

A meta-analysis of two decades of Sustainability Accounting Literature: Observations and future directions

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Abstract:

Purpose: The purpose of this article is to examine the literature on sustainability accounting research (SAR), by performing a meta-analysis of literature and critiquing of SAR articles in selected accounting journals covering twenty years: the period 1993-2012 inclusive.

Design/methodology/approach: We conduct a descriptive meta-analysis of 473 SAR articles, published in ten top ranked managerial accounting journals providing a global perspective of the field. We use a method previously employed in various other fields, to select and classify the academic articles

Findings: Our findings show that SAR has been consistently developing as an important field of research, with greater emphasis on environmental concerns. The paper also suggests several significant omissions in the SAR field which needs academic attention for progression of research and policy. The paper highlights how several top ranked journals attribute limited space to SAR, in particular to the 'social side' of SAR.

Practical implications: The research gaps presented in the paper provide a needed starting point for further thinking and discussion about the challenges and opportunities associated with corporate sustainability performance. Based on our findings and given the growing attention devoted by teaching institutions to SAR, future research could devote attention to sustainability from this particular perspective. Our suggestion is to approach future research on sustainability in an integrated manner, rather than through the somewhat fragmented approaches that characterises the field.

Originality/value: This study extends upon the previous literature reviews, by extending the scope and the time frame. The paper seeks to make a particular contribution with an objective to consider the state of what is more often now described as 'sustainability accounting research' (SAR). In this paper we provide a general view of the landscape of the SAR field.

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Introduction:

Sustainability accounting also known as Social and Environmental Accounting, Corporate Social Reporting, Corporate Social Responsibility Reporting and Social Accounting (Tilt, 2007) has been a popular concept among academics and practitioners in the past few decades. Several accounting journals have been publishing articles on sustainability accounting regularly and top ranked journals have also been publishing special issues on various sustainability topics. In particular this paper focuses on top ranked managerial accounting journals providing a global perspective of the field.

The journal taken into account are Accounting Auditing and Accountability Journal (AAAJ), Australian Accounting Review (AAR), Accounting Forum (AF), Accounting Organizations and Society (AOS), British Accounting Review (BAR), Critical Perspective on Accounting (CPA), European Accounting Research (EAR), Management Accounting Research (MAR), The Accounting Research (TAR) (Burritt, 2012; Mathews, 1997; Parker, 2011). Among the journals specialised in the field, Social and Environmental Accounting Journal (SEAJ) published by the Centre for Social and Environmental Accounting Research (CSEAR) acquired a relevant position (Parker, 2011) and published also articles in management accounting. For this reason the present paper, focused on accounting journals, only includes SEAJ among the specialist sustainability journals in the analysis.

The purpose of this article is to examine the literature on sustainability accounting research (SAR), by performing a meta-analysis of literature and critiquing of SAR articles in selected accounting journals covering twenty years: the period 1993-2012 inclusive. Thus, we would be able to shed a light on what has been achieved in the past and suggest possible developments for the field of SAR.

This study extends upon the existing literature reviews, by extending the scope and the time frame. For instance, Mathews (1997) reviewed 25 years of literature and identified the flow and change of various activities within the overall field of social and environmental accounting. In the year 2005, Parker analysed and critiqued social and environmental accountability research field and concluded that environmental research dominated the published output. According to the author, literature-based theorising was popular and leading topics included national practices/comparisons and regulations (Parker, 2005). In the year 2011, the same author proposed an extension of his study, focusing on four interdisciplinary accounting journals from year 1988-2002 (Parker, 2011). Another recent review was conducted by Searcy (2012) on sustainability performance measurement systems (SPMS) literature published in the period between 2000 and 2010 to identify future directions for research in the design, implementation, use and evolution of corporate SPMS. Gray and Laughlin (2012) produced a discursive, polemical essay on 'green accounting' by reviewing social and environmental accounting for twenty years and concluded that the field has advanced in theoretical and empirical understanding, but researchers seem to be less willing to examine fundamental issues.

This paper proposes an international perspective on the SAR field by analysing 9 leading international accounting journals and 1 specialist journal in the sustainability area, which has published contributions in the accounting area and is recognised as a leading publication in the SAR field (Parker, 2011). The intention of this paper is to give a 'taste' of the work in the field (Guthrie & Broadbent, 2008). Furthermore, the paper seeks to make a particular

contribution with an objective to consider the state of what is more often now described as ‘sustainability accounting research’ (SAR). We therefore, conduct a descriptive meta-analysis of more than 400 SAR articles, using a method previously employed in various other fields, to select and classify the academic articles (please see, Guthrie & Broadbent, 2005; Guthrie & Murthy, 2009; Guthrie, Ricceri, & Dumay, 2012).

In order to do so, the paper addresses three research questions:

1. What has been published in sustainability accounting research (SAR) field in the past twenty years (1993-2012)?
2. How is sustainability accounting research changing?
3. What more could be done in sustainability accounting as a research agenda?

We address the above questions and consider what is ‘current’ in the field of SAR, thereby suggesting what should be done in the future to advance the field. Our analysis emphasizes several emerging patterns, for e.g., the dominance of Australian and New Zealand studies along the whole period, the growing relevance of European studies and, more recently, the emergence of studies portraying sustainability in developing countries and in the US. Another striking element is the prevalence of studies focusing on public listed companies more than on non-profit organisations and SMEs, even though in recent years the trend seems to be changing. Finally, our analysis shows the alternate switch in focus between environmental studies and social studies.

Our findings highlight how SAR has been consistently developing as an important field of research, with greater emphasis on environmental concerns. The paper also suggests several significant omissions in the SAR field which needs academic attention for progression of research and policy. Furthermore, our paper examines trends in the field of SAR scholarship and highlights how several top ranked journals attribute limited space to SAR, in particular to the ‘social side’ of SAR. Our database is extensive, nevertheless, in this paper we could only provide a general view of the landscape of the SAR field.

To achieve the aims of our paper, we structure the remaining part of the paper as follows. Section Two provides the definitions of ‘sustainability’, a brief review on the history of SAR and a general review of the SAR literature. Section three outlines our research method. This is followed by section four that offers a descriptive meta-analysis of the SAR articles that provides answers for our research questions one and two ‘*What has been published in sustainability accounting research (SAR) field in the past twenty years (1993-2012)?* and *How is sustainability accounting research changing?*’ The final section discusses issues linked to the field of SAR and provides a conclusion. This section provides answer to research question three ‘*What more could be done in sustainability accounting as a research agenda?*’

Literature review:

An introduction to sustainability in accounting studies

The term “sustainable development” came into use into the academic and practitioner literature after the publication of the Brundtland Commission’s *Our Common Future* report on the global environment and development in 1987. According to the World Commission on Economic Development (WECD) (1987, p. 43), sustainable development ‘is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.’

This well-cited report led to sustainability directly passing into policy discourse and into the academic literature. The WECD asserted that sustainability required the simultaneous adoption of environmental, economic and equity principles and presented the first document stating that social and environmental aspects had to be considered from an economic, social, and political perspective. The report constituted a marked advance on the scientific work of UNESCO's Man and the Biosphere Program (MAB) almost a decade earlier (Redcliff, 2005) and paved the way to numerous discourses on sustainability in the following years. Moreover, it was after the Earth Summit in Rio de Janeiro (1992) that the concept was being accepted worldwide.

The text "Changing Course: A global business perspective on development and the environment" by the World Business Council for Sustainable Development (Schmidheiny, 1992) supports the conceptualisation of the phases through which corporate involvement in sustainability had passed. The employment focus and the interest in prevention of pollution was popular in the 1970s, measures to encourage self-regulation in the 1980s and a concern to incorporate sustainability into business practices was gaining attention in the 1990s (Murphy & Bendell, 1997).

In the 1990s, the post-Rio was seen as a turning point in the relation between corporate business and social and environmental concerns, imposing at least global payers to internalise them and make them a critical part of their corporate governance (Redcliff, 2005). Within the plethora of approaches that characterise sustainability the present paper focuses on the academic literature in accounting. It will analyse the most relevant period of development of sustainability: the last 20 years from 1993 to 2012, starting from the year after the Earth Summit milestone in the field. The present literature review is aimed at analysing the process that led to the state of the art in 1993 and the specific interest and approach of the accounting literature.

