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Sustainability Reporting as a Challenge for Performance Measurement: Literature Review

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***Abstract* – This paper aims to provide a systematic literature review of scientific works on the integration of performance measurement (PM) and sustainability reporting (SR) applying content analysis. The research question is how performance measurement system (PMS) could help to ensure an effective sustainability reporting. The literature review shows the relationship between PMS and sustainability reporting in terms of integrated purpose, measurements and actors/ownership in supporting the decision-making process at different stages: planning, control, and reporting.**

***Keywords* – Performance measurement, social and environmental reporting, sustainability reporting, triple bottom line.**

I. Introduction

In the last three decades and more rapidly in the recent years, the rules of traditional business have changed. The emergence of a new business environment has determined major changes in the organizations strategies, structures, systems, and tools. For today's organizations it is very important to manage their social and environmental responsibility, a theme which is becoming an unavoidable subject for organizations in response to internal and external pressure. In 2001, the Green Paper by the European Commission introduced the concept of Corporate Social Responsibility (CSR), "a concept whereby companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on a voluntary basis. Being socially responsible means not only fulfilling legal expectations, but also going beyond compliance and investing 'more' into human capital, the environment and the relations with stakeholders" [19]. In response to such escalating pressures, over the last 20 years several thousand companies have started to disclose information about their social and environmental performance and the number of published sustainability reports (or social and environmental reports) has rapidly grown [39].

Sustainability reporting has become an increasingly common practice in companies' attempts to respond to expectations and criticisms from the stakeholders who want to be better informed about the social and environmental impact of business activities [12]. Since the 1950s, the theories of CSR have been developed, gradually moving from a macro-social view to an organizational-level analysis and from ethics-oriented to performance-oriented studies [47]. Accounting research on the topic has also flourished [26]. To date, this literature has provided valuable insights on the determinants and managerial motivations underpinning social and environmental reporting initiatives [81].

Many companies operate in a highly competitive environment and acknowledge that their competitive advantages are no longer sustainable. The challenge for performance measurement systems (PMS) is to supplement operational and strategic levels with useful tools and sustainability can play the role of "trigger" for change in PMS [48].

This paper is aimed at providing a systematic literature review of scientific works on the integration of performance measurement (PM) and sustainability reporting (SR) applying content analysis, in order to highlight literature gaps and contribute to mapping, consolidating and developing theory in this area.

In particular, the research question addressed by our paper is the following: how could performance measurement system (PMS) help to ensure an effective sustainability reporting?

II. Method

Literature review is defined as primarily qualitative synthesis and a fundamental step within the overall research process, which should be conducted in a rigorous, transparent and systematic way, in order to guarantee the replicability and traceability of the research.

In this respect, content analysis offers a sound methodological frame for leading a high quality literature review and can be seen as a four-step process:

1) Materials collection;
2) Descriptive analysis;
3) Category selection;
4) Materials evaluation.

With regard to materials collection, our literature sample consists of peer-reviewed papers in English on the integration of performance measurement and sustainability (or social and environmental) reporting, covering the fifteen-year-period from January 2000 to August 2014 (excluding the articles in press). The literature search was based on the following pair of keywords jointly found in title, keywords or abstract:

- "performance measurement" and "sustainability reporting";
- "performance measurement" and "social and environmental reporting";
- "performance measurement" and "triple bottom line";
- "performance indicator" and "sustainability reporting";

– "performance indicator" and "social and environmental reporting";
– "performance indicator" and "triple bottom line";
– "performance measure" and "sustainability reporting";
– "performance measure" and "social and environmental reporting";
– "performance measure" and "triple bottom line";
– "performance metric" and "sustainability reporting";
– "performance metric" and "social and environmental reporting";
– "performance metric" and "triple bottom line";
– "sustainable performance" and "reporting".

The keyword search was carried out in major databases: Academic Search Complete and Business Source Complete (EBSCO), Scopus and Science Direct (Elsevier), Emerald, and ProQuest Central.

We found 149 documents (117 papers published in journals, 26 conference proceedings, and 6 book chapters), 70 of which could be downloaded (67 papers, 65 of which were peer-reviewed, and 3 conference proceedings). Within this selection of documents, we analysed more in depth the content of 52 papers published in peer-reviewed journals, which were deemed relevant in order to answer our research question.

