

# The market for sustainability assurance services: A comprehensive review of the literature and future avenues for research

Muhammad Bilal Farooq (corresponding author)  
Auckland University of Technology, Auckland, New Zealand  
muhammad.farooq@aut.ac.nz

Charl de Villiers  
The University of Auckland, Auckland, New Zealand, and  
University of Pretoria, Pretoria, South Africa

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## Abstract

**Purpose:** This paper focuses on the market for sustainability assurance (SA) services. The objectives of this paper are to (1) review academic efforts in the field, highlighting ground covered, (2) provide a comprehensive understanding of the market for this new form of assurance and (3) identify potential avenues for future research.

**Methodology:** These objectives were met through a review of 50 academic journal articles identified as relevant to the SA field.

**Findings:** SA is a voluntary exercise in most jurisdictions and engagements are structured to meet the needs (demands) of the market and the capabilities (supply) of assurance providers. This has given rise to a diverse landscape with engagements of differing scopes and objectives. From a demand-side, the literature reveals a number of drivers (both at a macro and micro-level) and inhibitors for SA services. From a supply-side, the literature sheds light on the assurance providers operating in the market and the standards they use when undertaking SA services. These practitioners include accountants (the big four) who use ISAE3000 and non-accountants who prefer AA1000AS. The review reveals five broad areas which have been the focus of existing studies. Finally, the study identifies seven avenues for future research in the SA field.

**Originality/value:** The findings of this paper will prove valuable to practitioners as it will assist them in understanding this new form of assurance. Researchers will benefit from an understanding on ground covered and future avenues for research.

## Acronyms

SA	Sustainability assurance
SAP	Sustainability assurance providers
ASAP	Accounting sustainability assurance providers
NASAP	Non-accounting sustainability assurance providers

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## 1 Introduction

Recent years have witnessed a global increase in demand for sustainability assurance i.e. SA services (KPMG, 2013). The main objective of SA is to improve sustainability report credibility. However, SA, unlike a financial statements audit, is unregulated in most jurisdictions<sup>1</sup>. As a result, there is a lack of consensus on how SA engagements should be undertaken (Manetti and Becatti, 2009; O'Dwyer and Owen, 2005). Instead the scope and objective of engagements is determined by the market forces of demand and supply (Simnett et al., 2009). This has given rise to a diverse and dynamic landscape (Manetti and Toccafondi, 2012) and one which continues to evolve (Kolk and Perego, 2010).

A growing body of literature has examined SA from different perspectives. However, as is the nature of empirical research, most of these papers have focused on a particular aspect of the SA market. There is a need to bring together this scattered research into a single comprehensive study which provides a comprehensive overview of this new form of assurance. Thus the objectives of this paper are to (1) review academic efforts in the field, highlighting ground covered, (2) provide a comprehensive understanding of the market for this new form of assurance and (3) identify potential avenues for future research.

These three research objectives are addressed through a review of 50 relevant academic journal articles identified using Google Scholar. Key words were entered into this search engine to identify relevant articles. These key words were used in different combinations and include social, environmental, responsibility, GRI, TBL, disclosure, report, audit, assurance, verification, and attestation. Subsequently, the abstracts of articles generated by the search engine were read in order to assess the relevance of the article. Studies which explored both sustainability reporting and SA were included in the review. Through this process 50 articles from both accounting and non-accounting refereed journals were selected (Appendix 1). The citation level

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<sup>1</sup> The increase in sustainability reporting in some jurisdictions is attributed to institutional pressures specifically coercive i.e. government rules and regulations (Kolk and Perego, 2010). For example, the Japanese and French governments have introduced rules and regulations on social and environmental reporting that have encouraged many organisations to undertake sustainability reporting. This may also encourage the adoption of SA. For example, the "Grenelle 2 Law" in France requires encourages organisations to undertake sustainability reporting and to secure assurance third-party assurance over their sustainability reports (Gillet-Monjarret, 2015).

of each article, according to Google Scholar, was noted. This allows an evaluation of the usefulness of academic work. While this is an imperfect measure it is really the only one we have. This evaluation revealed that only eight of the 50 refereed articles had been cited fewer than 10 times. However, six out of these eight articles were published in either 2015 or 2014 and were therefore retained to ensure that there was no bias against recently published work. The remaining two articles, while older publications, offered useful insights, one paper offering theoretical insights and the other examined SA in Portugal. A total of 18 papers out of 50 received more than 100 citations (Appendix 1). The highest cited paper was by Cooper and Owen (2007) with 452 citations and published in *Accounting, Organizations and Society*. Citation levels received by papers in non-accounting journals have also been strong. One such example is Dando and Swift (2003) which was published in the *Journal of Business Ethics* and has received 233 citations.

The selected articles were then read to understand their research objectives, theoretical perspectives (if any), research method and findings. This information was recorded and organised in the form of an annotated bibliography. A table (Appendix 1) further summarising the key information in each article was also prepared. The annotated bibliography and the summary table were then used to address the three research objectives.

A review of the selected 50 articles reveals that they were published in 28 academic journals from 1998 to 2015. These journals comprise of 18 accounting journals and 10 non-accounting (i.e. management, sustainability, and business ethics) journals. The accounting journals were responsible for publishing 30 of the 50 articles (60%) while management, sustainability, and business ethics journals published 20 of the 50 articles (40%). The *Journal of Business Ethics* published the most articles with six publications, closely followed by *Auditing: A Journal of Theory and Practice* with five articles (Appendix 2). These figures indicate that accounting researchers working in this space can find outlets for their work in non-accounting journals.

The findings of this paper will prove valuable to practitioners and researchers alike. Practitioners, including SA providers (SAPs) and sustainability reporting managers (SRMs), will benefit from the comprehensive review of the demand and supply-side

characteristics of the SA market. Researchers will benefit from the summary review of ground covered and the guidance on avenues for future research.

The remainder of this paper is structured into four sections. Section two, provides a summary of five broad areas of focus within the literature (i.e. research objective one). Section three synthesises the literature and provides a comprehensive overview of the demand and supply side of the SA market (i.e. research objectives two). Section four identifies avenues for future research (i.e. research objective three). Finally, section five closes the paper with a discussion and conclusion of the key issues covered.

## **2 Summary of ground covered**

The review of the 50 articles identified five broad areas of research in the SA literature. First, a number of researchers have undertaken a macro level examination of the SA field by analysing published SA statements and providing a statistical break-up of the market based on SAP type, standards used, and the level of assurance provided (Ackers, 2009; Junior et al., 2014; Mock et al., 2013). These include single country and comparative multi-country studies which examine the scope and objective of SA engagements and thus shed light on both the demand for and supply of SA services.

Second, studies have attempted to identify macro (country level) and micro (organisational level) factors driving the demand for SA services (Gillet-Monjarret, 2015; Herda et al., 2014; Perego and Kolk, 2012; Sierra et al., 2013; Simnett et al., 2009; Zorio et al., 2013). Within this group, researchers have also commented on some of inhibitors for the demand for SA (Jones and Solomon, 2010; Park and Brorson, 2005).

Third, researchers have sought to evaluate SA statements against the requirements of standards in an attempt to critique practice including comparing SA statements issued by accountants (ASAPs) against those issued by non-accounting sustainability assurance practitioners (i.e. NASAPs) to identify similarities and differences between these two assurance providers (Ball et al., 2000; Deegan et al.,

2006a, 2006b; Gray, 2000; Manetti and Becatti, 2009; O'Dwyer and Owen, 2005, 2007).

Fourth, researchers have reviewed the role played by SA in enhancing stakeholders perceived credibility of sustainability reports i.e. the demand-side of the SA market (Cheng et al., 2015; Coram et al., 2009; Hodge et al., 2009; Romero et al., 2014; Wong and Millington, 2014). Within this groups an alternative approach has been to compare the quality of assured disclosures against non-assured disclosures, with quality measured against some index based on the requirements of standards (Moroney et al., 2012).

Finally, the strategies adopted by practitioners, the challenges faced, and the potential role of the accounting profession in this new assurance market has been explored. Studies in this group include Elliott (1998), Gray (2000) and Wallage (2000) who provide personal insights into field and the role of the accounting profession in delivering SA services. These studies shed light on the supply-side of the SA market. Others such as O'Dwyer (2011) and O'Dwyer et al. (2011) have relied on semi-structured interviews to explore strategies undertaken by practitioners in developing this new assurance market. These studies provide the perspectives of suppliers (i.e. the supply-side of the market) but also provide some insights into the demand-side characteristics of the SA market.

The literature within these five broad areas is synthesized to provide a discussion of the demand (i.e. drivers and inhibitors of SA) and supply-side (i.e. practitioners and standards) characteristics of the SA market.