Social and environmental accounting literature before the earth Summit

Social and environmental concerns were present in the accounting literature since the 1960s and 1970s (for e.g., Dierkes & Preston, 1977; L. D. Parker, 2011; Trotman, 1979) but received little or no attention in the academic or professional literature (Gray & Laughlin, 2012). The upsurge of interest in the sustainability is considered within the wider context of social accounting literature and practice (Mathews, 1997). Social accounting literature raised interest in the employment issues and employees matters (for e.g., Brockoff, 1979; Foley & Maunders, 1977; Gröjer & Stark, 1977; Lessem, 1977). The environmental focus was underdeveloped and still in its infancy (Gray and Laughlin, 2012). However, a growing concern about the impact of the human activities on the environment and pollution led to early empirical studies on companies' disclosure about their social and environmental impact (e.g., Abbott & Monsen, 1979; Bowman & Haire, 1975; Trotman, 1979). Other authors focused on performance management issues, in order to create model for the estimation and reduction of organisations' environmental impact (e.g. Linowes, 1972; Ullmann, 1985).

Social accounting literature became more established in the 1980s as a legitimate area of research (Gray, Owen, & Maunders, 1987) following a growing societal interest in companies' accountability (Gray and Laughlin, 2012). Sustainability was brought to the academic a practical agenda by the report of the Brundtland Commission (1987). As a result sustainability accounting research (SAR) become more methodologically sound, for example the adoption of analytical tools such as content analysis to evaluate the voluntary reports by companies (David. Owen, 2008). The theoretical lenses of stakeholder, resource based and legitimacy theories were increasingly employed with the aim of explaining, rather than

describing SAR practices (Chen & Roberts, 2010). Following this perspective a growing interest was devoted to the business case for sustainability, aiming at exploring the relationship between sustainability performance and financial performance utilising voluntary disclosure as a mediator (e.g. Ingram & Frazier, 1980; Wiseman, 1982) Ullmann, 1985). Juxtaposed to this approach to sustainability, increasingly relevant strands of investigation focused on the political and social underpinnings of SAR (e.g. Benston, 1982; Puxty, 1986).

A further key transformation in SAR came about in the early 1990s with the emergence of environmental accounting and assurance engagement issues as the prime focus of attention. This led to the abandonment of the wider societal concerns in favour of a largely practitioner led agenda (e.g. Porter & Van der Linde, 1995) aiming at the promotion of accounting and reporting systems whereby environmentally friendly practices might be conveniently captured in the interests of promoting positive financial results (Gray et al., 1997; Mathews, 1997). Following this agenda a number of sustainability performance management systems were proposed (Edvinsson & Malone, 1997; Kaplan & Norton, 1996). More sophisticated methodologies to internalise the environmental costs, via full accounting techniques in addition to eco-efficiency began to attract attention (Mathews, 1997). A major catalyst in this latter context was provided by the growth in popularity of the triple bottom line approach, which reintroduced social and eco-justice issues encompassing the analysis of the social and economic impact of companies in addition to the purely environmental concern (Elkington, 1997).

However, the reintroduction of studies on employees, and more broadly on employment issues in the SAR, took place in the early 2000s, as shown by our analysis in the following sections (see also Deegan, 2007; Gray, 2002; Milne, 1996; Parker, 2005).

A terminological note in sustainability accounting research literature

Sustainable development has been variously conceived in terms of value change (Clark, 1989), moral development (Rolston, 1994), or social reorganisation (Gore, 1992) towards a desired future or healthier world. The definition provided by the Brundtland Commission (1997:8) in its normative abstraction has been widely accepted and endorsed by thousands of governmental, corporate, and other organizations worldwide (Gladwin, Kennelly, & Krause, 1995).

The expansive SAR literature has often been characterised by the emergence of numerous definitions, identifying the different approaches toward the subject. The shift of the social accounting literature towards an increasing involvement of companies in the social and environmental discourse led to the Corporate Social Responsibility (CSR) construct. Numerous definitions have been provided to describe this construct. For example, the European Commission (2010) defined CSR as ‘a concept whereby companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on a voluntary basis.’ This definition is in line with the debate in the broader social accounting literature surrounding the extent of companies’ accountability towards society. In fact, a common definition of CSR in the SAR literature is provided by O’Dwyer (2002, p. 524) who considers CSR as the ‘organisation’s duty or obligation to act in a socially responsible manner largely irrespective of narrow economic considerations’. CSR is also connected with the concept of ‘managerial capture’ indicating the means by which corporations, through actions of their management, take control of the debate over what CSR involves by attempting to outline their own definition which is primarily concerned with pursuing corporate objective of wealth maximisation (Bebbington, 1997; Owen et al., 2000).

Based on the numerous analysis of the evolution in the development of social accounting (e.g. Deegan, 2007; Gray and Laughlin, 2012; Gray, 2002; Gray et al., 2010; Mathews, 1997; Milne, 1996; Owen, 2008; Parker, 2005) the business centre involvement in social issues (CSR) is part of the much wider and comprehensive sustainability agenda. For this reason, the present paper will refer to SAR to encompass a broader perspective to the analysis of social, environmental and economic issues within societal concern.

The increasing interest shown by SAR researchers toward a more coherent understanding of the organizations-society relationship is the Triple Bottom Line (TBL) approach, laid out in 1997 by John Elkington “Cannibals with Forks”. The idea behind the TBL approach is that business and investors should measure their performance against a new set of metrics—capturing economic, social and environmental value added—or destroyed—during the processes of wealth creation. The TBL approach was adopted within the SAR literature to analyse the teaching and policy implications of social and environmental accountability (Burritt, 2012). The TBL, and the later People Planet Profit (3P) parallel movement (Fisk, 2010) which helped to popularise the concept (Burritt, 2012), was the answer to the clamour of complaint from academics and different stakeholders groups interested in companies’ accountability toward society. It led to the development of global reporting (GRI) guidelines to increase the volume and quality of disclosure about social and environmental performance (Burritt, 2012). Again the TBL approach can be considered a part of the broader SAR literature focusing on the specific topic of accountability.

Research Methods:

This section is divided into two sub-sections. The first sub-section 3.1 elaborates the step-by-step research method adopted in the selection and review of the papers. The second sub-section 3.2 provides the details of our classification process.

3.1: Steps in selection and review of SAR articles

For the purpose of answering our research questions two and three, we adopt a method similar to other previously published studies such as Guthrie & Murthy (2009), Guthrie & Broadbent (2008) and Guthrie et al., (2012). The section includes the grouping prototype employed and the strategy adopted to collect and analyse data. The review process was performed in six different steps.

The first step was to formulate the core research objective. This was based on our literature review. On the basis of our research objective, we devised the classifications/codes, set boundaries and determined the definitions in order to select articles on sustainability accounting research (SAR). Our dataset consisted of a period of twenty years from 1993 to 2012 both years inclusive, which is meant to cover the most recent articles published to end 2012.

The second step of our selection included selection of articles from the accounting discipline. As mentioned in the introduction section, we chose ten relevant international journals (Bebbington, 1997; Burritt, 2012; Deegan and Soltys, 2007; Gray, 2002; Mathews, 1997; Owen, 2008; Parker, 2010), nine of which are committed to publishing interdisciplinary contemporary research and one is a specialist journal on SAR. The journals included are: *Accounting, Auditing & Accountability Journal (AAAJ)*; *Accounting, Organizations and Society (AOS)*; *Accounting Forum (AF)*; *British Accounting Review (BAR)*; *Critical Perspectives on Accounting (CPA)*; *European Accounting Review (EAR)*; *The Accounting Review (AR)*; *Management Accounting Review (MAR)*; *Australian Accounting Review (AAR)*; and *Social & Environmental Accounting Journal (SEAJ)*.

The third step in our analysis process is examination of titles and abstracts of all the articles published in these journals (a total of 5,343) and choose those articles that were dedicated to sustainability accounting research. This selection process resulted in a total of 473 articles focusing on SAR. Table 1 provides details on the number of articles focusing on SAR from each journal. All the papers were downloaded and were entered into Endnote database with complete referencing details.