Dividing the observed time span in three-year periods, we noticed that prior to 2002, the presence of papers on this subject was almost irrelevant, while it had rapidly grown in the following years and had sharply accelerated from 2009 onwards (Fig. 1).

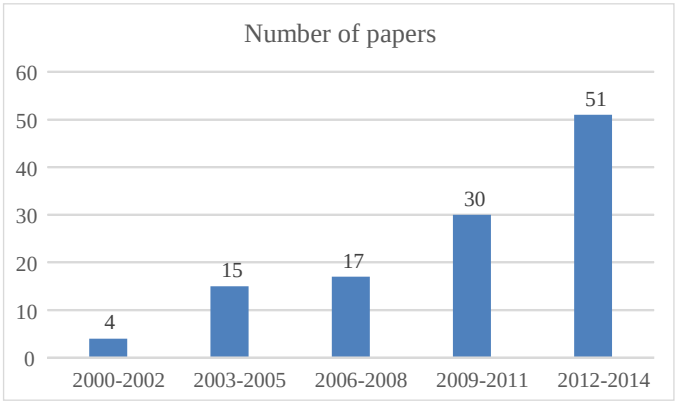

Fig. 1. Distribution of papers over time (January 2000 – August 2014).

As the second step, the descriptive analysis was conducted by providing information about the distribution of the papers across various journals (Table I), (Table II), (Table III), (Table IV) and presenting the analytic findings. The third step is represented by the selection of the following categories of the analysis: paper type and country, size, and sector/industry of the investigated organisations (Table I), (Table II), (Table III), (Table IV).

TABLE I

PAPERS NOT RELEVANT FOR THE PURPOSE OF OUR PAPER (13 PAPERS)

Author	Journal title	Paper type	Country / Companies' size / sector or industry
Cheng and Thompson (2006)	Journal of Health, Organisation and Management	Case study	Canada / health sector
Yongvanich and Guthrie (2006)	Business Strategy and the Environment	Conceptual paper	
Mintz (2011)	CPA Journal	Research paper	
Cortez (2011)	Journal of International Business Research	Research paper	Japan / manufacturing organizations
Hřebiček, Soukopová, Štencl, Trenz (2011)	Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis	General review	
Gadenne *et al.* (2012)	Journal of Accounting & Organizational Change	Research paper	Australia / medium to large companies
Bhamra (2012)	International Journal of Sustainable Engineering	Research paper	Industrial sector
Jensen and Berg (2012)	Business Strategy and the Environment	Research paper	Many countries
White and Koester (2012)	Sustainability	Case study	USA / Higher Education (Case: Ball State University)
Kepa, Sardelic, Waretini (2012)	Journal of Hydrology	Case study	China / Dam (Case: Three Gorges Dam)
Zhou, Keivani, Kurul (2013)	Journal of Financial Management of Property and Construction	Research paper	United Kingdom
Biswas, Cooling (2013)	Journal of Industrial Ecology	General review	Australia / industrial sector
Wildowicz-Giegiel (2014)	Problems of Management in the 21st Century	General review	

TABLE II

COMPONENT 1: PURPOSE (26 PAPERS)