### **3 The market for SA services**

The International Audit and Assurance Standards Board (IAASB)<sup>2</sup> defines assurance as “an engagement in which a practitioner aims to obtain sufficient appropriate evidence in order to express a conclusion designed to enhance the degree of confidence of the intended users other than the responsible party about the subject matter information” (IAASB, 2013, p.7). SA can then be defined as an engagement in which an external SA provider (SAP) undertakes assurance over a sustainability

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<sup>2</sup> The IAASB is a sub body of the International Federation of Accountants or IFAC (IFAC, 2016).

report<sup>3</sup>. A review of the literature reveals that the demand for voluntary SA is influenced by a number of drivers (internal and external) and inhibitors.

### **3.1 Demand side of SA**

The following discussion examines factors driving the demand for SA:

#### **3.1.1 External drivers of SA**

The impact of SA on stakeholder's perceptions of sustainability report credibility has been investigated (Cheng et al., 2015; Coram et al., 2009; Hodge et al., 2009; Romero et al., 2014; Wong and Millington, 2014). For example, Hodge et al. (2009) circulated a survey amongst 145 students enrolled in an MBA program (serving as a proxy for non-professional investors) based in two Australian universities. They found that SA statements had a strong positive impact on user's level of perceived credibility of sustainability reports. A similar experimental design using graduate students (as proxies for financial investors) was adopted by Cheng et al. (2015). They note that if sustainability information is relevant (aligned with the reporting organisations strategy) then it is perceived as important and considered in investment decisions. In such cases SA over this information is also valued and will positively impact investor's decisions to invest. Thus the value of SA depends on the nature of information being assured.

The influence of organisational size and industry membership has also been explored. The increase in demand for SA has been driven largely by demand from the larger listed organisations (KPMG, 2013, 2011; Sierra et al., 2013; Simnett et al., 2009; Zorio et al., 2013). For example, the demand for SA amongst the world's largest 250 companies, which published a sustainability report, rose from 40% in 2008 to 59% in 2013 (KPMG, 2013, 2011). In comparison the demand for SA amongst the top 100 companies from 41 countries declined slightly from 39% to 38% during the same period (KPMG, 2013, 2011).

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<sup>3</sup> Sustainability reporting involves disclosure of information on the economic, social and environmental impact of an organisations operations (Global Reporting Initiative, 2015). This form of voluntary disclosure has gained considerable traction amongst organisations across the world (Spence, 2007) and numerous studies have documented the global rise in sustainability reporting (KPMG, 2013). The increasing trend in sustainability reporting has been followed by a gradual increase in organisations seeking voluntarily third-party assurance over their sustainability reports (Junior et al., 2014).

In terms of industry membership, studies find that organisations operating in environmentally sensitive industries are more likely to secure SA. For example, Zorio et al. (2013) evaluated the sustainability reporting and SA practices of Spanish listed and non-listed companies over a six-year period from 2005 to 2010. Controlling for size, profitability and leverage they observe that gaining a listing status and industry membership play a significant role in the decision to secure SA. Similarly, in a US study Cho et al. (2014) note that large organisations, organisations that disclose more information within their sustainability report and organisations operating in environmentally sensitive industries or in the finance industry were more likely to secure SA.

Branco and Delgado, (2014) reviewed trends in sustainability reporting and SA in Portugal after the global economic crisis. The study analysed 237 sustainability reports published by 69 Portuguese companies from 2008 to 2011. These companies comprised a mix of listed and non-listed, private and public sector organizations. The study finds that organizations based in utilities, finance, technology and telecommunications are more likely to secure SA. These industries were followed by oil and basic materials which showed a weaker tendency to engage in SA. However, it must be noted that, amongst the Fortune 250 at least, SA has spread from environmentally sensitive industries (e.g. oil and gas) to industries (e.g. banking and finance and retail) which are perceived to be environmentally less-sensitive (Perego and Kolk, 2012). Thus the influence of industry membership on demands for SA amongst larger global organisations is decreasing.

A study by Gillet-Monjarret, (2015) examined the role played by media pressure in encouraging organisations to demand SA. Gillet-Monjarret, (2015) analysed French listed compared SA demands over a four-year period from 2007 to 2010 and compared these against newspaper articles providing positive, negative and neutral media coverage of organisations. The study finds that higher levels of negative media exposure positively influence the demand for SA. Organisations attempt to provide credible sustainability reports (through SA) in response to heightened media pressure. Furthermore, larger organisations faced greater media pressure and were thus more likely to secure SA more than smaller reporters.

Survey results show that SA rates are highest amongst European and Japanese companies while the lowest rate of adoption was amongst US companies (Kolk and Perego, 2010; Perego and Kolk, 2012). This was attributed to the litigious culture prevalent in the US which emphasizes compliance with legislation and in which the adoption of voluntary practices such as SA (and sustainability reporting) has been limited (Kolk and Perego, 2010).

Finally, the role of country of origin in influencing the demand for SA has also been investigated with mixed results. Some researchers argue that organisations based in stakeholder orientated countries (Simnett et al., 2009) and with weaker legal environments are more likely to secure SA as this adds to the credibility and reliability of sustainability reports (Kolk and Perego, 2010; Perego and Kolk, 2012; Perego, 2009). Similar results were noted by Herda et al. (2014) who examined investor demands for SA. They analysed 599 assured sustainability reports published by 618 globally dispersed companies over a five-year period from 2005 to 2009. They conclude that find that organisations based in weaker shareholder protection countries were more likely to secure SA. These investors appeared more willing to incur the costs of SA in order to secure credible sustainability reports. Thus SA acts as a substitute to the weaker investor protection environment. These findings contradict those of Simnett et al., (2009) who found that reporters based in stronger legal environments were more likely to secure SA. The Simnett et al., (2009) study concludes that SA does not serve as a substitute to good governance mechanism in weak legal environments.

### **3.1.2 Internal drivers of SA**

Internal drivers of SA include financial indicators and the value addition (perceived or real) from the engagement. In terms of financial indicators, the results are mixed. At a country level Sierra et al. (2013) report that there is no conclusive link between profitability and an organisations decision to secure SA (as also noted by Simnett et al., 2009). The study also found that the relationship between leverage and the decision to secure SA was negative. These findings contradict Simnett et al. (2009), who find that financial risk/leverage does not influence the decision to secure SA. Simnett et al. (2009) add that once a company starts publishing a sustainability report they will often continue with the practice.



In terms of value addition from SA, studies note that managers demand SA in order to ensure that their sustainability claims are verifiable (Park and Brorson, 2005). This reduces any potential reputational and/or legal risks from misreporting (Darnall et al., 2009; Sawani et al., 2010). Additionally, managers seek guidance from their SAPs on how to improve the quality of their disclosure (Gillet, 2012). Value addition also comes from SAPs providing guidance to inexperienced managers on how to improve systems and processes supporting sustainability reporting (Gray, 2000; Jones et al., 2014; O'Dwyer et al., 2011). Finally, SAPs potentially improve organisations sustainability performance by aligning the reporters' sustainability policy with material issues (Gillet, 2012) and by encouraging the adoption of sustainability key performance indicators (Park and Brorson, 2005).

### **3.1.3 Factors inhibiting adoption of SA**

While the general perception of organisations towards SA has been positive, the literature identifies a range of potential inhibitors to the demand for SA. First, managers complain that the costs of SA are simply too high (De Moor and De Beelde, 2005; Jones and Solomon, 2010; Park and Brorson, 2005; Sawani et al., 2010). For larger organisations, such as MNCs, the time and cost of SA can be significant. For example, Park and Brorson (2005) report that one SRM in their study commented that their SA fee represented one third of their sustainability reporting budget while another SRM narrated how the fee quoted was ten times their sustainability reporting budget.

Second, some SRMs (not securing SA) believe that securing SA will not add any value (Park and Brorson, 2005). Managers express confidence in their sustainability reporting process and their published sustainability reports. Furthermore, these SRMs were doubtful as to whether SA could enhance the credibility of their sustainability reports.

Third, the onerous nature of SA (Park and Brorson, 2005) and the fact that existing systems and processes were viewed as incapable of supporting the rigors of external assurance have also been noted as potential inhibitors to SA demand (Dillard, 2011; Jones and Solomon, 2010; Sawani et al., 2010). O'Dwyer, (2011) conducted in-depth interviews with SAPs (based in a big 4 accounting firm) based in Europe and found that SAPs needed to advise clients on how to improve their

systems, processes and controls. Using the resource based view of the organisation, Perego and Kolk, (2012) explain that only those reporters that have the resources and capabilities to support SA will demand SA. This could explain why the growth in SA has not kept pace with the growth in sustainability reports. While organisations are rapidly churning out sustainability reports many of these organisations lack the information systems to support rigorous external assurance. For example, only 16% of first time reporters will go for external SA in their first year while 30% of will secure SA only in subsequent years (CorporateRegister.com Limited, 2008).