TABLE 1: Number of articles on SAR

Name of Journal	Total No of articles	No of articles	% of total publication
Accounting, Auditing & Accountability Journal (AAAJ)	716	103	14%
Accounting, Organizations & Society (AOS)	730	43	6%
Accounting Forum (AF)	208	68	33%
British Accounting Review (BAR)	458	27	6%
Critical Perspectives on Accounting (CPA)	775	47	6%
European Accounting Review (EAR)	679	15	2%
The Accounting Review (AR)	873	12	1%
Management Accounting Review (MAR)	395	4	1%
Australian Accounting Review (AAR)	316	24	8%
Social & Environmental Accounting Review (SEAJ)	203	130	64%
TOTAL	5353	473	9%

In the fourth step, a pilot test was performed on a sample of ten articles to validate our classification criteria (chosen at step one) were suitable for the study. The authors read the full papers and verified the classification criteria. At this stage some minor changes were made to the classification scheme. The final modified classification scheme is provided in Table 2.

Table 2: Criteria for coding SAR articles.

A. Government/Jurisdiction

A1. Supra-National/International/Comparative
A11. Supra-National/International/Comparative – Industry
A12. Supra-National/International/Comparative – Organisational
A2. National
A21. National – Industry
A22. National – Organisational
A3. One Organisation
A4. General/Other
B. Organisational Focus

B1. Public Listed
B2. Private – SMEs
B3. Private – Others
B4. Public Sector
B5. Not For Profit
B6. General/Other

C. Region of Focus

C1. North America
C2. Australasia
C3. United Kingdom
C4. Continental Europe
C51. Asia
C52. Africa
C53. Other

D. Focus on Sustainability Accounting

D1. ENVIRONMENT & SOCIAL
D11. Water
D12. Energy
D13. Land
D14. Carbon emission
D15. Other environmental
D16. Business Ethics
D17. Employees & Social capital
D18. Other social
D19. Other sustainability (General)
D2. ACCOUNTING FOR SUSTAINABILITY
D21. External Reporting & accountability
D22. Evaluation and auditing
D23. Guidelines/ Standards/ Frameworks/Regulation
D24. Finance
D25. Management & Strategy
D26. Performance measurement
D27. Profession & Education
D28. Other general

E. Research Methods

E1. Case/Field Study/Interviews
E2. Content Analysis/Historical Analysis
E3. Survey/Questionnaire/Other Empirical
E4. Commentary/Normative/Policy
E5. Theoretical/Literature Review
E6. Theoretical/Empirical

F. Guidelines/Frameworks/Methods/Techniques/Models

F0. No model proposed

F10. Applies Or Considers Previous Models
F11. Proposes A New Model

Then in the fifth step, the authors read each article and manually coded them according to the modified classification scheme. After both authors codified the articles individually, they then checked their codes against each other to make sure that both their coding was similar. At times when the authors had doubts with coding, they consulted with each other and came to a consensus on the codes. Manual coding was advantageous as compared to computerised coding, as words with similar meaning such as “greenhouse gas emission”, “carbon emission” and “carbon footprint” were understood in their actual sense and coded appropriately. Manual coding allowed the researchers to use implied knowledge of the situation. Informal and figurative text could be adequately interpreted and complex subordinate phrases could be managed efficiently (Guthrie & Murthy, 2009).

Finally, step six involved setting up the database from our classifications which could be used to develop descriptive statistics. This information helped us to understand patterns that emanated from the articles reviewed. This provided us the foundation for our analysis of the SAR field over the period of twenty years.

3.2: Classification process (descriptive meta-analysis)

We classified the articles based on the six categories listed in Table 2 above. The first category is based on the levels of organisation covered. This consisted of four main elements – Supra-national/International/Comparative studies; National studies; one organisation studies; and general/other studies. The first two elements were further sub-classified into Industry and Organisational level studies. If the study was a comparative or international study on industries from two or more countries we classified it as A11 (for e.g. Buhr & Freedman, 2001). If the study was on different organisations in two or more countries, then it was given a classification code of A12 (for e.g. C. A. Adams, Hill, & Roberts, 1998). Similarly, if the article was a study on industries from one nation it was categorised as A21 (for e.g. Carr, Mak, & Needham, 1997) and on organisations from one nation it was classified as A22 (for e.g. Johansen, 2010). Any study that was conducted in one organisation was classified as A3 (for e.g. Hanafi & Gray, 2005) and studies that did not fit into any of the classifications mentioned above and is a general paper that do not have an empirical base was classified as A4. All the papers, which fell into this category were purely theoretical or literature reviews (for e.g. Burritt, 2012).

The second category is ‘organisational focus’. This category was further sub-divided into six elements (B1-B6) i.e., B1 is Public listed companies (for e.g. Burritt, Schaltegger, & Zvezdov, 2011); B2 Private SMEs (for e.g. Adams, 2002); B3 Private others (for e.g., Durden, 2008); B4 Public sector (for e.g., Ogden, 1995); B5 Not for Profit organisations (for e.g., Jones & Tilt, 2005); and B6 General/Other organisations not covered from B1-B5 (for e.g., Dillard, Brown, & Marshall, 2005). B6 articles were those articles that provided a general view of SAR, not particularly conducted in any organisation.

The third category was based on the regional focus or the geographical location where the study was conducted. Sometimes when the location of the work could not be ascertained, we took the first mentioned author’s location as the default code. C1 is North America consisting of US and Canadian studies (for e.g., Patten & Freedman, 2008); the classification C2 was given to Australian and New Zealand studies (for e.g., Rouse & Putterill, 2000); C3 includes studies from UK (for e.g., Hopwood, 2009); C4 includes studies from mainland Europe (for

e.g., Johansen, 2010); C51 includes studies conducted in parts of Asia (such as China, Malaysia, India, Japan, Thailand, Singapore and the like) (for e.g., Sen, Pattanayak, & Choubey, 2010); C52 includes African studies (for e.g., Hanafi & Gray, 2005) and finally C53 includes all other countries not specified above (for e.g., Al-Tuwaijri, Christensen, & Hughes II, 2004).

The fourth classification was based on our literature review of sustainability accounting research. This classification was divided into two broad categories, namely D1 – environment and social and D2 – accounting for sustainability. Each article was classified under both categories depending what component of sustainability the paper discussed about i.e., environment or social and the accounting focus of the paper on sustainability. In so doing we followed Parker (2011), who clustered the papers in his literature review as “social”, “environmental” or “social and environmental”. D1 was further sub-divided into nine categories. The first five classifications D11-D15 relate to environment component of sustainability. These are D11- water (for e.g., Ball & Craig, 2010); D12 – Energy (for e.g., Brendan. O'Dwyer, 2003); D13 – Land (including ‘Green’) (for e.g., Yongvanich & Guthrie, 2005); D14 – Carbon emission/pollution/Greenhouse gas emission (for e.g., Grinnell & Hunt III, 2002); D15 – other environmental, which included articles that examined general environmental accounting and did not fit into the above D11-D14 classification (for e.g., Deegan & Rankin 1999).

D16 – D18 relate to the ‘social’ component of sustainability. These are D16 - Business ethics (for e.g., Herremans, Akathaporn, & McInnes, 1993); D17 discusses on employees and social capital (for e.g., Kamla, Gallhofer, & Haslam, 2012); D18 – Other social papers that examine all other social related issues that either do not fit into categories D16 or D17 or are general paper discussing social related issues (for e.g., Dhaliwal, Radhakrishnan, Tsang, & Yang, 2012). We also found other papers that had a general discussion on sustainability issue as a whole and was not specific to environment or social components. It is to be noted that the majority of papers dealt with sustainability in general. However, the manual analysis allowed the researchers to verify which component of sustainability was prevalent – social, environmental or both - and to code the paper accordingly. The residual papers, in which the two component were equally important were categorised as D19, a residual cluster (e.g., Sikka, 2010).