Category	Author	Journal title	Paper type	Country / Companies' size / sector or industry
Category 1.1: Papers disclosing purpose and usage of PM and sustainability reporting as an integrated system in an organization (11 papers)	Beckett and Jonker (2002)	Managerial Auditing Journal	conceptual paper	
	Lamberton (2005)	Accounting Forum	conceptual paper	
	Perrini and Tencati (2006)	Business Strategy and the Environment	conceptual paper	SMEs
	Searcy (2009, 2011)	Measuring Business Excellence	conceptual paper	
	Gates and Germain (2010)	Management Accounting Quarterly	research paper	France / large companies
	Kocmanová and Dočekalová (2011)	Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis	research paper	Czech Republic / SME / processing industry, trade, construction industry and services
	Zhang, Joglekar, Verma (2012)	Journal of Service Management	research paper	USA / hospitality industry
	Bocken, Morgan, Evans (2013)	International Journal of Productivity and Performance Management	research paper	Multinational corporations / manufacturing companies
	Nikolaou, Evangelinos, Allan (2013)	Journal of Cleaner Production	conceptual paper	Reverse logistics systems
	Kumar (2014)	International Journal of Management Research and Reviews	research paper	Large multinational corporations
Category 1.2: Papers providing relevant sustainability research with the purpose to ensure integration with one or more elements of performance measurement, such as strategy, decision making, planning and control (7 papers)	Bissett and Green (2003)	Water Science and Technology: Water Supply	case study	Australia / large company / trade waste services (Case: City West Water)
	Yakhou and Dorweiler (2004)	Business Strategy and the Environment	conceptual paper	
	Mueller *et al.* (2007)	Corporate Governance	literature review	Germany and New Zealand
	Singh *et al.* (2007)	Ecological Indicators	case study	India / large company / steel industry (Case: Bhilai Still Plant)
	Riccaboni and Leone (2010)	International Journal of Productivity and Performance Management	case study	Multinational corporation / chemical sector (Case: Procter & Gamble)
	Larsson and Martinsen (2010)	Proceedings from the IMS Summer School on Sustainable Manufacturing	case study	Norway/ manufacturing company (aluminum wheel suspension)
	Turan and Needy (2013)	Engineering Management Journal	case study	USA / local government (Cases: Sustainable Pittsburgh, not-for-profit organization, and Cranberry Township, suburb of Pittsburgh)
Category 1.3: Papers approaching the significance of reporting and its transparency as the main purpose of integrating performance measurement and sustainability (8 papers)	Adams (2004)	Accounting, Auditing & Accountability Journal	case study	Multinational corporation
	Kolk (2004)	International Journal of Environment and Sustainable Development	general review	
	Pojasek (2009)	Environmental Quality Management	conceptual paper	
	Delmas and Blass (2010)	Business Strategy and the Environment	research paper	Multinational corporations / chemical sector
	Clarkson, Overell, Chapple (2011)	Abacus	research paper	Australia / listed companies / Manufacturing and mining
	Burja (2012)	Annales Universitatis Apulensis	case study	Romania / agricultural sector (Case: Blaj – Romania Târnave Vineyard)
	Chesson (2013)	Journal of Environmental Assessment Policy & Management	conceptual paper	Many countries / copper mining
	Milne and Gray (2013)	Journal of Business Ethics	general review	
	Northey, Haque, Mudd (2013)	Journal of Cleaner Production	research paper	Many countries / copper mining

Finally, all available peer-reviewed papers have been carefully reviewed looking at PM and SR from a socio-technical view [77] that can be characterized by technical and social components: scope/goals, technologies and actors/ownership [3]. The scope/goal of the concept, which would be called purpose, refers to the focus of PM and SR in terms of "decisional areas" that are supported by these tools. The second component, technologies, which refers to the approaches, tools and indicators used to evaluate and quantify performances and sustainability, would be called measurements. Finally, the third component, actors/ownership, refers to the actors who manage the systems and are responsible of them [3].

III. Findings

The first component of analysis refers to the purpose of PMS and CSR. With reference to performance measurement systems, some authors [27], [50] highlight the importance to differentiate between the strategic and operational purpose, because it is fundamental to design and implement each system in a different way in order to fulfil a set of specific needs. According to Simons [71], strategic performance measurement systems (SPMS) have four key roles:

1) Implementation and monitoring of strategy (diagnostic);
2) Organizational alignment, communication within the organization and between the organization and its external stakeholders, and support to the emergence of new strategies (interactive);
3) Communication of mission, vision, and core values (belief system);
4) Restrain employee behaviour and define limits of freedom within the organizational context (boundary system).

On one hand, adopting this framework, we can observe that the performance measurement system is a balanced and dynamic system that enables support of decision-making processes by gathering, elaborating and analysing information [54]. Similarly, Parker [59] and Kuwaiti [43] analyse performance measurement as the main management tool for decision-making, control and ensuring useful information for effective resource allocation. Tucker and Pitt [79] observe that performance measurement helps to evaluate and change performance goals and increase value creation.

