

A Quantitative Study on Sustainability Reporting Over the Past 20 Years in the Water Utilities Sector

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Abstract – The purpose of reporting as communication or assessment tool has rendered it more attractive for organizations. The emergence of standardized frameworks which can be used for benchmarking was a step forward for sustainability reporting. In this context, water utilities are understudied with regards to sustainable development reporting. As such, the current work explores, from a quantitative perspective, reporting initiatives in the water utilities sector over the past 20 years, by using the GRI Sustainability Disclosure Database.

Keywords: Sustainable development reporting, water utilities, GRI

human life and part of the more global economic actor tissue.

For sustainability, reporting is tightly related to transparency in practices and impacts [4] as both communication tool for internal and external stakeholders and a managerial assessment tool.

The purpose is to study the evolution of reporting initiatives and the usage of standardized reporting tools in the water utilities industry as an indication of increasing importance of sustainable development in the water utilities sector. This completes the research field of sustainability reporting in the water utilities industry by answering the question “*How much do companies report?*”.

I. INTRODUCTION

Water, the backbone of life, is a finite critical survival resource with a direct impact on the quality of life and general health of the population, as well as industry itself. Sustainable water management is a transgenerational and across borders issue (developing and developed countries alike) [1]. Although the 1987 Brundtland report rang the bell regarding the challenges that post-war human development poses to society and environment, several decades have passed and initiatives aiming at a sustainable tomorrow are still varied, disjoint and difficultly measurable.

The water industry manages water in its dual forms – drinking water and wastewater; consequently, the industry is subject to tight norms and controls which are usually defined at a national level. On the other hand, ownership of the water infrastructure spans from local / national government (most common types) to private ownership (rare). The operations of the infrastructure can be done directly through state owned companies or delegated to private operators. As part of the industrial basin, the water utilities companies have a dual role to play with regards to sustainable development as managers of a critical resource for

II. LITERATURE REVIEW

Sustainability reporting has emerged from the need for an adequate tool for reporting the social and environmental impacts of organizations that cannot be accurately rendered by the traditional reporting tools [3]. As often in the domain of sustainable development there is no consensus on one path, and as such several frameworks have been developed, the best known being the Global Reporting Initiative, ISO 14031 or the Sustainability Accounting Standard Board [2,3].

If the private sector has been at the outpost of the reporting initiative, the public sector has been lagging. Water utilities companies manage a public good vital for present and future generations and their sheer existence. As such, they have a paramount role in proposing a sustainable product in a sustainable way. Sustainability reporting for the water sector has recently become an object of academic study as the importance of reporting on sustainable development initiatives is no longer just a means of communication towards stakeholders but also a method to answer to the increasing pressure for transparency on the social,

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environmental and economical dimensions [2]. It can also be perceived as prevention for legitimacy within the sector. Nonetheless, the literature on the subject is minimal and oriented towards assessing the quality and quantity of the content of the sustainability reports (indicator disclosure and coherence with the main reporting guidelines, such as GRI) [1, 2] or the reasons behind voluntary reporting [3].

Authors tend to agree that sustainability reporting is a communication tool rather than a sustainability assessment exercise [2] with debate around the need of more industry-specific frameworks [2].

Nonetheless the debate around the pressure to which stakeholders are submitted is still open. Previous research of [4] states that employees and investors are the main pressure groups that can influence in the direction of sustainability reporting, as opposed to the general idea that it is driven by customers and the external environment.

As regards water services, the research described in [5] outlines that sustainability assessment is an underexploited research field. Some of the difficulties stem from the general definition of sustainability and the understanding of what is sustainable. The driving notions within the water utilities industry are: implementing sustainable development-oriented practices and informing society in terms of method and results [2].

It can be concluded that literature discusses the existence of an increasing trend in sustainability reporting [2, 3]. In order to complete the broader picture of sustainability reporting, the extent to which sustainability reporting has been developing in the past years will be explored. As such, the current study aims at analysing, from a quantitative perspective, sustainability reporting in the water utilities industry. The study outlines the trends in reporting initiatives over the past 20 years through a data analysis of the GRI database. The choice of the usage of the GRI database is based firstly on the recognition of this standard by industrial, academic or governmental bodies, as well as NGOs and secondly on the inclusion in the database of reports that are not necessarily in a GRI standard format. Furthermore, GRI Guidelines are general enough so that a wide spectrum of stakeholders (companies, NGOs, public agencies etc.) can voluntarily disclose information on social, environmental and economic aspects [3].