The second classification ‘accounting for sustainability’ was sub-divided into 8 different categories (D21-D28). The first sub-classification is D21- External reporting and accountability. If the paper examined reporting to external parties, disclosure to stakeholders, annual report disclosures, or accountability to stakeholders, then it was classified as D21 (for e.g., Moerman & van der Laan, 2011). Next D22 relates to evaluation and auditing (for e.g., Mock, Strohm, & Swartz, 2007). D23 classification was given to articles examining guidelines/frameworks/regulations/standards (Bonacchi, 2009). The researchers adopted the term ‘Finance’ to cover the broad category of socially responsible investing (SRI) and microfinance. The researchers decided for a broad and comprehensive definition to capture the main interests of financial accounting literature in the sustainability field (Mathews, 2004). ‘Finance’ was classified as D24 (for e.g., Deegan, 2008); articles relating to ‘management and strategy’ was classified as D25 (Parker, 2000); D26 for articles examining ‘performance measurement’ of sustainability (both financial and non-financial measurements were taken into consideration) (for e.g., Lau & Martin-Sardesai, 2012); articles on ‘profession and education’ was classified as D27 (for e.g., Lodhia, 2003) and finally any article that did not fit into D21-D27 was classified as D28 (for e.g., Everett, 2004).

The fifth step of classification was based on the 'research method' used in each article. This category was derived from Guthrie and Broadbent's (2008) study and Guthrie & Murthy (2009) study included six categories (E1 – E6). Those studies that used case and field study and interviews were classified as E1 (for e.g., MacKenzie, 2009). Those that used content analysis or historical analysis were classified as E2 (for e.g., Hasseldine, Salama, & Toms, 2005). Studies that used surveys, questionnaires or experiments were classified as E3 (for e.g., Carr, et al., 1997). The above three were empirical studies. The remaining two were classified as normative/theoretical studies. They were distinguished based on commentary or policy (E4) (Lehman, 2001), theoretical literature review (E5) (Green & Li, 2012). The final was a combined approach of both theoretical and empirical (E6) (for e.g., Toms, 2002). Sometimes when articles used a combination of mixed methods such as content analysis, interviews and questionnaires, we chose the method that was used for primary data analysis.

The final step in classification is based on framework/guidelines/models used. We found that some papers used existing frameworks/guidelines, while some papers tried to build up new models and several other papers did not use any models, framework or guidelines. Those papers that did not use any models, framework or guidelines were classified as F0 (for e.g., Martinov-Bennie & Hoffman, 2012); those that considered existing previous models, framework or guidelines were classified as F10 (for e.g., Brendan O'Dwyer & Owen, 2005) and articles that developed new models, framework or guidelines were classified as F11 (for e.g., Lamberton, 2000). The next section discusses the meta-analysis of SAR that we developed from our classification and codification process.

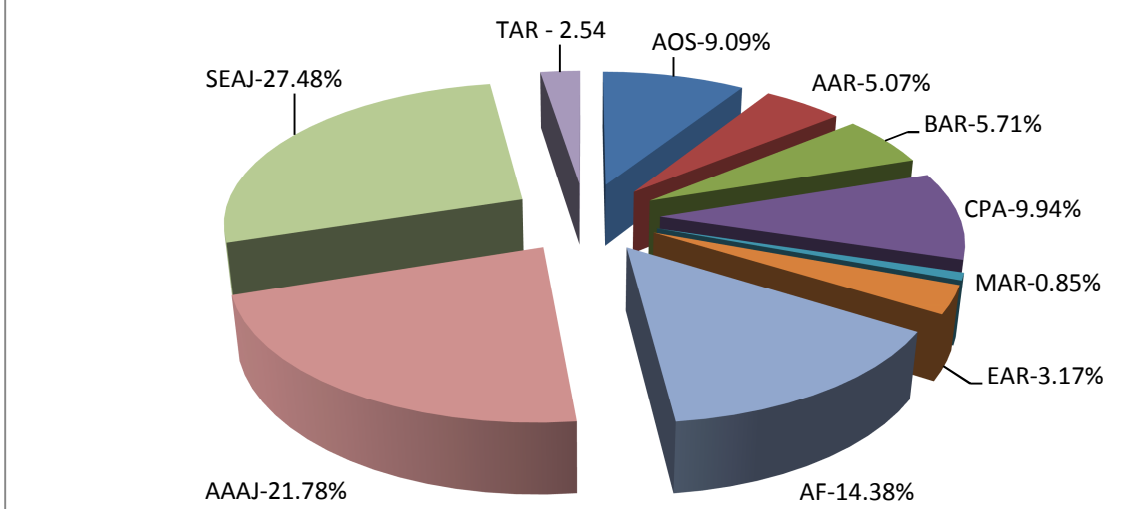
Analysis:

After selecting the articles on SAR from ten accounting journals, we conducted a meta-analysis of the selected articles to understand the descriptive pattern and provide answers for our research questions two and three - '*What has been published in sustainability accounting research (SAR) field in the past twenty years (1993-2012)*' and '*How is sustainability accounting changing*'.

Journal-wise distribution of SAR articles

Before discussing on each category listed in Table 2, we would like to focus our attention on the importance placed by each journal on SAR articles. Besides the specialist journal on SAR, which published 134 SAR articles, AAAJ seems to place high importance on publishing SAR articles. This journal had published 103 SAR articles, which is about 14% of its total publications (from Table 1).

Figure 1: Percentage articles published in each Journal



Both the specialist journal and AAAJ together contribute to approximately half of the total SAR publications in the last two decades. AF stands third in publishing SAR articles with a total of 68 SAR publications. Some journals (such as AAAJ, AF and AOS) have published special issues on sustainability, which shows the growing popularity of the topic. The remaining seven journals together have contributed less than 36% of the total SAR publications, of which MAR has the least number (less than 1%, which is only 4 articles in the twenty year period) of publications.

Next we were interested in understanding the trend in journal publications over the twenty years of our study.

Table 3: SAR publications by each journal year-wise

Year	AAAJ	AAR	AF	AOS	BAR	CPA	EAR	MAR	SEAJ	TAR	Grand Total
1993				1					10		11
1994	3			2				1	10		16
1995	1			3	1	3			7		15
1996	2			1	1	4		1	5		14
1997	10			1	1			1	7		20
1998	2	1		1	1	3			7		15
1999	2			1	2				9		14
2000	4	2				2	4	1	4	1	18
2001	3			1	2	5			6	1	18
2002	8	1		2	2	4			5	2	24
2003	4				2	2			6		14
2004	2	2	9	2	4	4			6	1	30
2005	6	1	8	3	3	5	4		7		37
2006	5	1	5	2		1			3		17
2007	9	4	10	2	1				4		30
2008	8	2	4	2	1	4	2		6		29

2009	6	2	9	11		2	2		2	2	36
2010	11	2	7	5	3	3	3		6		40
2011	3	2	11	2	2	4			17	2	43
2012	14	4	5	1	1	1			3	3	32
Grand Total	103	24	68	43	27	47	15	4	130	12	473

From Table 3 it is evident that AAAJ has been consistently publishing articles on SAR from 1994. AAAJ has also been publishing special issues on topics such as environment and sustainability. AAR and AF have regularly published SAR articles from the year 2004 onwards. AF had a special issue on sustainability related topic in the years 2007 and 2011. AOS, BAR and CPA, being a highly ranked journals have been publishing at least one article per year on SAR except for occasional breaks, for no apparent reason. In the year 2009 AOS had published a special issue on sustainability where 9 articles have been published. The increasing trend in publication of special issues in the last decade shows the importance placed on SAR by the accounting academics. MAR has not published SAR related articles after the year 2000, which is a controversial result of our study, given the relevance of sustainability in the UK. One explanation might be that MAR has a more traditional approach to the study of managerial accounting field and do not favour innovative and not fully established topics such as sustainability. Previous researches show that MAR has not given a relevant space to topics such as intellectual capital or similar (Broadbent and Guthrie, 2007).

Finally, we understand that sustainability related articles could be submitted to other accounting journals as per author preference and journal policy, but nevertheless, given the significance of SAR and its popularity in the recent past, it is rather unsatisfactory to see scarce SAR publications in popular journals. Also, we note here that publications in highly ranked journals such as AOS, MAR, CPA, BAR and the like is quiet difficult as the variety of topics and the number of articles submitted is high with a very low acceptance rate of less than 10%. This trend could probably discourage novice authors and potential submitters to submit their articles in less popular journals where acceptance rate could be comparatively high.