TABLE III

Component 2: Measurements (21 Papers)

Category	Author	Journal title	Paper type	Country / Companies' size / sector or industry
Category 2.1: Papers focusing on research and development of different measures and key performance indicators for sustainability reporting and suitable data flow reaching effective communication for stakeholders (13 papers)	Roski and Gregory (2001)	International Journal for Quality in Health Care	research paper	USA / health care
	Jones, Comfort, Hillier (2005)	International Journal of Retail & Distribution Management	research paper	UK / retail
	Isaksson (2005)	Corporate Social Responsibility and Environmental Management	research paper	Africa / cement industry
	Dakov and Novkov (2007)	Business: Theory and Practice	research paper	Manufacturing companies (lean production)
	Davidson (2011)	Social Indicators Research	case study	Australia / energy industry, government (Cases: Origin Energy, Environment Australia, Australia Bureau of Statistics)
	Bardy and Massaro (2012)	Journal of Organisational Transformation & Social Change	conceptual paper	
	Tokos, Pintarič, Krajnc (2012)	Clean Technologies and Environmental Policy	case study	Slovenia / brewing industry
	Hřebíček *et al.* (2012)	Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis	research paper	Czech Republic/ agriculture and food processing sector
	Bergenwall, Chen, White (2012)	International Journal of Production Economics	case study	USA / large companies / automobile industry
	Bastida-Ruiz, Franco-García, Kreiner (2013)	Management Research Review	research paper	Mexico / industrial parks
	Molnár and Dolinsky (2013)	Creative & Knowledge Society	case study	Italy / SMEs /steel industry (Case: PintInox SpA)
	Dos Santos, Svensson, Padin (2013)	Supply Chain Management	case study	South Africa / large corporation / retail (Case: Woolworths Holdings Ltd)
	Menichini and Rosati (2014)	Procedia – Social and Behavioral Sciences	conceptual paper	

Category 2.2: Papers taking into account four perspectives from BSC and integrating it with sustainability aspects (5 papers)	Spiller (2000)	Journal of Business Ethics	research paper	New Zealand / large listed companies
	Parisi and Hockerts (2008)	Measuring Business Excellence	case study	Denmark / large listed company / pharmaceutical industry (Case: Novo Nordisk)
	Skouloudis, Evangelinos, Kourmousis (2009)	Environmental Management	research paper	Greece / large companies and multinational corporations
	Hubbard (2009)	Business Strategy and the Environment	conceptual paper	
	Butler, Henderson, Raiborn (2011)	Management Accounting Quarterly	conceptual paper	
Category 2.3: Papers disclosing efficiency aspects of performance measurement and sustainability reporting (3 papers)	Reilly (2009)	SAM Advanced Management Journal	research paper	Multinational corporations / energy industry, consumer products (food, personal care, electronics)
	Slaper and Hall (2011)	Indiana Business Review	general review	USA / multinational corporations, nonprofit organizations, government entities
	Alexopoulos, Kounetas, Tzelepis (2012)	International Journal of Productivity and Performance Management	research paper	Greece / listed companies

TABLE IV

COMPONENT 3: ACTORS / OWNERSHIP (5 PAPERS)

Author	Journal title	Paper type	Country / Companies' size / sector or industry
Clarke and O'Neill (2005)	Greener Management International	general review	
Pagell and Gobeli (2009)	Production and Operations Management	research paper	USA / manufacturing companies
Ballou et al. (2012)	Accounting Horizons	research paper	USA
LeBlanc (2012)	Financial Executive	general review	
Starbuck (2012)	Corporate Finance Review	general review	

On the other hand, Corporate Social Responsibility could be understood as an evolving concept [15], by which organizations integrate social, environmental and economic concerns into their strategy and decision-making process [28]. According to this view, organizations are disclosing sustainability reports that extend the traditional financial information provided to shareholders with the intention of fulfilling the needs of a wider range of stakeholders. As a consequence, organizations are redefining their objectives in response to social expectations [28].