III. METHODS AND RESULTS

The GRI database was used for data analysis. Although several standards can be used for sustainability reporting, the GRI is one of the most acclaimed with an important growth (plus 400 organisations between March 2005 and November 2006 [3]). Furthermore, the GRI Guidelines can be used as an initial reporting framework and can then be garnished as sustainability reporting matures. Finally, in a study of public sector organisations' motivations for sustainability reporting,

Ref.[3] pointed that although, initially companies used other frameworks for reporting, they eventually chose to pass to the GRI format as it is considered a mark of legitimacy of the report and a matter of best practice.

Having this in mind, the data available in the GRI Sustainability Disclosure Database covers reporting from 1999 to 2018. It shall be noted that due to the implementation of a new registration system, in October 2018, some of the reports submitted under the GRI -Standards Guidelines had been temporarily removed for confirmation of report details.

The first step was to establish the core of data. To this end, the sector was restricted to "Water Utilities". This rendered a total number of 130 organizations worldwide and a total number of 597 sustainability reports for the period 1999-2018.

The first remark that can be made is that although the database goes back to 1999, within the water utilities sector, the first registered reporting attempt is dated in 2001 and it belongs to a state-owned company in Australia, effort that was only reiterated in the company's 2005 publication, then in 2010 and yearly thereafter. For the year 2002, the water utilities sector registered a very feeble growth as only two companies (one in New Zealand and one in the UK) published sustainability reports.

The peak in terms of sustainability reporting was attained in 2013 and 2014 with a maximum of 73 organizations that published 73 sustainability reports.

Figure 1 retraces the quantitative evolution of reporting between 2001 and 2018 in the water utilities sector.

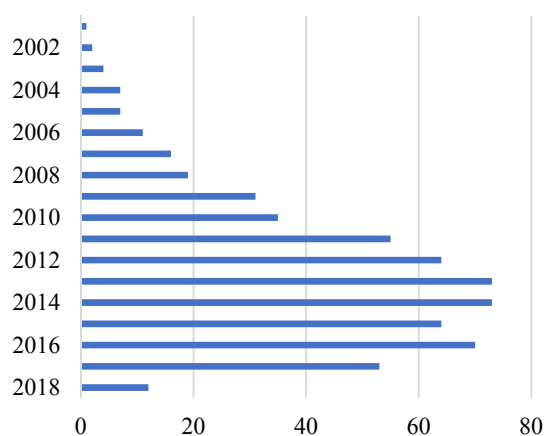


Fig. 1. Quantitative evolution of worldwide reporting initiatives – period: 2001-2018

Firstly, we have been interested in establishing if the more traditionally industrialised regions have a more increased sensitivity to reporting. To this extent, Figure 2 retraces, the average number of reports per organization between 2001 – 2018 throughout the world and according to geographic region (as per GRI definition). If the average number of reports per organization throughout the world is 4,6 reports/organization, sustainability initiatives in the water utilities sector are above average in Oceania. The countries within these regions being insular, they may

be more sensible to sustainability within the water sector as the impacts are more visible and within reach. At the other end of the scale was Northern America with a mere average of 2 reports/organization within the past 20 years.

The GRI database, includes also reports on sustainability that do not follow GRI standards. As the framework encourages an incremental reporting approach, it was considered that all attempts at reporting should be included in this analysis. As such Figure 3 retraces the usage of GRI Guidelines versions (Report Types). It can be concluded that an important

number of reports are Non-GRI (158 reports), which points to initiatives within the water utilities sector to embark on the journey of sustainability reporting, but in non-standardised forms. As previously stated, reporting on sustainability was scarce in the first years of the GRI Guidelines; this can be due to it being considered a novel initiative, but also to the poor acquaintance of GRI. Versions 3 and 3.1 have been used for a total of 7 years and their issuing corresponds also to a period of increased interest in reporting initiatives.