Jurisdiction:

Henceforth we start our analysis on the six categories (listed in Table 2). The data in Table 3 shows the jurisdiction of the articles originated. We find that most popular level of organisational studies is General (A3) with 211 articles followed by National organisational (A22) with 135 articles. Studies at supra-national levels is comparatively low with just 27 articles at both industry and organisational levels (A11 and A12), which is approximately about 5% of the total SAR publications.

Table 3: Jurisdiction of SAR articles

A. Government/Jurisdiction	Total	%
A11. Supra-National/International/Comparative - Industry	7	1.48%
A12. Supra-National/International/Comparative - Organisational	20	4.22%
A21. National - Industry	52	10.97%

A22. National - Organisational	135	28.48%
A3. One Organisation	49	10.34%
A4. General	211	44.51%
Grand Total	474	

We could attribute this trend in publishing papers on general jurisdiction level to the fact that most of the investments in sustainability are performed at within large corporations. Studies on small and medium size enterprises are more recent and the field is still undernourished (Epstein, 2010). National level studies were popular probably because it was relatively easy for researchers to gather information from organisations in one country. Also, reporting on sustainability issues is usually not mandatory, and when it is mandatory the regulation does not require the adoption of a specific set of guidelines and does not impose a predefined level of disclosure (Parker, 2005). This state of the art results in organisations reporting on the general needs/interest/issues prevalent in the country to the prevalent stakeholders. For this reason, we could assume that it might be fairly easy for researchers to compare reporting of organisations within a country. Supra-national studies are unpopular probably because of the difficulty in gathering data on sustainability from different countries or SAR information may be different in different countries which makes it arduous to compare. Even though Global Reporting Initiative (GRI) framework is by far the most adopted, together with AA1000, the lack of imposition makes the reality of external sustainability report a field where comparisons may be inconsistent (Adams, 2002).

Looking at the trend in yearly publications (Table 4), we find that supra-national comparative studies are becoming popular in the later years from 2005. This could be possible because many countries have started adopting frameworks and guidelines such as GRI and AA1000 (Adams, 2002). In such cases comparison is possible.

We can also see an increasing trend in publication of national level studies on organisations and one organisation case studies over the years. This is promising as such case studies on both organisational levels and one organisation could provide an in-depth understanding of a phenomenon such as SAR within its real-life context (Yin, 1984, p. 23).

Table 4: Year-wise information on Jurisdiction.

Year	A11	A12	A21	A22	A3	A4	Grand Total
1993			1	2	2	6	11
1994				6	1	9	16
1995		1	2	3	2	7	15
1996		2	3	2		7	14
1997			6	4		10	20
1998		1	1	7	1	5	15
1999				3		11	14
2000		1	1	4	2	10	18
2001	3		1	9	1	4	18
2002			1	10	2	11	24
2003	1		3	5	2	3	14

2004			3	9	4	14	30
2005	1	2	5	12	5	12	37
2006		1	4	5	2	5	17
2007		2	1	14	4	9	30
2008			10	2	4	13	29
2009	1	3	3	7	6	16	36
2010	1	3	4	11	6	15	40
2011		1	3	9	4	26	43
2012		3		10	1	18	32
Grand Total	7	20	52	134	49	211	473

Organisational focus

The next category, namely, organisational focus, highlighted in Table 5 provides details of the literature in terms of the types of organisations. Similar to Guthrie et al., (2012) study, apart from general other papers (B6), our study also finds that publicly listed papers are the most researched. The total number of articles on private companies and Not for Profit companies (B2, B3 and B5) is only 35 out of a total of 473 SAR articles. This is only about 7% representation by private companies.

Table 5: Organisational Focus of SAR articles

B. Organisational Focus	Total
B1. Public Listed	197
B2. Private - SMEs	6
B3. Private - Others	14
B4. Public Sector	23
B5. Not For Profit	15
B6. General/Other	218
Grand Total	473

There could be several reasons for such high representation of public listed organisations. First, the external reports including voluntary for public listed companies are readily available which makes data collection effortless. Second, these are large organisations and are visible and answerable to its stakeholders. Therefore, the general expectation is that these companies would publish more information on their sustainability activities and hence there is more research on these organisations. Third, large organisations seek legitimacy in their operations and their sustainability efforts could project them as ‘good citizens’ and help in increasing their value creation.

Table 6: Organisational focus year-wise

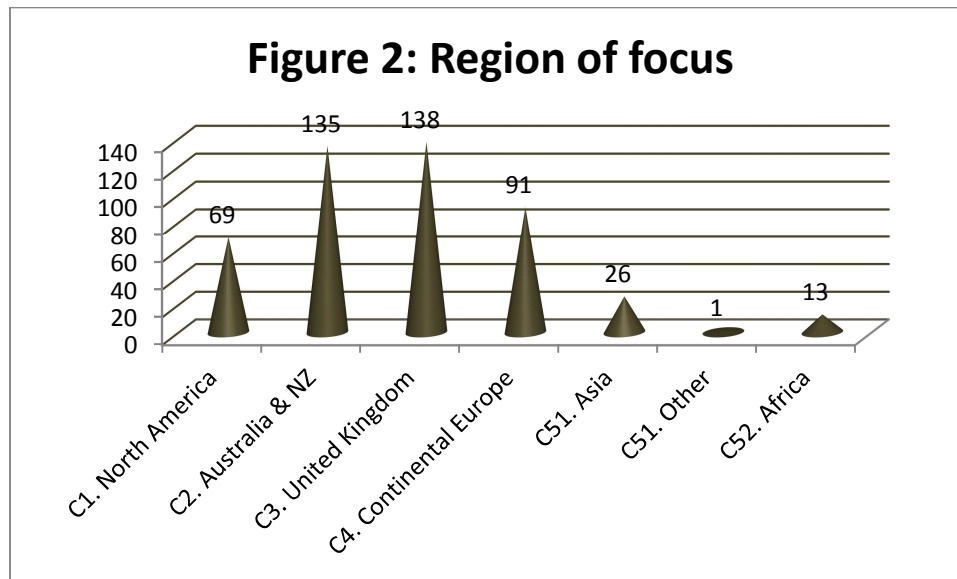
Year	B1	B2	B3	B4	B5	B6	Grand Total
1993	4		1			6	11

1994	6				1	9	16
1995	6			2		7	15
1996	4		1	1		8	14
1997	5		1	4		10	20
1998	7	1	1			6	15
1999	3					11	14
2000	6	1				11	18
2001	13		1			4	18
2002	10	1		1	1	11	24
2003	9					5	14
2004	14			2		14	30
2005	16	1	1	2	4	13	37
2006	10		2			5	17
2007	13		1	3	3	10	30
2008	14	1	1		1	12	29
2009	14			3	2	17	36
2010	20	1	1	2	1	15	40
2011	12		1	3	1	26	43
2012	11		2		1	18	32
Grand Total	197	6	14	23	15	218	473

Table 6 provides us details of the yearly trend in publication of SAR articles by the ten selected journals. Though studies on private companies and Not For Profit organisations are scarce, we find that more such studies have been published in the recent years, which is an encouraging trend. Also, articles on Public listed companies and other general papers are showing a growing trend over the study period.

Region of focus

We next analyse the region of focus or the geographical location of the article published. We find that Australia & New Zealand and United Kingdom were in the forefront in publishing SAR related articles. Australia placed importance to the environment for a long period of time and therefore it has been the pioneer in publishing sustainability articles (Deegan & Soltys, 2007).



Most of the prominent authors in the field of SAR such as Adams, Ball, Bebbington, Collison, Gray, and O’Dwyer hail from United Kingdom, which probably explains the reason for a large number publication from the UK. Continental Europe also has been publishing a number of articles in SAR field. This number could be more, if we had included European language publications. Professors and authors in countries such as Spain, Italy, Germany and France, Denmark and in general all over Europe are expected to publish articles in their local language and do so.

As can be seen in Figure 2, there is a dearth in the publications from other parts of the world such as Africa, South America, Asia and other emerging economies. This could be because authors from these countries may prefer to publish in local languages and in local journals. Also, similar to the Guthrie & Murthy (2009) study, the selected journals are published in English language and may be interested in studies on developed countries. Nevertheless, we could see growing number of publications from Asia in the recent years, which indicate the rising interest in the SAR field among the Asian countries.