In this section, we also review the "purpose" component (Component 1), which leads to identify three main categories of papers:

• Papers disclosing purpose and usage of PM and SR as an integrated system in an organization (11 papers). Beckett and Jonker [8] illustrate the AccountAbility 1000 (AA1000) standard as an important innovation that intends to make clear how principles of accountability and sustainability are related and complementary. Lamberton [44] consolidates various approaches into a sustainability accounting framework. Perrini and Tencati [60] present an integrated methodology aimed at broadening and integrating sustainability accounting systems to the overall corporate performance measurement according to a stakeholder framework. Searcy [68], [69] describes the development of a corporate sustainability performance measurement system (SPMS). Gates and Germain [29] examine the extent to which organizations integrate sustainability measures into their strategic performance measurement systems (SPMS) and align these measures with strategy. Kocmanová and Dočekalová [40] propose the integration of corporate performance measurement that may lead to sustainable economic success. Zhang, Joglekar, Verma [84] develop a performance measurement system of environmental sustainability in service settings. Bocken, Morgan, Evans [11] explore the challenges for sustainability performance management in practice. Nikolaou, Evangelinos and Allan [55] present an integrated model for introducing CSR and sustainability issues in reverse logistics systems as a means of developing a complete performance framework model. Kumar [42] explores and explains Sustainability Performance Measurement (SPM) based on environmental values and indicators that are measuring the immeasurable and that has implications and consequences for corporate governance.

• Papers providing relevant sustainability research with the purpose to ensure integration with one or more elements of performance measurement, such as strategy, decision-making, planning and control (7 papers). Bissett and Green [10] examine key issues and drivers, elements of an effective strategy, roles and responsibilities, resource requirements, challenges/obstacles, solutions, and performance measurement and also the aspect of how it should be communicated.

Yakhou and Dorweiler [83] describe environmental accounting as an essential component of business strategy. Mueller et al. [53] illustrate the extent to which corporate organizations in Germany and New Zealand have included sustainability practices as part of their strategic planning process. Singh et al. [72] present a conceptual decision model to assist in evaluating the impact of an organization's sustainability performance. Riccaboni and Leone [65] explore if and how management control systems (MCS) have a role in implementing sustainable strategies. Larsson and Martinsen [45] suggest an approach to achieve more effect from the performance measurements and support decision-making according to sustainability. Turan and Needy [80] introduce a decision model as a multi-stage, stochastic linear program, integrating both financial and non-financial performance measures into the process of investment planning via the triple bottom line framework.

• Papers approaching the significance of reporting and its transparency as the main purpose of integrating performance measurement and sustainability (8 papers). Adams [1] assesses in detail the extent to which corporate reporting on ethical, social and environmental issues reflects corporate performance in a case study company. Kolk [41] discusses the significance of reporting, the concept of "implementation likelihood", and the components of an analytical scheme to assess this aspect for sustainability reports. Pojasek [61] focuses on the use of a business excellence framework, which helps organizations measure their performance and prepare sustainability report according to three main components: organizational sustainability profile, sustainability performance, and sustainability results. Delmas and Blass [24] provide methodological recommendations to help stakeholders evaluate corporate environmental performance in order to ensure transparency regarding the metrics used to evaluate corporate social and environmental performance and the trade-offs involved in the evaluation. Clarkson, Overell and Chapple [18] examine the relationship between voluntarily disclosed environmental information by Australian organizations and their underlying environmental performance. Burja [13] states that the sustainability financial reporting is an option for developing finance mechanisms to help organizations in becoming more sustainable. Chesson [16] develops an approach for reporting by indicating that different players have responsibilities for different mixes of assets which is the key to understanding how performance should be measured and how information can be combined to report at different scales. Milne and Gray [51] offer a critique of sustainability reporting and the modern disconnect between the practice of sustainability reporting and what we consider to be the urgent issue of our era. Northey, Haque and Mudd [56] provide a valuable insight into the strong value of publishing sustainability reports at regular intervals so that improvements towards more sustainable performance can be measured and linking such data to life cycle assessment studies.

To summarize, literature review shows that PM and SR have evolved separately but with relevant similarities, especially in terms of orientation to the strategic level in order to better support managers in decision-making activities and contribute to value creation. In this context, the integration of these two concepts is playing a crucial role. Increasingly, organizations develop and use a complete sustainability performance measurement system for planning, control and reporting functions to improve their commitment with stakeholders, global organizations and other countries.

The second component of analysis refers to the "measurements" of PM and SR (Component 2). Accounting measures are the "core" basis of performance reporting. At a general extent, we can distinguish between financial and non-financial measures and also between leading and lagging indicators [3]. The selection of the measures is meant to be driven by the critical success factors of the organization that in their turn are related to the strategy [23]. More recent developments [70], [31], [4] highlight the introduction of sustainability indicators in performance measurement and reporting and performance measurement tools such as Balanced Scorecard [37] and Value Based Costing [32].