Fourth, a lack of external regulatory pressure has also been cited as one of the reason for organisations not undertaking SA (Park and Brorson, 2005; Sawani et al., 2010). Corporate governance codes encourage organisations to provide information primarily to shareholders as opposed to encouraging accountability towards a broader range of stakeholder (Deegan et al. 2006a). As long as sustainability reporting is voluntary it is difficult to put in place a robust SA framework. Increased regulation over sustainability reporting will result in increased demand for SA. Owen et al., (2000) argue that without changes in corporate governance mechanisms the ability SA to promote accountability and stakeholder engagement is limited. Instead SA is at risk of capture by managers and consultants to be used as a tool to promote the corporate image (Ball et al. 2000; Smith et al., 2011).

Fifth, De Moor and De Beelde (2005), note that an audit of an environmental report can identify breaches or violations in environmental legislation which can potentially result in penalties and a reputational impact. The risk of liabilities increases further if an organisations management fail to act on the SAPs management report or if the audit reveals several issues requiring immediate action or response.

Finally, SRMs argue that they have recourse to alternative measures to enhancing the credibility of their sustainability reports (Adams and Evans, 2004; Dando and Swift, 2003; Park and Brorson, 2005; Sawani et al., 2010). These include; commissioning the internal audit department to undertake assurance over the sustainability report; undertaking self-certification: acquiring ISO certification, setting up stakeholder panels to comment on the sustainability report, requesting commentary by high profile experts of good public standing, participating in best

practice awards (e.g. ACCA Environmental Reporting Awards) and the use of an external third party SA providers (or SAP). Thus some SRMs argued that their internal audit was sufficient as it was overseen by the audit committee (Jones and Solomon, 2010). Table 1 provides a summary of the factors driving and inhibiting the demand for SA.

**Table 1: Drivers & inhibitors of SA**

<b>Factors driving the demand for SA</b>	<b>Factors inhibiting the demand for SA</b>
<b>External drivers</b>	High cost of SA
External stakeholders demands for credible sustainability reports	SA does not add value
Organisations size, listing status & industry membership (influence of industry membership amongst larger reporters decreasing)	SA too onerous
Media pressure	Lack of external regulatory pressure
Characteristics of country of origin level drivers (mixed results)	SA increases exposure to litigation
<b>Internal drivers</b>	Viable substitutes available
Financial indicators (mixed results)	
Value addition from SA	

### **3.2 Supply side of SA**

This section explores the differences in SA standards and SAP types in the SA market:

#### **3.2.1 SA standards**

A number of international organisations have issued guidelines and standards for SA engagements (Wallage, 2000). As a result, there is a lack of consensus on what constitutes best practice in SA (Dando and Swift, 2003). However, as the market matures there is a move towards greater standardisation and consistency. For example, Mock et al. (2013) analysed a random sample of 148 sustainability reports published during 2006-2007 and compared these against a 2002-2004 sample by (Mock et al. 2007). They observed that the use of international standards had increased from 18% in 2002-2004 to 45% in 2006-2007 while the use of national/local standards 15.4% to 8% during the same period. International standard

setters include IAASB and AccountAbility<sup>4</sup> (Kolk and Perego, 2010; O'Dwyer and Owen, 2005; Perego, 2009). The scope of the standards issued by these organisations differs (Manetti and Toccafondi, 2012). As a result, these standards appear to be more complementary in nature rather than substitutes for one another (O'Dwyer and Owen, 2007).

ISAE3000 (International Standard on Assurance Engagements) is a standard developed by IAASB (Deegan et al., 2006a). The standard identifies two types of assurance engagements: reasonable (offering a higher level of assurance) and limited assurance engagement (Hasan et al., 2003). However, the standard does allow SAPs to provide different levels of assurance for different sections of the sustainability report (Wallage, 2000). The drawback of ISAE3000 is that it is an umbrella standard designed for a range of assurance engagements (IAASB, 2013; Manetti and Becatti, 2009; Smith et al., 2011). ASAPs accept this criticism and agree that the standard largely contains concepts, principles, and procedures used in financial audits (O'Dwyer et al., 2011).

AA1000 Assurance standards (AA1000AS) was developed by AccountAbility a global sustainability consultancy based in London<sup>5</sup> (AccountAbility, 2015). In comparison to ISAE3000, the AA1000AS standard is specifically designed for SA engagements (Manetti and Becatti, 2009; Perego and Kolk, 2012). AA1000AS identifies two types of engagements referred to as Type 1 and Type 2 engagements (AccountAbility, 2008a). In a Type 1 engagement the SAP provides assurance over an organisation's application of the AA1000APS sustainability principles of inclusivity, materiality and responsiveness (AccountAbility, 2008b). The SAP does not however provide assurance over the sustainability report. In a Type 2 engagement the SAP will involve provide assurance over both the reporters application of AccountAbility's sustainability principles as well as the assurance over the sustainability report.

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<sup>4</sup> Although some studies (e.g. Perego, 2009) identify the GRI as a set of SA standards it is important to note that the GRI guidelines are primarily aimed at guiding reporters (Ackers, 2009; Manetti and Becatti, 2009). Thus the GRI guidelines serve as a suitable criterion against which the sustainability report can be compared (Wallage, 2000).

<sup>5</sup> The standard is supported by a number of supplementary standards and guidance documents (AccountAbility, 2008a, 2008b, 2015).

### 3.2.2 *ASAPs versus NASAPs*

The market for SA is open to competition and as a result a range of different providers are found competing for a share of the market. These SAPs have different competencies and use different approaches<sup>6</sup> when understanding SA (CorporateRegister.com Limited, 2008; Deegan et al., 2006a; Wallage, 2000). SAPs comprise of accountants (i.e. ASAPs) and non-accountants SAPs i.e. NASAPs (Edgley et al., 2015; Manetti and Toccafondi, 2012). ASAPs represent the big four accounting firms which entered the market to supplement their primary financial audit work (Ackers, 2009; Wallage, 2000). However, unlike financial audits, there is no regulation protecting the accounting professions monopolistic position (Elliott, 1998) and ASAPs have found themselves competing against a range of different assurance providers (Wallage, 2000). NASAPs on the other hand constitute three main sub-groups of global engineering and certification firms, smaller local sustainability consultancies and other practitioners such as stakeholder panels, NGOs, academic institutions, individual auditors and experts and opinion leaders<sup>7</sup> (CorporateRegister.com Limited, 2008; Perego and Kolk, 2012; Zadek et al., 2004).

The position of ASAPs in the market for SA appears to be strengthening. A KPMG (2013) survey shows that of the Fortune 250 which secured SA, two thirds preferred to select an ASAP. Junior et al. (2014) analysed the sustainability reporting and SA practices of 484 of the Fortune 500 companies in 2010. They found that ASAPs held 56% of the market and were more popular in European countries, Brazil, and Russia. In comparison, NASAPs held 42% of the market in Australia, China, Taiwan, US, and India. Finally, they note that in 2% of the organisations secured assurance from both ASAPs and NASAPs (i.e. mixed approach).

The following discussion explores six areas of distinction between ASAPs and NASAPs explored in the literature. These six areas are summarised in table 2.

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<sup>6</sup> It is estimated that 350 different providers across the world issued an SA statement (CorporateRegister.com Limited, 2008).

<sup>7</sup> Consequently, NASAPs comprise of both large MNCs and smaller local firms operating at a national level (Simnett et al., 2009).

**Table 2: Summary of differences between ASAPs and NASAPs**

<b>Factor</b>	<b>ASAP</b>	<b>NASAP</b>
Expertise and knowledge	ASAPs have expertise in audit and assurance. As financial statements auditors ASAPs have a better understanding of the organisation and its industry	NASAPs have expertise in knowledge of sustainability
Size	ASAPs (especially the big 4) can leverage their size advantage to offer services to larger organisations, offer reduced fees, invest in audit and assurance technologies and maintain quality of assurance services	Some NASAPs (especially global certification firms) also have size advantages similar to the big 4 ASAPs. However, other NASAPs are small entities and find it difficult to compete against larger ASAPs.
Perceived independence of the SAP	ASAPs through their experience with financial audits have a better understanding of independence. The size advantage of ASAPs also means that they are not dependent on any one client. ASAPs are bound by the requirements of professional code of ethics.	Corporate collapses and scandals involving financial auditors e.g. Enron and Arthur Anderson, have dented the image of independence and objectivity associated with accountants. Furthermore, large NASAPs similar to ASAPs are not dependent on a single source of revenue and have in place quality control measures
Stakeholders preference for SAP type	Sustainability reporting managers based in the UK prefer ASAPs as they believe that SA is an extension of a financial audit and thus the domain of accountants.	External stakeholders prefer NASAPs because they value subject matter expertise and because they do not perceive ASAPs being independent.
Impact on quality of disclosure	No difference on the quality of the sustainability report. However, ASAPs more comfortable assuring hard quantitative data.	NASAPs comfortable in providing assurance over soft qualitative data.
Differences in approach	ASAPs adopt ISAE3000 and thus follow the same approach as adopted in financial audits. They adopt a more cautionary approach focusing on verifying the accuracy/reliability of data and information contained within the sustainability report and restricting their assurance opinion to limited assurance.	NASAPs are not bound by any standard however most prefer AA1000AS. They are more willing to innovate and adopt creative assurance methodologies to achieve their objectives. They view SA as a tool that can drive sustainability in organisations and thus promote accountability and improve society. They are more willing to provide assurance over accuracy/reliability and balance/relevance.