Table 7: Region of focus year-wise

Year	C1	C2	C3	C4	C51	C52	C53	Grand Total
1993	2	1	4	4				11
1994	3	4	2	5	1	1		16
1995	2	3	4	5		1		15
1996	2	6	1	5				14
1997	1	7	8	3	1			20
1998	5	1	4	1	2	2		15
1999		4	5	3	1	1		14
2000		6	8	3	1			18
2001	6	4	5	2		1		18
2002	5	8	7	2	2			24
2003	2	4	4	4				14
2004	5	9	12	1	2		1	30
2005	3	7	14	9	2	2		37
2006	1	4	6	4	2			17

2007	3	11	8	5		3		30
2008	6	9	8	3	3			29
2009	6	7	10	11	2			36
2010	3	15	11	7	3	1		40
2011	7	7	12	13	3	1		43
2012	7	18	5	1	1			32
Grand Total	69	135	138	91	26	13	1	473

From Table 7 we can understand that studies from North America and Australia & New Zealand have been increasing over the years, but publication from UK and Europe has decreased in the year 2012. We also find that studies from Africa is marginally increasing over the years.

Focus of sustainability

Focus of sustainability accounting literature is shown in Table 8. A total of 296 articles relating to environment have been published in the past twenty years. This includes all studies on water (D11), energy (D12), land (D13), carbon emission (D14) and other general (D15) articles on environment. We found that from the early years general papers on environment has been published and contemporary articles tend to examine corporate activities relating to one component of environment (such as water, pollution etc), which is evident from Table 9.

A total of 149 articles examining social side of SAR were published in the last two decades. This includes articles on business ethics (D16), employees & social capital (D17) and general social (D18) articles. This is less compared to the number of publications found from the environment side of SAR. We believe that articles on the ‘social’ were published when the term ‘corporate social responsibility’ was popular. When the term ‘sustainability’ was embraced, a general shift in publication towards ‘environment’ could be observed (Gray and Laughlin, 2012). As suggested in the literature review section, in the beginning sustainability accounting research stemmed from the broader “social accounting” perspective and then in the 80s and 90s the environmental part was considered more relevant also because it was easier to estimate in terms of cost/benefits. More recently the social side is regaining importance for example with the creation of ISO 26000 (Deegan and Soltys, 2007).

Table 8: Focus on Sustainability: Environment and Social

D1. Focus Sustainability: Environment and Social	Total
D11. Water	11
D12. Energy	6
D13. Land	7
D14. Carbon emission/pollution	32
D15. General environmental	242
D16. Business Ethics	12
D17. Employees & Social capital	55
D18. General social	81
D19. Other sustainability (general)	27
Grand Total	473

Table 9 gives a summary of the year-wise distribution of the SAR articles based on its focus of research. Though there has been no publication on any one specific component of environment in the earlier years, we find that after the year 1995 there has been consistent publication of a minimum of one article examining a single environmental component. Other than this finding, the year-wise table does not show any consistent pattern of publications of social papers, except that papers on employee related aspect of social component is on the increase.

Table 9: Focus of sustainability year-wise

Year	D11	D12	D13	D14	D15	D16	D17	D18	D19	Grand Total
1993					8	1	1		1	11
1994					12		2	2		16
1995	1				12		2			15
1996			1	3	9			1		14
1997	1			1	11		5		2	20
1998			1		7		3	4		15
1999					8		3	2	1	14
2000		1			13		1	2	1	18
2001		1			12			5		18
2002	1			1	13	2	2	4	1	24
2003		1			11		1	1		14
2004	1		1	1	13	2	4	6	2	30
2005	1		1		19		4	8	4	37
2006			1		11	3		2		17
2007	1	1		1	10	1	10	3	3	30
2008		2		5	8		3	10	1	29
2009				8	18			8	2	36
2010	1		1	2	22		3	7	4	40
2011	3		1	3	15	1	6	12	2	43
2012	1			7	10	2	5	4	3	32
Grand Total	11	6	7	32	242	12	55	81	27	473

To further understand the nature of focus given to SAR, we also looked at the distribution of SAR articles in terms of the focus given by each country. The is provided in Table 10

Table 10: Focus on sustainability country-wise.

C. Country of First Author	D11	D12	D13	D14	D15	D16	D17	D18	D19	Grand Total
C1. North America	1	1	2	4	38	1	4	14	4	69
C2. Australia & NZ	2	2	2	13	70	5	13	18	10	135
C3. United Kingdom	5	2	1	10	56	2	21	32	9	138
C4. Continental Europe	1		2	5	57	3	8	13	2	91
C51. Asia	1				15		5	3	2	26
C52. Africa	1	1			5	1	4	1		1
C53. Other					1					13

Grand Total	11	6	7	32	242	12	55	81	27	473
C. Country of First Author	Environmental Issues (D11-D15)	Social Issues (D16-D19)	Grand Total							
C1. North America	46	23	69							
C2. Australia & NZ	89	46	135							
C3. United Kingdom	74	64	138							
C4. Continental Europe	65	26	91							
C51. Asia	16	10	26							
C52. Africa	7	6	13							
C53. Other	1	0	1							
Grand Total	298	175	473							

We find that Australia & NZ, Europe and UK seem to be consistently showing an increase in publishing articles in the environment accounting field. North America seems to publish general papers (D15) on the environment and on green house gas emission (D14). UK seems to be publishing more articles on the social side of SAR compared to Australia & NZ. Other countries (C51, 52 and 53) generally publish papers on general environmental issues and few papers on social related issues, more so on employee related issues.

Next, we were also interested in understanding ‘accounting for sustainability’ literature. Figure 3 shows the results. We found that most published articles examined external reporting and organisational accountability (D21) towards external stakeholders and management and strategy elements (D25). This shows that overall internal management control (D21 and D25 – a total of 276 articles) seem to draw researchers’ interest. Articles on the role of accounting profession towards SAR and educating future accountants (in universities) on sustainability (D27) seem to be negligible as this area of research is disregarded (Chen and Roberts, 2010; Mathews, 1997). The articles relating to Guidelines, standards and frameworks seem to draw intermittent attention at times when new frameworks and standards (such as , GRI, AA1000, ISO and the like) get established (Adams, 2002).

Figure 3: Accounting for sustainability

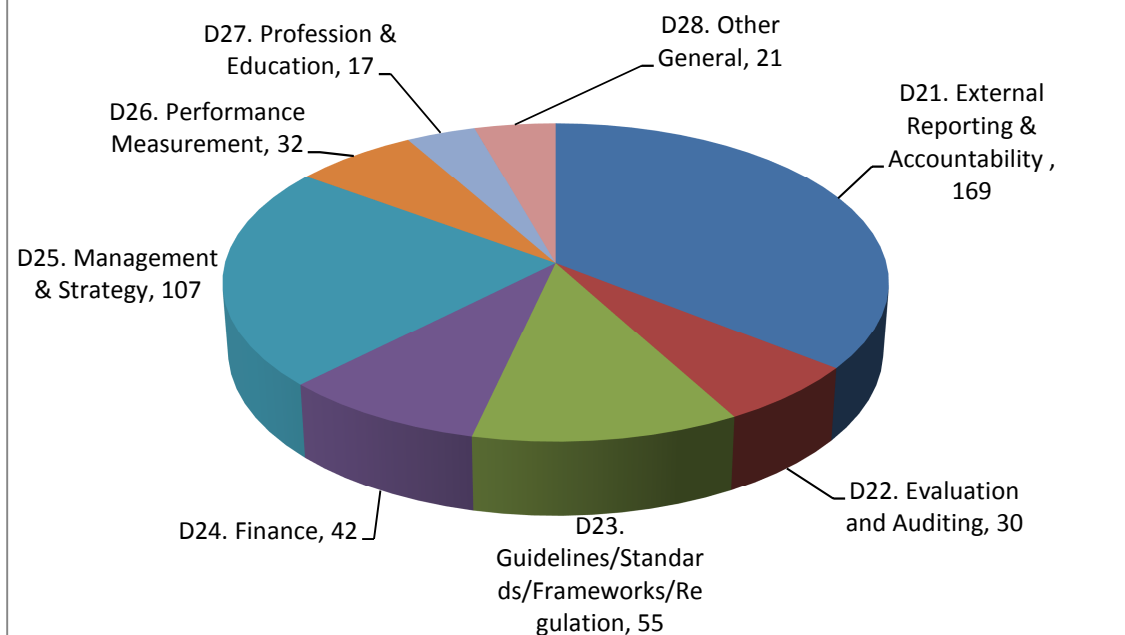


Table 11 gives us details of publications based our classification ‘accounting for sustainability’ for each year. We find that external reporting and accountability related articles and contributions on management and strategy have been popular during all twenty years. In fact, despite attempts at marginalising SEA research by the traditional economics and finance based accounting research communities, researchers have continuously attempted to overcome the early under-theorised stage of the field by suggesting linkages with strategy and the identification and definition of guidelines to increase firms’ external accountability (Parker, 2011).

