comprehensive description of the different components of SBR and also provide a clear overview of how the components work together. In addition, based on the DOI model and the TOE framework, we conducted an in-depth meta-analysis of the factors influencing SBR adoption.

Results show that in the context of SBR, the most relevant factor in the DOI model is relative advantage. The current focus of the potential benefits of SBR is on cost savings. Yet the cost savings were estimated from an official business case and appeared to be minimal. The potential costs to non-government stakeholders such as businesses are hardly mentioned. We argue that the promotion of cost savings should focus on the individual business and not on the total savings. In addition, we also suggest that other potential benefits of SBR should be emphasized. Instead of rushing to extending the program to more agencies, it would be better to increase SBR-forms from those agencies already involved. Compatibility does not appear to be a problem to businesses because the responsibility is shifted to software developers. Currently, Australia has adopted a closed XBRL reporting approach with no industry specific taxonomy or taxonomy extension. The restriction simplifies the adoption process and reduces the complexity of SBR. However, the restriction disallows company or industry specific information to be captured in XBRL, which may ultimately influence the quality and usability of the reports. Trialability and observability are also key issues for SBR. With the black box design of SBR in Australia, we believe it is the responsibility of the developers to promote SBR-enabled software. We

also suggest that the SBR Board promote trialability by providing temporary AUSKeys to facilitate software trials.

In the context of the technological perspective in the TOE framework, perceived costs is an obstacle to SBR adoption as insufficient information is available to businesses. The quality of SBR reports has hardly been mentioned or discussed in the development process but it is an important factor for the long term success of the SBR. The most salient issue in the organizational perspective is the lack of awareness and expertise on SBR and XBRL among business managers and accountants. In the environmental perspective, the SBR Board seeks to extend the initiative to more government agencies. Moreover, ASIC is considering making SBR compulsory. Currently, external support to help businesses appears to be insufficient.

Based on the above meta-analysis, we propose the following six specific recommendations to the SBR Board for consideration:

1. **Promotion**: Use a real case of an Australian business with actual cost saving figures to promote the program. Promote benefits of SBR other than cost savings: improving corporate governance, meeting the information needs of stakeholders such as investors, enhancing audit trails, and so on.
2. **Taxonomy**: Examine how closely the Australian taxonomy meets the reporting needs of businesses before making any changes to the current one-size-fits-all approach.
3. **Quality**: Develop better measures to validate the quality of SBR software and reports. Clarify accountability in the case of misleading reports.
4. **Expertise**: Communicate with educators to enhance the training of XBRL and SBR in universities. Co-operate with professional accounting bodies and universities to organize low or no cost workshops on SBR. Provide temporary AUSkeys to facilitate trial of SBR-enabled software.
5. **Development**: Focus on working with agencies already involved in the project and identify forms that could lead to maximum cost savings instead of rushing to extending the program to more agencies. Regarding future submissions to ASIC, allow businesses continue to submit PDF or paper forms or submit iXBRL forms instead. Adopt a phase-in admission process like the one in the U.S.
6. **Support**: Improve the government websites to provide more useful information to businesses. Provide sample documents in both XBRL and non-XBRL formats for the general public's perusal. Develop additional measures such as information flyers to help businesses understand SBR.

This research provides a comprehensive analysis of SBR adoption from different perspectives but the analysis is based on secondary data. Future studies could gather first-hand data from business managers and accountants on issues such as how closely the current Australian taxonomy meets the reporting needs of businesses. Empirical data on data quality or the costs of SBR adoption in the Australian environment would also be useful.