### **3.2.2.1 Knowledge and expertise**

SAPs need to have expertise in assurance, knowledge of the reporters' operations, and an understanding of the subject matter i.e. sustainability (Adams and Evans, 2004; Zadek et al., 2004). Accountants are viewed by some as having expertise in audit from their work as financial auditors (Gray, 2000). In terms of knowledge of the reporter, some SRMs commented that they preferred an ASAP as this ASAP was

also their financial auditor and thus would already be familiar with their operations (Gillet, 2012). As a result, frequent SAP rotation is rare and in some cases SAPs have undertaken assurance for more than 5 consecutive years (Park and Brorson, 2005). However, in terms of knowledge of sustainability, it is doubtful that accountants have the same level of understanding of social and environmental issues as say physicists, sociologists, and ethicists (Gray, 2000). This situation leads practitioners and researchers to recommend the use of both accountants and non-accountants in multi-disciplinary teams (Wallage, 2000) as neither group has the skills to undertake SA on their own (Jones and Solomon, 2010). However, in the long run accountants will need to learn new skills and accounting departments in universities will need to review their curriculum to ensure that it keeps pace with changes in the environment (Elliott, 1998). Furthermore, the accounting profession needs to change its image from financial accountants and financial auditors to a broader conceptualisation in which accountants perform a broader role in society.

#### *3.2.2.2 Size advantage of ASAPs*

Not all SAPs have the necessary resources to undertake SA for large organisations (Perego and Kolk, 2012). Furthermore, ASAPs/big four can leverage their size to achieve economies of scale resulting in lower costs and fees (Mock et al., 2013; Simnett et al., 2009). ASAPs also have access to a larger pool of resources which they can invest in developing new audit and assurance technologies (at least theoretically). In comparison, some NASAPs<sup>8</sup> may lack the capabilities to undertake a rigorous SA engagement (Perego and Kolk, 2012). For example, SA, although on a rise in Japan, scores low in terms of quality/points. The SA market in Japan is dominated primarily by NASAPs (specifically those that fall in the sub category of “other NASAPs”).

#### *3.2.2.3 Perceived independence of the SAP*

SAPs must be independent and hold credibility with their stakeholders (Adams and Evans, 2004). Some argue that ASAPs are more capable of maintaining their independence than NASAPs. Three arguments are presented to support this premise. First, ASAPs through their experience with financial audits have a better

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<sup>8</sup> NASAPs comprise of a diverse group and while some NASAPs such as local sustainability consultancies will be comparatively smaller in size while the global certification firms operate on a global scale and drive revenue from multiple sources.

understanding of independence and objectivity than NASAPs (Gray, 2000). Second the size advantage of ASAPs<sup>9</sup> means that they are not dependent on any one client (Perego and Kolk, 2012; Simnett et al., 2009). Third, ASAPs are bound by the requirements of professional code of ethics (Gray, 2000). However, corporate collapses involving financial auditors have dented this image of financial auditor independence and the ASAPs superiority in this area is not unchallenged (Dando and Swift, 2003).

#### ***3.2.2.4 Stakeholders preference for SAP type***

Studies have noted differences in stakeholder's preference towards SAP types. Wong and Millington, (2014) found that external stakeholders (e.g. investors, procurement officers and third-sector organisations) preferred SA statements issued by NASAPs. The study identified two primary reasons for this. First, all three groups of stakeholders gave importance to competence in subject matter over competence in audit practices. Second, while the need for SAPs to appear independent was important, this was something which the accounting profession had lost. In comparison, Jones and Solomon (2010) interviewed SRMs based in the UK and found that these SRMs viewed SA as a logical extension of financial audits and the domain of financial auditors. Furthermore, SRMs believed that having one assurance provider (for both SA engagements and financial audits) would be beneficial in terms of cost and time as it would be easier to co-ordinate (Huggins et al., 2011). Thus SRMs, representing internal stakeholders, preferred to recruit an ASAP as opposed to NASAP. The results of these two studies highlight a clear difference in stakeholder preference in SAP types.

#### ***3.2.2.5 Impact on quality of disclosure***

The study by Moroney et al. (2012) found that while environmental audits had a positive impact on the quality of environmental disclosure, there was no significant difference in the quality of the environmental report when the audit is performed by an ASAP or a NASAP. However, organisations that used a NASAP were observed to engage in more soft disclosure (qualitative) than organisations seeking assurance from ASAPs. This may be due to accountants adopting a more cautionary approach and limiting the scope of the engagement to hard disclosure only. They argue that

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<sup>9</sup> The size advantage of ASAPs over NASAPs only applies when comparing ASAPs against smaller NASAPs.



ASAPs have created an image of independence and objectivity, and may find it more difficult to provide assurance over soft disclosures which are hard to verify. Additionally, the study observes that the quality of environmental disclosure improves over time. Thus consistent reporters provide better quality information.

#### *3.2.2.6 Differences in approach to SA*

Researchers have sought to evaluate the quality of SA engagements based on a comparison of SA statements against the recommendations of SA standards such as the AA1000AS and ISAE3000 (Ball et al., 2000; Belal, 2002; Cooper and Owen, 2007; Deegan et al., 2006a, 2006b; Gray, 2000; Manetti and Becatti, 2009; O'Dwyer and Owen, 2005, 2007; Segui-Mas et al., 2015). These studies provide a critique of practice and also identify differences in ASAPs and NASAPs approach to SA. These studies differ in sample size and the country of origin. These studies find that while ASAPs prefer to use ISAE3000, NASAPs will lean more towards AA1000AS. Using these standards ASAPs focus more on verifying the reliability of the content of sustainability reports. In comparison NASAPs appeared more willing to offer assurance over the entire report. This involved providing assurance over the reliability of content as well as the overall balance of the sustainability report i.e. does the report address issues material to the organisation and its stakeholders. However, the detailed audit procedures applied by ASAPs and NASAPs appear broadly the same. In terms of the quality of SA engagements these studies provide an overall critical review highlighting how published SA statements fall short of the requirements of standards and therefore require considerable improvement (see table 3).

**Table 3: Summary of findings from studies analysing SA statements**

<b>Area</b>	<b>Observation</b>
<b>Addressee</b>	Many SA statements do not identify an addressee. Of those that do most are issued by ASAPs. However, ASAPs are more likely to address their assurance statements to internal stakeholders while NASAPs are more willing to address their assurance statements to the sustainability report readers.
<b>Objectives of SA</b>	There is a lack of uniformity in the stated objectives of SA engagements. The most common objective is to review/verify the accuracy of information contained within the sustainability report. This objective is more popular amongst ASAPs while NASAPs will aim to evaluate the reporter's sustainability performance against the AA1000 principles.
<b>Scope of SA engagements</b>	In some engagements SAPs provide assurance over the entire contents of the sustainability report while in other engagements assurance over only some sections of the sustainability report. NASAPs appear more willing to provide assurance over the entire sustainability report.
<b>Nature, timing and extent of procedures</b>	Description of the work done varied from a brief one paragraph to one page descriptions. The detailed procedures adopted by ASAPs and NASAPs were similar. NASAPs adopt a more consultative approach and are often involved from the start of the sustainability reporting process rather than coming in at the end stages to verify data as is the case with ASAPs.
<b>Materiality assessment</b>	Few engagements aimed to verify materiality (including stakeholder engagement mechanisms) and relevance of information. Instead most engagements focused on verifying the accuracy of data and information contained in the sustainability report. Thus SA follows the approach of traditional financial audits. However, this was more common amongst ASAPs than NASAPs.
<b>SA standard</b>	Some statements made no reference to a SA standard (these are attributed to NASAPs). A number of statements used more than one standard in combination. ASAPs prefer ISAE3000 and thus adopt traditional auditing techniques focusing primarily on verifying the accuracy of data and information. NASAPs however prefer AA1000AS, are more innovative and more willing to review materiality and relevance.
<b>Assurance opinion</b>	NASAPs appear more willing than ASAPs to provide detailed statements addressing accuracy, reliability and completeness of the sustainability report. Overall NASAPs statements offer a more detailed discussion of the level of assurance provided.  In comparison, ASAPs appeared more cautious, focusing on assuring accuracy and reliability and less on performance. This leads O'Dwyer and Owen, (2007) to identify two main categories of SA engagements including those that focused on verifying data and information accuracy and those that had a broader focus aimed at verifying data and information relevance/materiality (and stakeholder engagement).
<b>SAP recommendations</b>	Providing recommendations are common practice and indicates the consultancy nature of SA. NASAPs are more likely to provide recommendations than ASAPs. Recommendations are very broad, generalised and brief. In some cases, these recommendations are of a strategic nature however in most cases they focus on weaknesses were in underlying systems, sustainability report content and sustainability reporting process.