Mostly papers regarding measurement component (13 papers) are focusing on research and development of different key performance indicators for SR and suitable data flow reaching effective communication for stakeholders. Roski and Gregory [67] explore the improvement opportunities for quality sustainable performance measurement systems by discussing the importance of defining the purpose of the system, the accountability logic, the information and reporting needs, and the mechanisms for sustainable implementation. Jones, Comfort, Hillier [36] focus on the definition of key performance indicators to measure and benchmark CSR achievements. Isaksson [35] indicates that existing economic sustainability performance measurements based on distribution of surplus should be complemented with indicators for internal losses. Dakov and Novkov [21] offer a short set of indicators for assessing the lean production effect on the sustainable industrial enterprise development. Davidson [22] indicates that indicators of sustainability should be derived from an epistemologically consistent conceptual framework. Bardy and Massaro [6] suggest extending the concept of value added in order to integrate sustainability issues in overall corporate performance, thus shifting from Economic Value Added (EVA) to Sustainable Value Added (SVA). Tokos, Pintarič, Krajnc [78] present a methodology for integrated performance assessment, compatible with the indicators proposed by the Global Reporting Initiative (GRI). Hřebíček et al. [33] analyse the development of advance methods to identify key performance indicators for economic, environmental, social, and governance (ESG) performance and integrate them in corporate sustainability reporting. Bergenwall, Chen and White [9] explore the effects of different process designs not only on the traditional profitability performance measures but also on workforce management and environmental performance measures. Bastida-Ruiz, Franco-García and Kreiner [7] suggest a sustainability indicators framework for industrial parks in the context where information is weakly reliable or insufficient. Molnár and Dolinsky [52] present the way of application of

methodology of environmental metrics within the total environmental assessment framework for small and medium enterprises (SMEs). Dos Santos, Svensson and Padin [25] present the case of a corporation that evaluates and controls its sustainable business practices using economic, environmental and social indicators. Menichini and Rosati [49] propose fuzzy logic to support decision makers for effectively determining which Global Reporting Initiative (GRI) indicators are most significant in the CSR assessment.

Adopting a different approach, some authors integrate measurement function in the whole performance of organization concentrating and developing not only one important group of measures or indicators, but taking into account the traditional four perspectives of Balanced Scorecard (BSC) and integrating them with sustainability aspects (5 papers). Spiller [75] presents a new integrated model of Ethical Business including an Ethical Scorecard performance measurement technology. Parisi and Hockerts [58] investigate the possible use of causal maps in the performance management and measurement of corporate social responsibility (CSR) related intangibles. Skouloudis, Evangelinos and Kourmousis [73] evaluate scoring systems for triple bottom line (TBL) reports. Hubbard [34] proposes a stakeholder-based, Sustainable Balanced Scorecard (SBSC) conceptual framework coupled with a single-measure Organizational Sustainability Performance Index to integrate the measures. Butler, Henderson and Raiborn [14] explore three ways that sustainable practices can be incorporated into the BSC and discuss issues that should be considered when selecting sustainability-related measures, targets, and goals.

Papers disclosing efficiency aspects of PM and SR also should be taken into account (3 papers) and, according to the findings of the literature review, this point has become important only in recent years. Reilly [64] states that interchangeable reporting metrics would lead to efficient communication to both internal and external stakeholders and also would increase focus on reputation and sustainability. Slaper and Hall [74] provide some examples of the application of TLB in businesses, non-profit organizations and government entities. Alexopoulos, Kounetas and Tzelepis [2] estimate the probable linkage between the level of environmental performance, measured by environmental performance indicators (EPIs), and efficiency.

According to the literature review, the main aim in both fields (PM and SR) is to identify measures which supply crucial information for decision-making and reporting processes. As sustainable performance is becoming very important for all organizations, internal performance measurement system could help to ensure suitable data flow about it, also to ensure relevance of sustainability reports. This aspect is becoming essential for SMEs, but only a limited number of research papers are available up to now.