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GLOSSARY

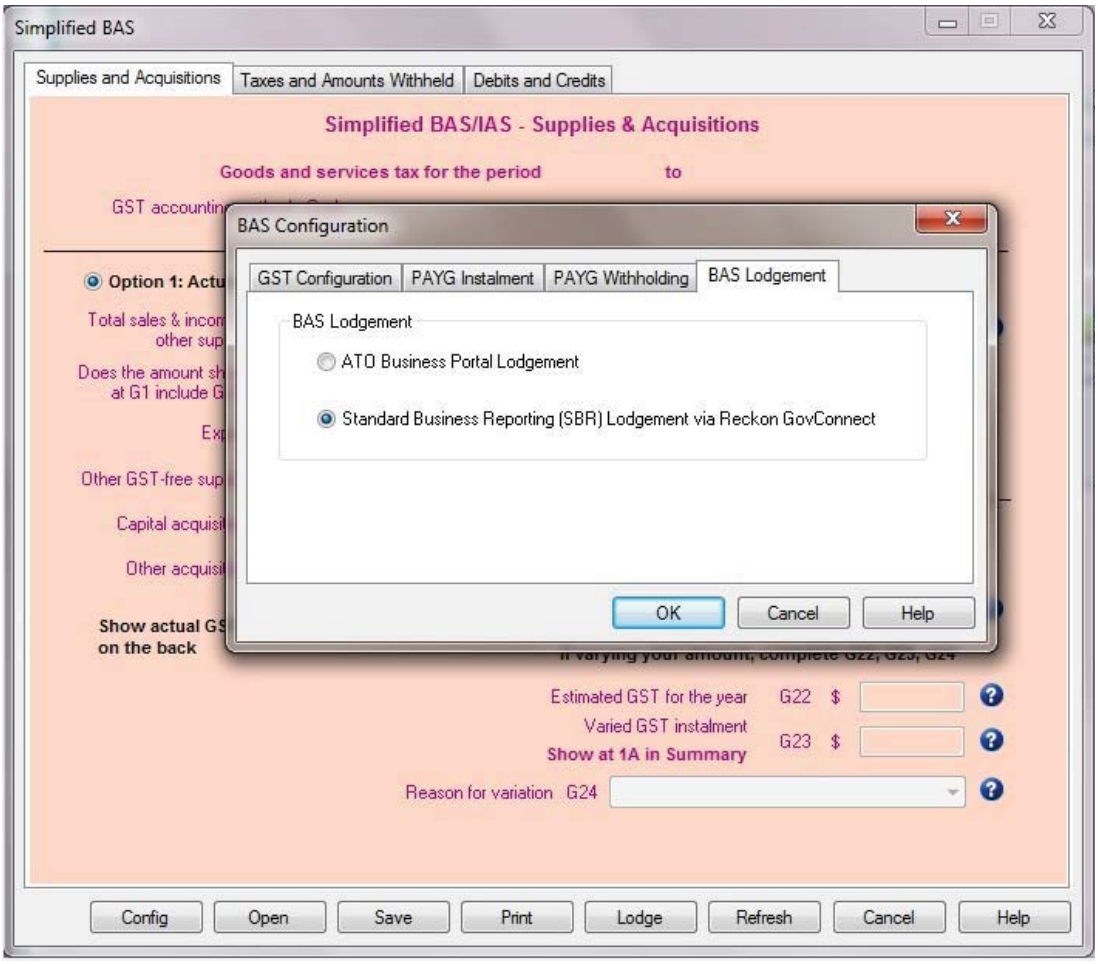
AASB:	Australian Accounting Standards Board
ABN:	Australian Business Number
ABR:	Australian Business Register
ABS:	Australian Bureau of Statistics
ACNC:	Australian Charities and Not-for-Profits Commission
ACRA:	Accounting and Corporate Regulatory Authority
APRA:	Australian Prudential Regulation Authority
ASB:	Auditing Standards Board
ASFA:	Association of Superannuation Funds Australia
ASIC:	Australian Securities and Investments Commission
ASX:	Australian Securities Exchange
ATO:	Australian Taxation Office
BAS:	Business Activity Statement
B2B:	Business-to-Business
B2G:	Business-to-Government
CEO:	Chief Executive Officer
CLERP:	Corporate Law Economic Reform Program
COAG:	Council of Australian Governments
DOI:	Diffusion of Innovation
D2A:	DirectToAPRA
ELS:	Electronic Lodgment Service
FBT:	Fringe Benefit Tax
HMRC:	Her Majesty Revenue & Customers
HTML:	Hypertext Markup Language
IAM:	Interactive Accounts Manager
ICAA:	Institute of Chartered Accountants in Australia
IEPS:	International Education Practice Statement
IFRS:	International Financial Reporting Standards
IMG:	Impact Management Group
ITSA:	Insolvency and Trustee Service Australia
iXBRL:	Inline-XBRL