## 4 Avenues for future research

From the literature review, seven avenues for future research have been identified. First, the unregulated nature of SA opens it up to competition between different types of SAPs. While studies have commented on differences in SA approach based on SA statements, little is known of how ASAPs and NASAPs compete against each other in this new market. Efforts in this area require in-depth interviews with assurance providers and managers receiving assurance in order to understand the dynamics of this competition and how it impacts the field of SA. However, SA research has primarily relied on an analysis and review of published SA statements with 26 studies (52%) preferring to use this method (Appendix 3). Other research methods used include experiments (4%), semi-structured interviews (12%), surveys (10%), literature reviews (8%) and personal experience (3%). Some studies have chosen to use a combination of research methods including combining an analysis and review of SA statements with semi-structured interviews (4%), a literature review combined with semi-structured interviews (2%); and finally a combination of survey, semi-structured interviews and a review of SA statements (2%).

Second, there is a need to move beyond understanding “why” organisations demand SA to exploring what (if any) is the impact of SA on sustainability reporters. Researchers should attempt to compare sustainability reports before and after the assurance process (i.e. draft sustainability reports submitted for assurance against final assured sustainability reports). Alternatively, researchers can inquire from SRMs and SAPs to provide examples of how (if at all) a sustainability report post-SA is different from a draft sustainability report pre-SA. These efforts build on earlier work involving a comparison of the quality of assured reports was compared against that of non-assured reports, with quality measured against an index developed using sustainability standards.

Third, there is a need to analyse management reports provided by SAPs to reporters. Management reports contain issues identified and provide broad recommendations on how to address these issues. Researchers should attempt to conduct longitudinal studies examining how the content of such management report changes and comparing this against changes in the published sustainability report of the same year.

Fourth, 36 (72%) out of the 50 articles analysed adopted a descriptive approach i.e. no theoretical framework was used to guide the analysis (Appendix 4). Of the remaining 14 articles, three are theoretical papers i.e. the articles developed a theoretical framework or conceptual model. Thus effectively only eight articles (13%) adopted a theoretical lens to guide the analysis. Theoretical frameworks used include legitimacy theory, stakeholder theory and institutional theory amongst others. For example, O'Dwyer et al., (2011) use legitimacy theory to understand how SAPs attempt to create legitimacy for this new form of assurance. In comparison, Gillet-Monjarret (2015) applies legitimacy theory to explain why French reporters facing media pressure are more likely to secure assurance over their sustainability reports. Belal (2002), uses stakeholder theory to assess to what extent sustainability reports and SA statements are inclusive of stakeholder views and perspectives. Perego and Kolk, (2012) use a combination of institutional theory and the resource based view of the firm to explain diffusion patterns in SA. These studies reveal interesting new insights which add to our understanding of SA. However, given that SA studies are primarily descriptive there is a need for future SA research to not only use a theoretical lens but to also consider alternative theoretical perspectives which can provide new and revealing insights to the field.

Fifth, considerable academic effort has been directed at investigating SA within a western developed country context (Appendix 5). Geographic locations which have been focused on include Europe (especially the UK), North America (particularly the US), Australia and Japan. A total of 30 out of 50 articles (i.e. 60%) focused on these regions. Exceptions include Sawani et al. (2010) who focus on a Malaysian context and Ackers (2009) who focuses on SA within a South African context. However, as SA becomes more globally defused (KPMG, 2013), future research should target SA engagements undertaken in Asia, Africa, South America, and the Middle East comparing practice in these regions against that in developed countries to highlight similarities and differences.

Sixth, there a lack of case study style research focusing on single SA engagements tracked from the point of the SAPs appointment to ultimately the publication of the SA statement. Case study style research will assist in bringing out many of the complexities and challenges SAPs face in the SA process.

Finally, the views and perspectives of senior managers, especially board members remain under-represented in the literature. Surveys and semi-structured interviews with senior managers and board members offer effective methods through which to explore the perspectives of these stakeholders on SA and SAP types.

## **5 Discussion and conclusion**

The objectives of this paper are to (1) review academic efforts in the field, highlighting ground covered, (2) provide a comprehensive understanding of the market for this new form of assurance and (3) identify potential avenues for future research. These objectives were met through a review of 50 academic journal articles identified by the authors as relevant to the field. A review of these 50 articles identified five broad areas of focus in the sustainability assurance literature. The findings from these groups of studies were synthesized to provide a comprehensive overview of the sustainability assurance market.

The lack of regulation, the development of the field is determined by the market forces of demand and supply. From a demand perspective, studies have identified a number of drivers (external and internal) and inhibitors of sustainability assurance. External drivers comprise of external stakeholders' demands for credible sustainability reports, the reporters' size, listing status, and industry membership, media pressure, and country of origin. Internal drivers include financial indicators and the perceived value addition from sustainability assurance. Factors inhibiting the demand for sustainability assurance include the cost of sustainability assurance, the perception of some managers that sustainability assurance does not add value, the view that sustainability assurance is too onerous, the lack of regulatory pressure (on both sustainability reporting and sustainability assurance), the fear that sustainability assurance exposes the reporter to litigation, and the view that viable substitutes (e.g. internal audits) are available.

From a supply perspective, a range of different assurance providers compete in the market using different assurance standards and offering services of differing scope and objectives. While there are many standards available globally popular standards are AA1000AS (developed by AccountAbility) and ISAE3000 (developed by the IAASB). Sustainability assurance providers can be broadly categorised into

accounting (representing the big four) and non-accounting sustainability assurance providers. While the detailed assurance procedures adopted by accountants and non-accountants are comparable, accountants prefer ISAE3000, while non-accountants lean towards AA1000AS. Furthermore, accountants prefer to focus on verifying the reliability of the contents of sustainability reports, while non-accountants are more willing to provide an opinion on both content reliability and the overall balance of the sustainability report.

Finally, this paper identifies seven avenues for future research. Themes identified include: exploring the competition between different types of assurance providers, examining how assurance impacts sustainability reports by comparing sustainability reports pre and post assurance, longitudinal analysis of managements reports compared against sustainability reports published in the same year, the use of alternative theoretical lenses to guide research, examination of sustainability assurance practice in developing countries and regions late to adopt sustainability assurance, the use of case study style research tracking the engagement from the initial phase until the publication of an assurance statement, and the need for greater research engaging senior managers and board members to secure their views on sustainability assurance.

The overview this paper provides of the sustainability assurance market will prove valuable to practitioners (including both sustainability assurance providers and sustainability reporting managers) new to the field. The seven avenues for future research which this paper identifies, will assist sustainability accounting researchers in understanding ground covered and presenting avenues for future research.

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### Appendix 1: Summary of literature reviewed

Sr. no.	Author	Citations in Google Scholar on 07/09/16	Journal	Method	Theoretical lens	Purpose
1	Ackers (2009)	44	Meditari Accountancy Research	Content analysis of 15 corporate social responsibility (CSR) assurance statements obtained from CSR/triple bottom line reports published by listed South African companies (primary data). This was compared against the results of secondary data comprising of existing studies (e.g. Manetti and Becatti, 2008) to evaluate CSR assurance in South Africa.	None - descriptive study	Examines CSR assurance within South Africa and compares this with the situation in other countries such as the UK.
2	Adams & Evans (2004)	183	The Journal of Corporate Citizenship	Review of social audits by comparison against the requirements of standards as well as drawing on their personal insights.	None - descriptive study	Focuses on the ability of social audits to enhance the credibility of sustainability reports. Additionally, the study offers guidance on how to undertake a social audit.  Uses the term social audits. However, the study also uses the terms social reports and sustainability reports interchangeably.
3	Ball, Owen, & Gray (2000)	250	Business Strategy and the Environment	Content analysis of 53 environmental reports and related third-party verification statements published by UK companies. Reports selected were amongst those short listed by ACCA for awards in 1998.	None - descriptive study	Aim to evaluate the extent to which third-party assurance of environmental reports promotes transparency and empowerment of external stakeholders. Highlights the presence of managerial

						capture impacting the assurance provider's independence. Uses the term third-party verification of environmental reports.
4	Belal (2002)	127	Corporate Social Responsibility and Environmental Management	Content analysis of 13 social reports published by UK companies by comparison against the requirements of AA1000. 8 of the 13 reports analysed were subject to independent third-party verification.	Stakeholder theory	Evaluate social reports by comparison against the requirements of AA1000, focusing specifically on inclusivity and completeness. Within the analysis the situation of independent third-party verification of these reports is commented on.
5	Branco, Delgado, Gomes, & Pereira Eugeno, (2014)	9	Managerial Auditing Journal	Analysis of 237 sustainability reports published by 69 Portuguese companies from 2008 to 2011 (post economic crisis period).	None - descriptive study	Factors influencing the demand for SA in Portugal.
6	Cheng, Green, & Ko (2015)	22	Auditing: A Journal of Theory & Practice	Conducted a 2x2 between subject's experiment in which; (1) manipulated the strategic relevance of sustainability information between high and low (i.e. for a differentiation strategy sustainability information is highly relevant while for a cost leadership strategy sustainability information is of low relevance); (2) manipulated the presence and absence of SA – to assess the impact on non-professionals investment decision. Study participants were based in an international business school.	None - descriptive study	Impact of SA on non-professionals investment decisions.
7	Cho, Michelin, Patten, &	13	Sustainability Accounting, Management	Analysis of 216 CSR reports published by US companies that rank amongst the Fortune 500. Of these 26 included an assurance	None - descriptive study	Examines the determinants and effects of third-party