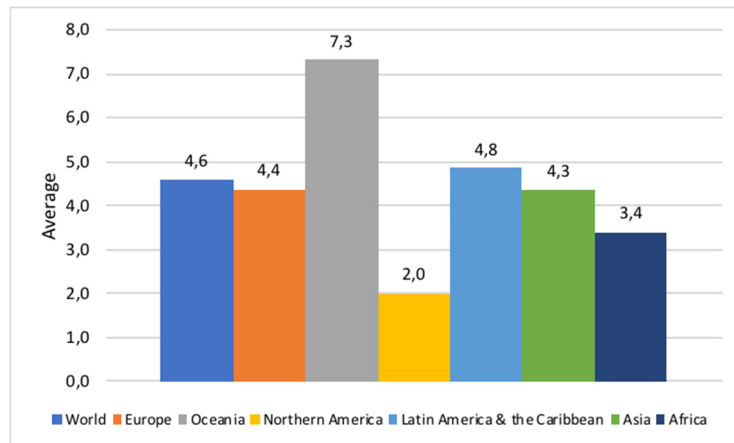


Fig. 2. Average reporting initiatives between – period: 2001-2018

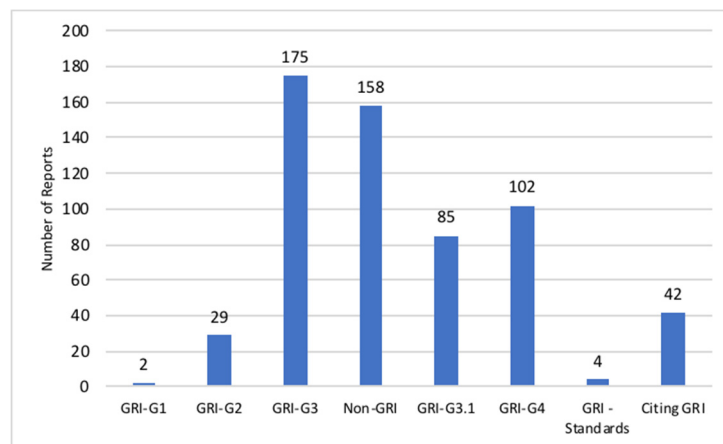


Fig. 3. Reporting initiatives according to Report Type – period: 2001-2018

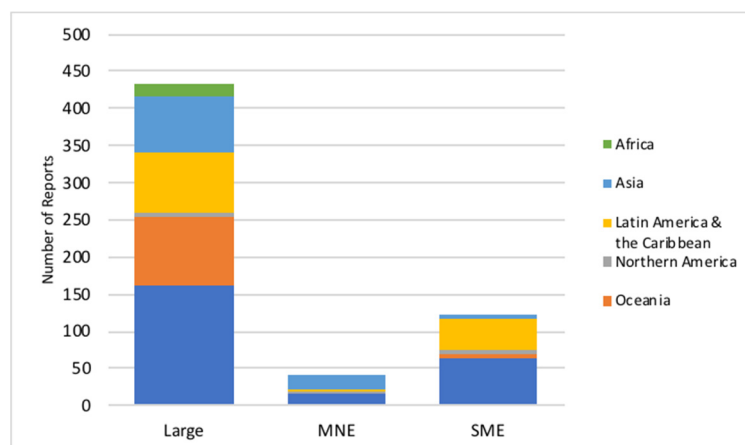


Fig. 4. Quantitative evolution of reporting according to organization size – period: 2001-2018

The last analysis considered the quantitative evolution of reporting according to size of the organization: Large, Multinational or Small and Medium Size (the comprehensive definitions being presented extensively in the GRI Sustainability Disclosure Database – Data Legend, 2018). It is visible that there is an overwhelming preponderance for reporting among Large organizations. This can be explained by a better understanding of reporting as a communication tool, but also through the ability to attribute specific resources for reporting. On the other hand, SMEs report less as they do not have dedicated resources for sustainability reporting initiatives which can be often considered as time and resource consuming, with little tangible benefit. Finally, the few reports attributed to Multinationals can be explained firstly through the fact that it is not a current type of organization within the water utility sector, but also to a preference for reporting at a national level (large or SMEs) rather than aggregated at the multinational level (often seen as more complex).

All in all, the results of the quantitative analysis through the GRI Standards supports the general hypothesis that reporting on sustainability in the water utilities sector has intensified in the past two decades. This quantitative analysis has been based on the GRI Sustainability Reporting Database as it includes also nonstandard approaches to sustainability; these also point to an increase in interest for reporting. The data analysis also concerned the demography of the water utilities companies reporting on sustainability, the quantitative evolution of reporting according to size of organization and the quantitative evolution of reporting as per evolution of the GRI framework. Reporting in the water utilities sector is historically linked to the geography of the region (insular) in which the water utility company operates. Although the usage of GRI Guidelines is well implemented, reporting initiatives that are less constrained are also spurring.

IV. CONCLUSIONS

The current study has proposed a quantitative analysis of reporting initiatives in the water utilities sector within the past 20 years. The findings set the background for sustainability reporting in the water utilities industry. It has been concluded that organizations belonging to the water utilities sector are reporting more on their sustainability practices and impacts. Further research can explore the methodology for aggregated reporting for multinational companies in the water utilities sector. Another aspect that needs further consideration is the reason why the Northern America region is lagging in sustainability reporting, far beyond the global average. An interesting field can be an empirical study of incentives for reporting in the developing regions of Africa or Asia, for which the economical aspect is often presented as preponderant.

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