PAYG:	Pay As You Go
PET:	Plain English Taxonomy
SBR:	Standard Business Reporting
SEC:	Securities and Exchange Commission
SOX:	Sarbanes-Oxley Act
SROs:	State and Territory Revenue Offices
TFN:	Tax File Number
TAM:	Technology Acceptance Model
TOE Framework:	Technology,Organization, and Environment Framework
TPB:	Theory of Planned Behavior
UTAUT:	Unified Theory of Acceptance and Use of Technology
UTC:	United Technologies Corporation
WYSIWYG:	What You See Is What You Get
XBRL:	eXtensible Business Reporting Language
XML:	eXtensible Markup Language

APPENDIX 1: SBR-ENABLED SOFTWARE FOR ATO (SBR, 2013)

Software Product	Certified Since	Software Provider	No. of Forms @ 24/6/2013
Interactive Accounts Manager (IAM)	13/05/2010	Impact Management Group	7
GovDirect	25/05/2010	GovDirect (Deloitte Digital & Business Driven Systems)	7
Technology One Financials	05/08/2010	TechnologyOne	1
Technology One HR and Payroll	05/08/2010	TechnologyOne	3
Nominal Accounting	13/08/2010	Nominal Small Business Accounting Software	3
Reckon GovConnect	13/09/2010	Reckon Limited	6
ONESOURCE e-filer	18/09/2010	Thomson Reuters (Professional) Australia	7
Lodge IT	20/09/2010	Lodge IT	25
Craftsman	06/10/2010	OCS Software	2
Biz Administrator	16/04/2011	Rapid Business Systems	2
GovReports	28/04/2011	Impact Management Group	26
Free Accounting Software	30/05/2011	Free Accounting	11
GlobalBake	01/12/2011	GlobalBake	3
Class Super	21/12/2011	Super IP	1
Etax SBR Forms	05/03/2012	Etax Accountants	2
Cashflow Manager	08/03/2012	Cashflow Manager	8
superMate	16/04/2012	Supersorp Technology	1
SBR Assistant	26/03/2013	Software Assistant	8
Muli Project Risk, Accounts & Process Management	10/04/2013	Muli Management	1
FBT Return Form Preparer	23/04/2013	National Tax and Accountants' Association	1
Xero Business	11/06/2013	Xero Australia	1
Bluedoor SuperStream	14/06/2013	DST Bluedoor	1
MercerTransaction	18/06/2013	Mercer Outsourcing (Australia)	1
My Super Solution	18/06/2013	Administration Partners	1
SmartStream	03/06/2013	Synchronised Software	1
Tranzact Super Systems (TSS)	20/06/2013	Tranzact Financial Services	1

APPENDIX 2: LODGMENT WITH AUSTRALIAN TAXATION OFFICE USING SBR



APPENDIX 3: SBR MILESTONES

Year	Australia	Overseas
2002	APRA became the first Australian entity to adopt XBRL reporting	
2003		
2004		Netherland SBR began
2005		U.S. SEC voluntary reporting began
2006	Australian Regulation Taskforce Report recommended SBR	U.K. decided to make iXBRL tax reporting mandatory
2007	Australia SBR development began by the Treasury (Aug.)	Mandatory reporting to ACRA in Singapore began
2008	COAG endorsed and supported SBR (Jul.)	
2009		U.S. SEC mandatory reporting phase 1 began (Jun.)
2010	Australia SBR became available (Jul.) AUSkey became available (Jul.)	U.S. SEC mandatory reporting phase 2 began (Jun.)
2011	SBR is extended to APRA SBR Taxonomy XBRL 2.1 was released (Jul.)	U.K. iXBRL mandatory tax reporting began (Apr.) U.S. SEC mandatory reporting phase 3 began (Jun.)
2012	Evaluation of SBR in Productivity Commission Research Report (Apr.) SBR IFRS AU Taxonomy was released (Jul.) Consultative paper: use of SBR for financial reports was released (Nov.)	Mandatory tax filing began in the Netherlands IFRS Taxonomy 2012 and XBRL taxonomy for sustainability reporting were released (Mar.) XBRL climate change reporting taxonomy was released (Nov.)
2013	Consultative paper – call for comments closed (Mar.) Mandatory SBR reporting to ASFA began (Jul.) AUSkey is available to ACNC (Jul.)	
2014	SBR is extended to ACNC. ASFA Mandatory SBR reporting is extended to large and medium-sized companies (Jul.)	Mandatory filing of financial statements begins in the Netherlands
2015	ATO aims to switch from ELS to SBR (Jul.)	