	Roberts (2014)		and Policy Journal	statement within their CSR reports.		assurance within a US context.
8	Cooper & Owen (2007)	452	Accounting, Organizations and Society	Content analysis of 12 sustainability reports short listed for ACCA 2003 UK sustainability Reporting Awards (including the accompanying assurance statements).	Uses an accountability lens	Examines stakeholder engagement within sustainability reporting and assurance.
9	Coram, Monroe, & Woodliff (2009)	54	Auditing: A Journal of Practice & Theory	Experiment in which participants (based in Australia) were provided with a hypothetical annual report comprising of financial and non-financial information (in some cases positive whilst in other cases negative performance) and assurance statements (present in some reports while missing in others). Participants comprised of experienced accountants and financial experts who were asked to estimate the price of the company. Subsequently, participants were asked to answer (using a Likert scale) whether they found the information provided in the annual report as reliable or unreliable.	A combination of Mercer (2004) proposed framework for disclosure credibility and auditing theory (Mautz & Sharaf, 1961) and attribution theory (Kent & Martinko, 1995).	Examines impact of voluntary assurance over non-financial performance indicators affects financial report users estimated share price of the reporting organisation.
10	Dando & Swift (2003)	233	Journal of Business Ethics	Draws on consultations with practitioners and thought leaders to comment on the credibility gap of social, ethical and environmental disclosure; the ability of assurance providers to address this gap; and the ability of AA1000AS to improve address issues in this regard. The paper does not provide details on the location of the research participants.	None - descriptive study	Comments on the ability of assurance to improve the credibility of sustainability reports and the potential role of AA1000AS in assisting assurance providers.
11	Darnall, Seol, & Joseph (2009)	136	Accounting, Organizations and Society	Data collected from a global survey circulated amongst manufacturing entities based in Canada, France, Germany, Hungary, Japan, Norway and the US.	Stakeholder theory	Examines organisations use of different types of environmental audits and how stakeholders influence these

						variations.
12	De Moor & De Beelde (2005)	56	Environmental Management	Literature review	Literature review	Examines the similarities and differences between financial audits and environmental audits in order to assess the potential role of the accounting profession in environmental audits.
13	Deegan, Cooper, & Shelly (2006a)	55	Australian Accounting Review	Reviewed 33 assurance statements published within the triple bottom line reports of Australian companies.	None - descriptive study	Evaluates triple bottom line report assurance statements by comparing these against the requirements of standards.
14	Deegan, Cooper, & Shelly (2006b)	120	Managerial Auditing Journal	Review of assurance statements published within the triple bottom line reports of 48 UK and 52 European companies (limited reference to 16 Japanese companies is made).	None - descriptive study	Evaluates triple bottom line report assurance statements by comparing these against the requirements of standards.
15	Dillard (2011)	3	Contemporary Accounting Research	Review of O'Dwyer (2011)	Theoretical paper	Explores the differences between ASAPs and NASAPs.
16	Edgley, Jones, & Atkins (2015)	7	The British Accounting Review	Twenty semi-structured interviews with assurance providers of which 8 were ASAPs and 12 were NASAPs. Practitioners based primarily in the UK with one ASAP based in a European office.	Institutional logics	Examines the concept of materiality in social and environmental reporting and assurance from ASAPs and NASAPs perspective
17	Elliott (1998)	81	Auditing: A Journal of Theory & Practice	Draws on the authors personal experiences as an accounting professional based in the US.	None - descriptive study	Highlights the need for the accounting profession to explore new assurance markets in the face of commoditization of traditional financial audit services.

18	Gillet (2012)	22	Journal of Accounting & Organisational Change	Analysis of 29 assurance/verification statements contained within sustainability reports published by French listed companies and semi-structured interviews with 7 SRMs (2 SRMs had no experience with SA) and 3 ASAPs.	None - descriptive study	Examining sustainability report assurance/verification within a French context.
19	Gillet-Monjarret (2015)	1	Accounting in Europe	Review of articles in national newspaper. Articles classified as positive, negative and neutral e.g. negative news indicates organisations activities are harmful to the economy, society or/and the environment. Focuses on a four-year period from 2007 – 2010 within the context of French listed companies.	Legitimacy theory	Examines role of media in influencing organisations decisions relating to SA.
20	Gray (2000)	259	International Journal of Auditing	Provides personal perspectives on social and environmental reporting and audit/attestation.	None - descriptive study	Seeks to clarify the use of terminology, critique current social and environmental report audits, and highlight the potential for the accounting profession to perform a key role in this area.
21	Hasan, Roebuck, & Simnett (2003)	30	Auditing: A Journal of Theory & Practice	Questionnaire circulated amongst Australian shareholders (792 participants). Examines how the use of four different assurance statement formats impact user's perception of assurance levels.	None - descriptive study	Examines the use of alternative SA statement formats and how this impacts user's/shareholders assessment of the level of assurance provided by the SAP.
22	Herda, Taylor, & Winterbotham (2014)	5	Journal of International Financial Management & Accounting	Analysis of 599 sustainability reports subjected to third-party assurance and published over a 5-year period from 2005 to 2009. Only GRI compliant sustainability reports available on Compustat North America or Compustat Global databases were	None - descriptive study	Examine the impact of country level investor protection on the demand for SA.

				used.		
23	Hodge, Subramaniam, & Stewart (2009)	60	Australian Accounting Review	Survey circulated amongst 145 students enrolled in an MBA program (i.e. proxy for non-professional investors) based in 2 Australian universities.	None - descriptive study	Impact of SA on non-professional investors perceived credibility of sustainability reports.
24	Huggins, Green, & Simnett (2011)	26	Current Issues in Auditing	Reviews the literature and provides a commentary on the International Auditing and Assurance Standards Board (IAASB) released exposure draft ISAE 3410 Assurance on a Greenhouse Gas Statement.	None - descriptive study	Explores the market for assurance over Greenhouse Gas information/disclosure and the role the accounting profession can play here.
25	Jones & Solomon (2010)	50	Accounting Forum	Semi-structured interviews with 20 SRMs in UK listed companies in 2004. Of these 8 SRMs had experience with external assurance.	None - descriptive study	Examines whether corporate social responsibility managers in UK companies believe that third-party assurance over their social and environmental reports is necessary.
26	Jones, Hillier, & Comfort (2014)	38	Corporate Governance	Analysis of SA statements in UKs top 7 food retailers.	None - descriptive study	Evaluates SA within UKs top food retailers.
27	Junior, Best, & Cotter (2014)	54	Journal of Business Ethics	Analysis of sustainability reports and SA statements of 484 organisations from global Fortune 500 in 2010. The sample included companies operating in more than 20 countries from across the globe.	None - descriptive study	Analysis of global trends in sustainability reporting and SA.
28	Kolk & Perego (2010)	238	Business Strategy and the Environment	Analysis of SA statements for 212 Fortune 250 companies for the years 1999, 2002 and 2005 – these comprised mostly of US, UK, Germany, France and Japan.	None - descriptive study	Examines country level factors that determine the adoption of SA.
29	Manetti & Becatti (2009)	149	Journal of Business Ethics	Analysis of SA standards and 34 SA statements contained within the sustainability reports of predominantly European	None - descriptive study	Evaluates SA by comparing assurance statements against the requirements of standards.

				companies with some representation from North and South America, Australia and Asia.		The study also comments on SA standards discussing their shortcomings.
30	Manetti & Toccafondi (2012)	47	Journal of Business Ethics	Content analysis of 161 SA statements to assess stakeholder involvement in the assurance process. These were contained within sustainability reports published in 2009 by MNCS from number of regions (predominantly European) and industries.	None - descriptive study	Evaluate the extent of stakeholder involvement in the SA process
31	Mock, Rao, & Srivastava (2013)	16	Australian Accounting Review	Compares 148 SA statements included with sustainability reports published in 2006 and 2007 with the findings of an earlier study (sample of 130 sustainability reports) by the Mock, Strohm, and Swartz (2007) in which data relating to 2002 and 2003 was used. Reporters based in 26 different countries from across the world.	None - descriptive study	Longitudinal analysis of sustainability reporting and SA practices.
32	Morimoto, Ash, & Hope (2005)	182	Journal of Business Ethics	Literature review combined with 10 interviews with individuals from government, NGOs, private sector and academia.	Grounded theory	Develops a corporate social responsibility auditing systems.
33	Moroney, Windsor, & Aw (2012)	82	Accounting and Finance	Comparison of the quality of assured environmental disclosure against the quality of non-assured environmental disclosure. Sample restricted to the top 500 listed Australian companies. Selected 74 companies that had secured assurance over their reports from the period 2003 to 2007 and compared them with 74 companies of similar size and industry membership that had not secured assurance. Quality of environmental disclosure was determined by comparison against an index developed from standards.	Stakeholder-agency perspective	Impact of third-party environmental assurance on the quality of environmental disclosure.