The analysis of the longitudinal data in Table 11 shows the growing interest of researchers on commenting guidelines and frameworks in year 1997, when GRI and AA1000 were created, and in late 2000 probably because of the evolution in the ISO regulation with the introduction of the ISO 26000 certification in year 2010. Though, we could see isolated articles on profession and education in the early years, this field seems to have caught attention of researchers only in recent years. We could also see an increase in articles relating to performance measures (D26) after the year 2000. This is probably due to the implementation of strategic performance measurement systems for sustainability, most of which were created in the late 1990s or early 2000. A good example might be the Sustainability Balanced Scorecard (Figge et al, 2002).

Table 11: Accounting for sustainability year-wise

Year	D21	D22	D23	D24	D25	D26	D27	D28	Grand Total
1993	4		2	1	2	1	1		11
1994	6	1	1		6	2			16
1995	7	2	1	1	3	1			15
1996	4		3	2	4			1	14
1997	5	1	7		3		3	1	20

1998	10	1	2		2				15
1999	7		3	1	2			1	14
2000	6	1		4	4	2	1		18
2001	4		3	4	5	2			18
2002	11		2	3	5	1	1	1	24
2003	5	1	2		3	1	2		14
2004	13	3	1	6	5			2	30
2005	11	3	6	2	9	4	1	1	37
2006	6	1	2	2	3	2	1		17
2007	9	3	2	2	5	6	1	2	30
2008	12		3	3	8	1		2	29
2009	8	3	4	3	10	7		1	36
2010	18	2	4	2	10		3	1	40
2011	11	6	4	3	10	1	3	5	43
2012	12	2	3	3	8	1		3	32
Grand Total	169	30	55	42	107	32	17	21	473

While examining the relationship between the region of focus (C) and accounting for sustainability (D2), we found that apart from Australia & NZ and UK all other countries have published few articles focusing on evaluation and assurance practices (D22). A longitudinal analysis in this aspect of SAR studies shows an increasing interest in assurance engagement on sustainability reporting due to the introduction of the AA1000 AS guideline in 2003 and the relative revision in year 2008 and more specifically of the ISAE 3000 IFAC guideline in year 2003 later revised in 2011. An increase in the number of contributions is expected as a result of this evolution in the frameworks and guidelines. Another explanation of this trend might be the integrated reporting initiative which combines Intellectual Capital (IC) and SAR scholars and practitioners in the definition of guidelines for the management and disclosure of both value drivers of organizations (Eccles & Kruzs, 2010).

Finally, most of the papers from Africa are on external reporting and accountability as expected from a geographical area where sustainability practices still need to be established.

Table 12: Accounting for sustainability country-wise

C. Region of focus	D21	D22	D23	D24	D25	D26	D27	D28	Grand Total
C1. North America	28	1	4	13	10	5	3	5	69
C2. Australia & NZ	50	9	13	12	29	9	6	7	135
C3. United Kingdom	45	13	19	11	33	8	3	6	138
C4. Continental Europe	27	5	15	4	27	7	4	2	91
C51. Asia	10	1	3	2	6	2	1	1	26
C51. Other					1				1
C52. Africa	9	1	1		1	1			13
Grand Total	169	30	55	42	107	32	17	21	473

Research Methods

Next Table 5 shows the distribution of SAR articles on the basis of research methods.

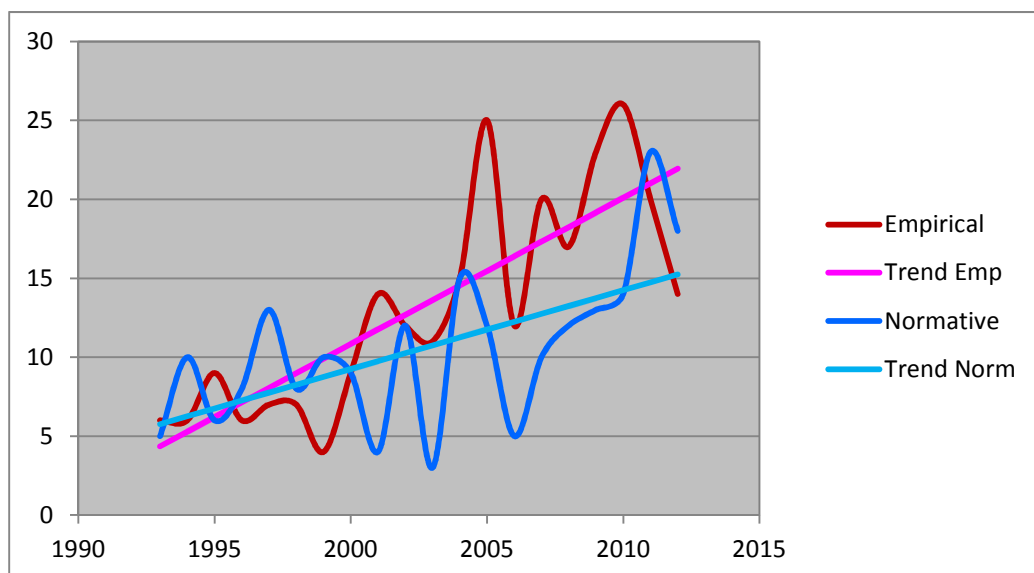
Table 13: Research methods used

E. Research Methods	Total	%
E1. Case/Field Study/Interviews	111	23%
E2. Content Analysis/Historical Analysis	77	16%
E3. Survey/Questionnaire/Other Empirical	76	16%
E4. Commentary/Normative/Policy	99	21%
E5. Theoretical/Literature Review	105	22%
E6. Theoretical/Empirical	6	1%
Grand Total	474	

As suggested in Guthrie & Murthy (2009) studies the first three categories (E1, E2 and E3) could be combined as empirical studies and categories E4 and E5 are theoretical or normative studies. Studies representing these two broad classifications seem to be equally distributed (empirical is 55% and theoretical is 44%). This is an encouraging trend as articles use various research methods such as empirical and studies having theoretical underpinnings that demonstrate a good balance.

The final category E6 is theoretical/empirical studies linking theoretical studies with empirics. On examining the spread of methods on an individual basis, we find that empirical methods using case studies and interviews studies (E1) dominate the SAR field, followed by theoretical literature review studies (E5). There seem to be paucity in articles examining theoretical studies linked to empirics (E6). If a practical solution has to be achieved in the SAR field, then it is advisable to move towards linking theory with empirics.

Figure 4: Trend in empirical & normative studies



As can be seen in Figure 4 the trend in publication of theoretical and normative SAR articles follow a similar pattern. For instance both types of studies show an increasing level in the number of publications in the year 2004-05 and 2012; and a decreasing level in 2006 and 2012. The explanation of this trend might be found in the numerous call for articles

describing the implementation phase of sustainability and not just theorising and drawing the boundaries of the SEA field in the late 1990s (Gray, 2002). For example Bebbington (1997) makes a case for enabling environmental and social studies to be expanded to practitioners and to have a preeminent role in education. Mathews (1997) supports the same argument and suggests the relevance gained by SAR literature despite the numerous definitional debates. It might be suggested that the effects of the crisis in the late 2000s might have limited the impact and relevance of the sustainability studies. However, leading SAR researchers proved theoretically and empirically the persistent relevance of sustainability from a theoretical and practical perspective (e.g. Epstein, 2010).