The third component of our analysis refers to the "ownership" of SR and PM (Component 3), identifying the actors who manage the systems and are responsible for them. PMS has been traditionally a responsibility of management accountants [3]. Nowadays, accountants have become a part of strategic, visionary and creative staff who takes part in decision-making with the organization's management body [62]. Moreover, the enlargement of PM focus, opens up to the possibility for other professionals to increase their ownership in the PMS [63]. According to these changes, some authors observe that SR could be under the responsibility of a separate department [66]. Within our sample, Clarke and O'Neill [17] explore the role of the accounting professionals in environmental sustainability. LeBlanc [46] focuses on chief financial officers' (CFOs) involvement in company practices regarding sustainability. Starbuck [76] states that CFO's is emerging as a directly involved party in corporate sustainability initiatives. Pagell and Gobeli [57] discover that operational managers do not (yet) think in sustainability terms and they would benefit from a more complete understanding of the relationships among the elements of the triple bottom line. Ballou et al. [5] indicate that accounting professionals are rarely involved in sustainability initiatives, but their involvement is highly associated with strategic integration, suggesting that increased involvement likely would provide significant benefits to organizations.

To summarize, management accountants, who are traditionally responsible for PMS, are trying to play a more active role in SR. In this regard, as the number of measures is increasing, the complexity of PMS tends to grow too. Thus, the integration between PM and sustainability is becoming even more important for ensuring the quality, transparency and timing of reporting.

IV. Discussion / Conclusion

The findings of the literature review provide interesting insights to answer our research question: how could PMS help to ensure an effective sustainability reporting? The first aspect to be mentioned is that sustainability practices and reporting have influenced performance measurement in terms of purpose, measurements, and actors/ownership. Secondly, the findings highlight how PM and SR have progressively become more important within organizations, expanding their areas of impact and measurement tools. Moreover, the integration of PM and SR could have a potentially positive effect on the achievement of corporate objectives, helping organizations to continuously ensure corporate social responsibility achievements against strategy. In general, it could be stated that PM has expanded its functions in all three components.

PMS seems to need to expand its content in terms of measures, changes in strategy and decision-making areas in response to sustainability issues and to provide this information for sustainability reporting in order to ensure its effectiveness from the viewpoint of quality and time. To attain the sustainable performance, an organization needs to translate its overall strategy into specific practices for each key area of performance and to specify measurement indicator(s) to assess actual achievement of the practices for each identified key performance area. In this regard, further research is required to disclose the possible changes in PMS in order to reduce its undue complexity and to keep it reactive and useful as a system.

Further, there is a gap in literature disclosing the features of sustainability reporting in relation to the size of an organization, so future research should inquire more in depth this dependency and the main factors influencing it.

The research showing the peculiarities of PM and the type of sustainability (environmental, social and economic) is fragmented. It could be stated that measuring environmental performance is not the same as social performance. Could PM help to ensure transparency of SR? This indicates a gap that needs more attention from researchers and practitioners.

This study contributes to mapping, consolidating and developing theory in the relationship between performance measurement and sustainability reporting research area.

Future research on the convergence between PM and SR could also focus on the following issues:

- Development of measures to compare the sustainable performance of different companies;
- PM and SR for SMEs and firms with different ownership structure;
- Comparative case studies in diverse institutional contexts.

Furthermore, researchers have adopted interpretive, critical and post-modern perspectives to examine the development, maintenance and change in management practices [20]. Within the interpretive perspective, institutional theory has been used extensively in the accounting literature to study management accounting change and issues of sustainability reporting [38]. According to this aspect, institutional theory can contribute to a richer understanding of performance measurement and CSR reporting. It could be important for managers to be able to identify institutional processes and their impact, to understand the implications of the institutional environment in terms of opportunities and constraints. In particular, the application of institutional theory in PM and SR could be mainly focused on applying institutional theory to see how organizations conform to institutional pressures.

Throughout this literature review, some limitations were raised, firstly, when keywords were selected. Performance measurement concept was disclosed by its main function only – to measure. Performance measurement concept also could be disclosed according to its content, tools and other functions using further keywords such as strategy, decision making, planning, control or Balanced Scorecard (BSC). Secondly, the search was done in limited number of databases – Academic Search Complete and Business Source Complete (EBSCO), Scopus and Science Direct (Elsevier), Emerald, and ProQuest Central. Lastly, not all papers were available for downloading, which resulted in narrower content analyses.

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