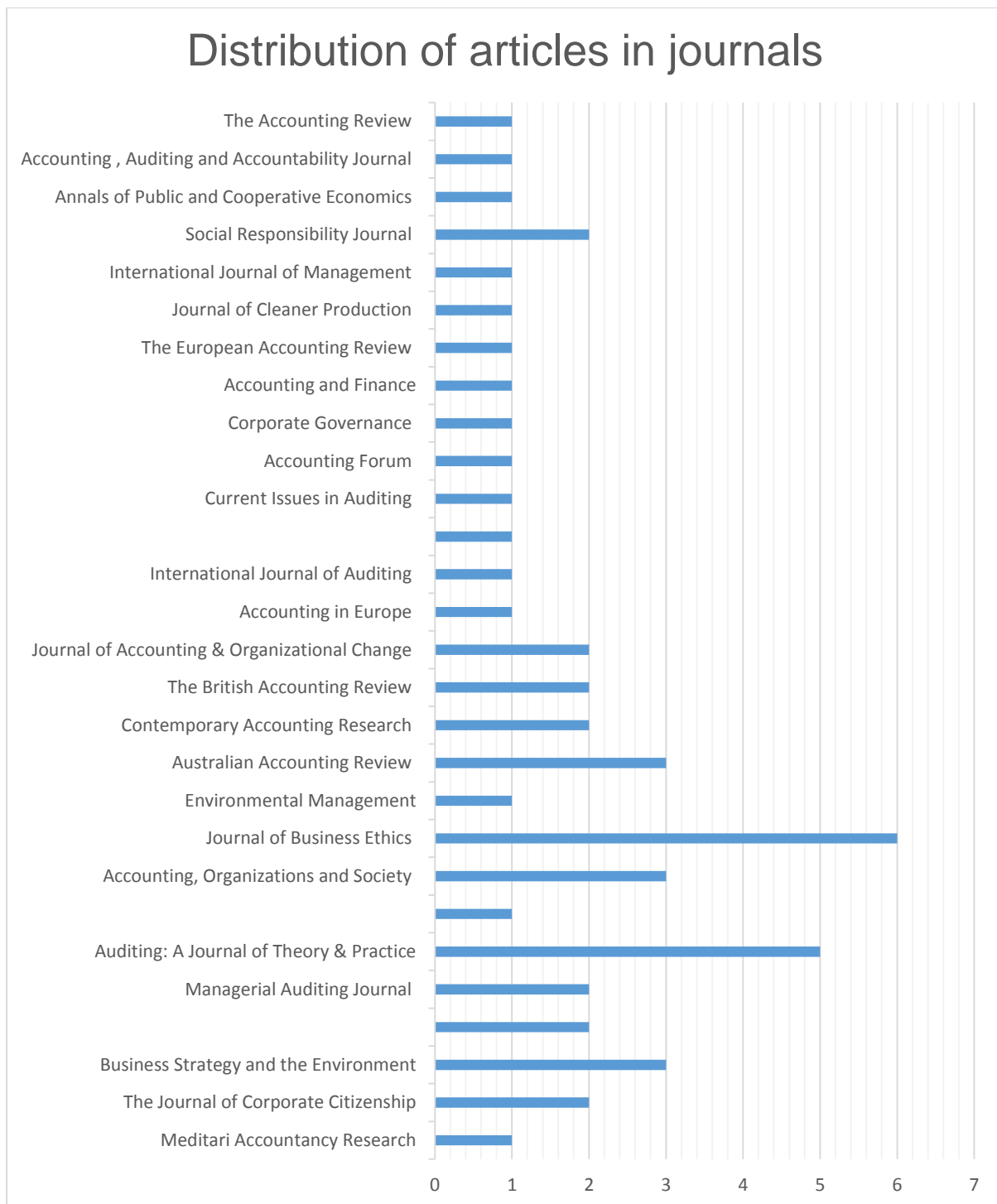
34	O'Dwyer (2011)	94	Contemporary Accounting Research	Draws on data from 17 semi-structured interviews with SAPs based in 2 ASAPs (big four accounting firms). Of these 13 SAPs were non-accounting professionals while 4 were from an accounting background. This data was supplemented with organisational documents obtained from participants.	The case analysis is framed using aspects of Power's 1996, 1997, 1999, and 2003 theoretical insights regarding the processes through which new domains are made auditable.	Examines SAPs efforts in constructing the practice of SA.
35	O'Dwyer & Owen (2005)	342	The British Accounting Review	Content analysis of 41 assurance statements short listed for the 2002 ACCA UK and European Sustainability Reporting Awards.	None - descriptive study	Evaluates SA statements against requirements of standards
36	O'Dwyer & Owen (2007)	85	The Journal of Corporate Citizenship	Content analysis of 29 SA statements (covering UK and other European countries) in the 2003 ACCA European Environmental Reporting Awards.	None - descriptive study	Evaluates SA statements against requirements of standards
37	O'Dwyer, Owen, & Unerman (2011)	186	Accounting, Organisations and Society	14 semi-structured interviews with practitioners based in one ASAP (a big four accounting firm) and the ASAPs published organisational documents on SA.	Legitimacy theory	Explores attempts by ASAPs in creating legitimacy for SA.
38	Owen, Swift, Humphrey & Bowerman (2000)	419	The European Accounting Review	Literature review and 18 semi-structured interviews with practitioners, consultants and regulators in 1998. However, the location of the research participants is unclear.	Accountability	Examine social audits ability to promote accountability and stakeholder engagement and note that social audits are exposed to managerial capture.
39	Park & Brorson (2005)	104	Journal of Cleaner Production	Structured interviews with open-ended questions with 28 managers responsible for preparing the sustainability reports in Swedish companies and 5 SAPs (including 3 ASAPs and 2 NASAPs). Additionally, a review of the	None - descriptive study	Explores SA within a Swedish context.

				company reports (environmental/sustainability/annual reports) from 1990-2003 for the 28 participants was also carried out.		
40	Perego (2009)	67	International Journal of Management	Analysis of SA statements issued to 136 companies from across the world and representing a range of industries. Reporters were based in European, North American and Asian countries (excluding Japan).	None - descriptive study	Examines the relationship between country level factors and SA (e.g. the choice of SAP).
41	Perego & Kolk, (2012)	103	Journal of Business Ethics	Analysis of sustainability reports published in the years 1999, 2002, 2005, and 2008 by a sample of 212 companies in the global Fortune 250.	A combined institutional theory and resource based view of the firm lens	Longitudinal analysis of the diffusion pattern of SA amongst multinational companies.
42	Romero, Fernandez-Feijoo, & Ruiz (2014)		Social Responsibility Journal	Questionnaire circulated amongst 253 university students (master and advanced accounting under-graduate level) in Spain and US. These students acted as proxies for stakeholders who use sustainability reports and SA statements.	None - descriptive study	Comparison of Spanish and US user's perspectives on the quality of SA statements.
43	Sawani, Zain, & Darus (2010)	15	Social Responsibility Journal	Survey and structured interviews (however questions open-ended) with 12 managers based in Malaysian companies short listed for the 2007 ACCA Social and Environmental Reporting Awards. Additionally, the reports of these companies were reviewed.	None - descriptive study	Explores trends and the level of awareness in sustainability reporting and SA in Malaysia.
44	Segui-Mas, Bolas-Araya, & Polo-Garrido (2015)	3	Annals of Public and Cooperative Economics	Analysis of a sample of 59 SA contained within the sustainability reports of the world's 300 largest cooperatives and mutual enterprises from 25 countries and operating in 8 different sectors.	None - descriptive study	Examines SA practices amongst the world's largest 300 cooperatives.