Articles on Guidelines/frameworks/models/standards

Finally, the sixth and the final classification that adds to our classification of research methods is the development of frameworks and guidelines, which is shown in Table 14

Table 14: Guidelines/frameworks/standards/models

F. Guidelines/Frameworks/Methods/Standards/Models	Total	%
F0. No model proposed	422	89%
F10. Applies or Considers previous models	23	5%
F11. Proposes a new model	29	6%
Grand Total	474	

A majority of the articles i.e., total of 422 articles (89%) did not propose or use any guidelines/frameworks/standards or models. We believe that the few articles that applies previous models or proposes new models could have been published at a time when new standards/guidelines such as GRI, AA1000 and ISO came into existence.

Table 15: Guidelines/frameworks/models/standards year-wise

Year	F0.	F10.	F11.	Grand Total
1993	11			11
1994	15		1	16
1995	13	1	1	15
1996	11		3	14
1997	14	3	3	20
1998	14	1		15
1999	13		1	14
2000	12	3	3	18
2001	16		2	18
2002	22	1	1	24
2003	13		1	14
2004	27		3	30
2005	32	4	1	37
2006	15	1	1	17
2007	27	3		30
2008	26	2	1	29
2009	31	2	3	36

2010	37	2	1	40
2011	42		1	43
2012	30		2	32
Grand Total	421	23	29	473

Discussion and conclusion:

Before proceeding with our analysis we wanted to understand what happened in the field of SAR prior to 1993. We addressed this relying on existing literature reviews and commentaries. We found that in 1970s the focus was on employment and pollution control, self-regulation was encouraged in the 80s and sustainability was gaining popularity among businesses in the 90s. Then first and the second research questions were answered from our meta-analysis of SAR articles for a period of twenty years published in ten popular accounting journals.

In this section we revisit our research questions by discussing our observations from our meta-analysis. We undertake a more qualitative outlook and provide answer to our third research question ‘What more could be done in sustainability accounting as a research agenda?’

We find that besides SEAJ, the specialist journal, AAAJ and AF have been dominant in publishing SAR articles. Also, the recent publications of special issues on environment and sustainability show the importance placed by the journals on SAR. Journals such as CPA and MAR are the only ones not showing a growing interest in SAR, but more in the mainstream accounting research. However, CPA publishes critical studies, which could extend SAR beyond conventional theories as these are not suitable for the problems faced by the contemporary society. Between 1993 and 2000 MAR published 4 articles on SAR. It is relevant here to note that MAR generally publishes articles that discuss and analyse management accounting related issues in different parts of the world. Therefore, it would be beneficial if MAR could contribute to establish the SAR into mainstream accounting literature.

While considering the jurisdiction and organisational focus, we find that a majority of studies were on national, public listed companies. Supra-national studies seem to gain attention only from the year 2005, probably because comparison is possible when guidelines such as GRI gain momentum and are more diffused. In fact, in year 2006 a new version of the GRI guidelines was issued with a large stakeholder and business involvement. Our analysis shows a slow increase of studies on one-organisation, but nevertheless, the increase is not adequate enough to have an in-depth understanding of SAR in real-life context. Therefore, in the future more in-depth case studies on one organisation, especially on not-for-profit organisations and private sector organisations in particular small and medium size enterprises (SME) would be beneficial.

Our investigation of regional focus indicates that Australia & New Zealand, UK, Europe and North America are leading publishers of SAR articles. More specifically, Australia, New Zealand and the UK seem to have produced a consistent flow of research in the field throughout the period analysed. More recently, there has been a growing number of publications from Asia and Africa. Nevertheless, we did not find studies from the Middle

East countries (except for one Saudi Arabian study) and Russia. Studies on emerging economies such as India is rare and are published by authors living in other countries. Studies on emerging economies from Asia and Africa would throw light on their SAR agenda, which could probably be different to the developed nations. For example, developed countries such as Australia could be interested in environmental studies, whereas emerging economies such as India and Africa have a different set of problems and priorities such as unemployment, child education, health and well being of the society and poverty eradication – all of which deal with social sustainability.

The focus of a great number of SAR articles is on general environmental issues. North America, Australia & NZ and Europe tend to publish more studies on environment as opposed to social issues, but UK, Asia and Africa seem to place equal importance to both environment and social issues. Prior literature reviews (for e.g. Parker, 2011) also highlight that environmental studies have dominated the SAR field as compared to social studies.

Studies on social aspects of sustainability are not so popular for the following reasons. First, social aspects such as equity, diversity and quality of life, are discussed as a part of human resources field or as Human Capital (a component of Intellectual Capital). For e.g. there are many studies on human capital health and well being in the recent years (Akerlind & Schunder, 2007; Frick & Zwetsloot, 2007; Murthy & Guthrie, 2013 (forthcoming); Roslender, Stevenson, & Kahn, 2006). Second, organisations tend to report more on environmental issues. This is probably because many environmental initiatives (such as reduction of paper, reducing green house gas emission, reducing electricity consumption, water consumption etc) could be quantified. Social issues on the other hand, are qualitative and hence could be difficult to measure accurately.

Third, developed countries are interested in environmental issues, because such countries have been involved in many decades of industrialised activities and degrading forests which have caused a high accumulation of green house gas emission (Attah, 2010). Hence developed countries such as Australia, US, UK and European countries face restriction on green house gas emission. But, developing countries such as India have been using their industrial power to produce consumer goods and are just emerging as industrial countries. These countries face not mandatory restrictions on green house gas emissions. Furthermore, such countries have social problems (as mentioned above) and hence need to pay attention to social issues as a priority. Regardless of these explanations, it would be encouraging to see more articles on social sustainability.

We found a growing number of publications on external reporting and accountability towards stakeholders and management strategies. We also found increased interest in the field around the years when new Guidelines and frameworks were introduced. SAR has an impact on business and society and hence has impacted the accounting education and professional landscape. Nevertheless, not many articles were found on the role of the accounting profession and education in the SAR field. In future, considering the growing importance of sustainability and its development as a core discipline of accounting profession, SAR literature needs to have greater number of publications on the role played by accounting education and profession.

Our study demonstrates that different research methods have been adopted in the SAR literature using both theoretical and empirical data. But, there are a limited number of studies linking theory to empirics that provide practical solutions. This could be successful when academics work together with professionals and policy makers. For example an increasing

attention could be devoted to managerial capture in the sustainability area (see Parisi, 2013). This is a gap in SAR literature that begs the attention of future researchers. There are a small number of articles examining guidelines and frameworks. We find that such articles are published from developed countries at a time when new guidelines are issued. Articles examining the frameworks and guidelines especially in emerging economies would be welcome as these would throw light on sustainability issues of developing countries, which are probably different to the issues faced by developed countries. These studies could help refine the guidelines to suit different types of economies of the world.

To conclude, our meta-analysis informed us that the field of SAR has well and truly taken off. Nevertheless, we find significant gaps in the research agenda, the examination of which could provide answers to existing unsolved sustainability questions. As sustainability accounting researchers we see ourselves as a part of contemporary qualitative accounting research community that aim at researching both the environmental and social agendas of sustainability accounting. At present as evidenced by our study attention has not been given to social sustainability which when done could provide us with an exhaustive understanding of sustainability. Also, future studies as suggested in previous paragraphs could address issues that were overlooked in the past.

The research gaps presented in the paper are therefore intended to help provide a needed starting point for further thinking and discussion about the challenges and opportunities associated with corporate sustainability performance. Nonetheless, it is recognised that the paper did not specifically address on the theoretical approaches adopted by the literature, which could have shed a light on the underlying frameworks leading the growing SAR field. Future research should address this specific issue.

Moreover, the focus of this work has not been to highlight the impact of SAR in universities and executive education (Bebbington, 1999). However, given the growing attention devoted by teaching institutions to SAR, future research could devote attention to sustainability from this particular perspective.

Finally, one particular challenge will be to approach future research on sustainability in an integrated manner, rather than through the somewhat fragmented approaches that characterises the field. This would encourage future researchers to consider all the aspect of SAR and appreciate the design, implementation and evolution of sustainability in different contexts.

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