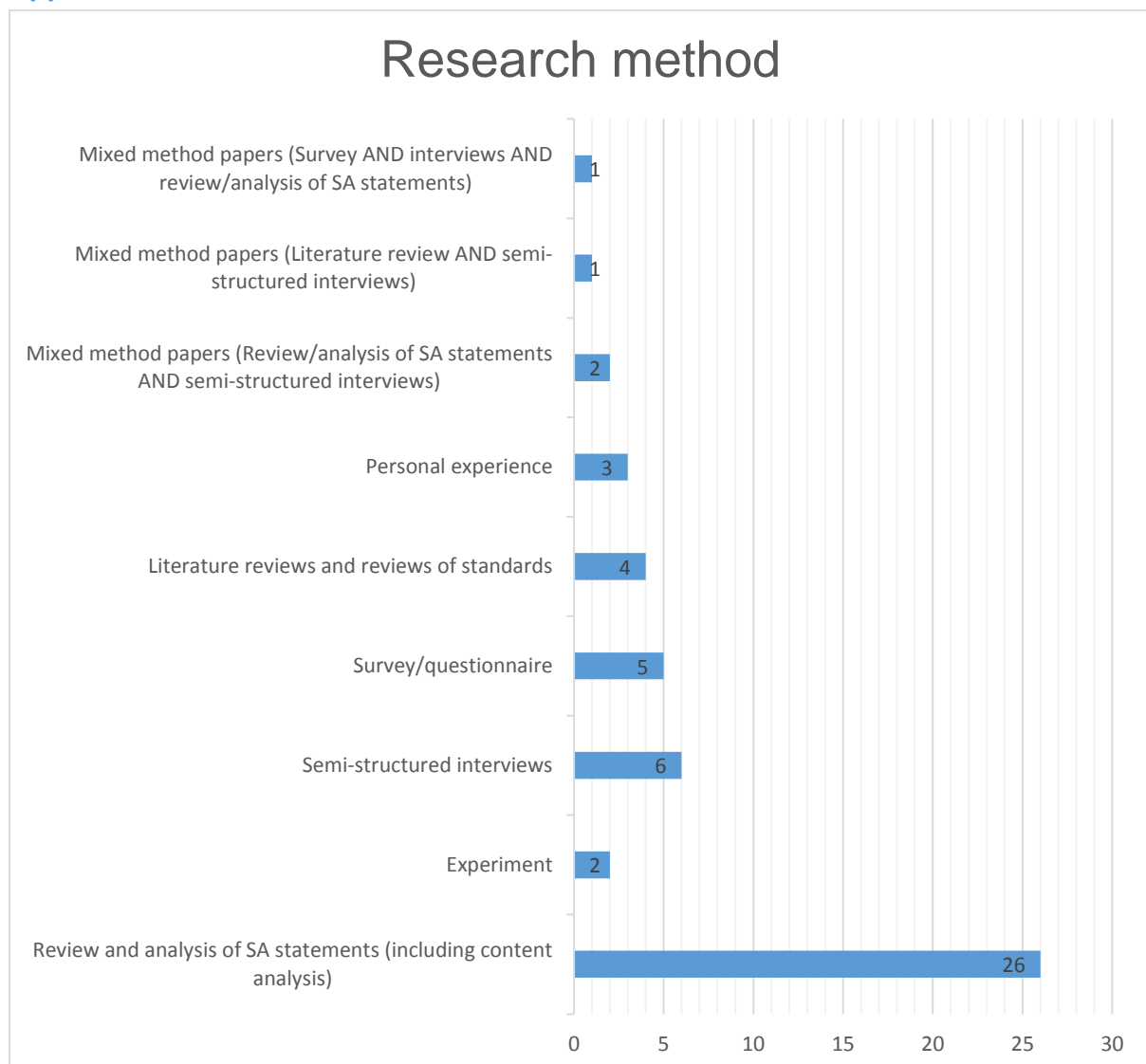
45	Sierra, Zorio, & Garcia-Benau (2013)	31	Corporate Social Responsibility and Environmental Management	Analysis of 133 sustainability reports published by IBEX-35 (i.e. Spanish capital market) companies over a 6-year period from 2005 to 2010. Of these 108 were subject to independent assurance while only 25 were non-assured.	None - descriptive study	Examines SA within a Spanish context. Explores the relationship between the financial statements auditor and the SAP.
46	Simnett, Vanstraelen, & Chua (2009)	395	The Accounting Review	Analysis of 655 SA statements published in the sustainability reports of listed companies from 31 countries over a 3-year period from 2002 to 2004.	None - descriptive study	Explore reasons for securing SA and choice of SAP type.
47	Smith, Haniffa, & Fairbrass (2011)	45	Journal of Business Ethics	Review of the literature	Theoretical paper	Examines the concept of 'capture' and offers a conceptual framework with which to study the phenomenon using neo-institutional theory and the arena concept.
48	Wallage (2000)	111	Auditing: A Journal of Practice & Theory	Draws on personal experiences as an ASAP based in Europe.	None - descriptive study	Offers insights, recommendations and challenges in SA
49	Wong & Millington (2014)	9	Accounting, Auditing and Accountability Journal	Telephone survey (147 responses) comprising of closed ended questions (answers on a 5-point Likert scale) circulated amongst stakeholders of sustainability reports including procurement officers in public sector organisations, investment managers/analysts/researchers and managers in not-for-profit organisations (UK organisations only).	None - descriptive study	Examines SA from a multi-stakeholder perspective including institutional investors, organisational managers and third-parties.

50	Zorio, Garcia-Benau, & Sierra (2013)	38	Business Strategy and the Environment	Analysis of 133 assurance statements published in sustainability reports of Spanish listed companies over a six-year period from 2005-2010.	None - descriptive study	Develops an index to evaluate the quality of SA statements against the requirements of sustainability standards.
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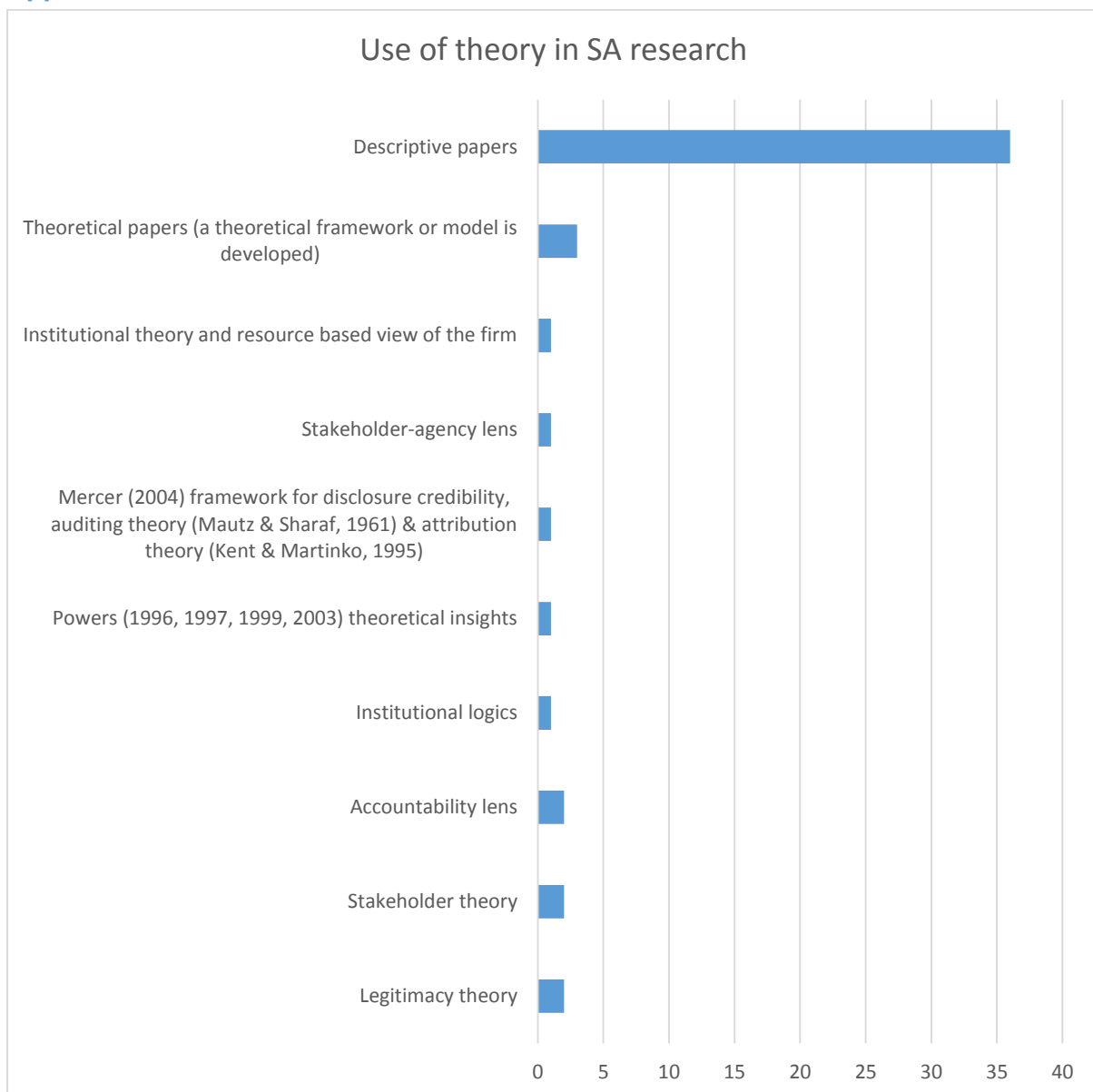
## Appendix 2: Distribution of articles amongst



### Appendix 3: Methods used in SA research



## Appendix 4: Theoretical frameworks used in SA research



## Appendix 5: Geographic focus of SA studies

