
Challenges of sustainability reporting at the local level: a study on the
Sustainable Development Report of the Municipality of Porto

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Abstract

The practice of publishing sustainability reports by companies was initially attributable to the effort to win the trust of stakeholders and public opinion or even to rebuild the company's reputation. Despite the growing relevance given to sustainability reports in recent years, only a few studies have examined the sustainability reporting practices of public sector organizations.

This study was developed within the scope of my internship that took place in the Porto city council and seeks to highlight the important aspects of the Sustainability Report by local governments, trying to understand if it is a useful practice for municipalities in the sustainability domain to improve their efficiency in this field. At the same time, it strives to fill a gap in the literature on sustainability reports that has so far been quite scarce. More specifically, this study was created with the aim to acknowledge how Porto's 2020 Sustainability Report compares to the reports of other national and international cities, namely the reports of three Portuguese cities (Braga, Torres Vedras, Vila Nova de Famalicão) and three international cities (Hannover, Paris, Stockholm).

The results suggests that Porto's report compares well with the other reports studied, largely because it adopted the three most important frameworks used for local government reporting. Besides, it presents an external audit that improved the overall quality of the report. The reporting practice in a city council can improve and enhance the sustainability processes of the city as it forces a reflection on what has been done and what could be improved.

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1. Introduction

The United Nations defines sustainable development as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (Brundtland, 1987, pp 37). The sustainability reports, made by public or private entities, therefore serve to collect and disclose everything that has been done by that organization to achieve this goal.

In recent years, thanks to the scientific community and due to the tangible effects of global warming, sustainability gained more and more relevance, becoming one of the most important issues for society (Burritt and Schaltegger, 2010). At the same time, the economic strategies and decisions of policy makers are adapting to this change and the percentage of entities that publish sustainability reports in recent years has grown significantly. For example, since 2011, the Governance & Accountability Institute has revealed a continuous increase in the percentage of companies in the S&P 500 index that have published some form of CSR (Corporate Social Responsibility) reports, from 20% of companies in 2011 to 85% in 2017 (Governance & Accountability Institute, 2017).

Despite the growing relevance given to sustainability reports in recent years, only a few studies have examined the sustainability reporting practices of public sector organizations (Andrades Peña et al., 2020). The public sector lags far behind the private sector in the number of published sustainability reports (Uyar et al., 2021) and research also focuses mainly on the private sector rather than the public sector (Leal Filho et al., 2016).

Little attention is paid to the public sector, despite its importance as a regulator and its presence in the market. In the European Union (EU) alone, for example, organizations operating in the public service represent 16% of the total EU economy (Ates & Büttgen, 2011); their collective impact is crucial for economic growth and the adoption of CSR practices by these entities can make a difference and help to quickly achieve sustainability goals.

This study was born from the internship that took place in the *Gabinete de Informação e Estudos Estratégicos* (Information and Strategic Studies Office) which is part of the Economic Department of the municipality. There was a team of two technicians plus two interns (me included) at the office that was responsible for carrying out several projects, the Sustainability Report being one of them. One of the technicians was in charge of the Sustainability Report project and he managed the work between the Internal Departments, an externally hired

auditing firm and a design agency. We organized the data collection between the internal departments of the city hall and provided them to the auditing firm that would then analyze the data and later construct the report; finally, everything was passed to the design agency to arrange the report's design accordingly.

The internship focused on accompanying the realization of the Sustainability Report of the city of Porto 2021. The daily work consisted mainly in organizing and verifying the documents and reviewing the final report.

Therefore, the study in this report was developed with the aim of understanding how the Porto 2020 Sustainability Report compares with the reports of other national and international cities, specifically comparing which frameworks were used in the other reports and how they were applied. It will also look for elements present in the Porto's report but lacking in the others and vice versa. The reports that will be taken in consideration in this study are the ones from three Portuguese cities (Braga, Torres Vedras, Vila Nova de Famalicão) and three international cities (Hannover, Paris, Stockholm).

Initially, my research will introduce a broader context, with an emphasis on the study of sustainability reports to assess the standardized structure and the main reasons and concerns - among others - for their creation. This focus would primarily be on a more general and global level and, after that, the approach will converge towards the sustainability reports of the public sector, more specifically the ones disclosed by the municipalities, to study what are their dominant characteristics and features.

The goal is to understand if and how the Sustainability Report of the Porto City Council fits in with the other reports, be them from national or international entities. Upon finding similarities, the intent is to pinpoint the various common aspects between reports and evaluate Porto's adequacy. Only after recognizing the shared but also the distinct characteristics will I be able to bring to light both strengths and weaknesses of the Porto's Sustainability Report in order to state which elements are the most appropriate and can be used as a reference and a guideline applied by other municipalities or if, instead, there will be some fragilities or deficiencies and how it can be improved.

This study can be relevant because it underlines the significant aspects of the sustainability reports by local governments, trying to acknowledge if it is a useful practice and also to serve as a different perspective in the sustainability reporting research as most studies overlook the public domains and mainly focus on those reports made by private organizations.

As for the Porto City Council, this study can serve as a benchmarking exercise to understand if they are going in the right direction and what changes could be adopted to improve the report or to avoid publishing a document that is an end in itself.

As will also be highlighted in the literature review, only a few studies have examined the sustainability reports of public sector organizations (Andrades Peña et al., 2020). There are also many studies on private sector reports in Portugal (Branco & Rodrigues, 2008a, 2008b), but I found only one regarding the Portuguese public sector (Maria da Conceição & Rodrigues, 2019). This could probably be due to the fact that the number of reports published by public entities is much lower than those published by the private ones (Uyar et al., 2021).

This study will focus on analyzing which frameworks were used in the reports and how they were applied. Considering the relevance of the sustainability topic and its growing interest among society, it only seemed reasonable to include the aspect of each report's availability. With this additional outside notice comes a new desire to be seen as a relevant and sustainable system, which could lead to the practice of "greenwashing" by highlighting only one's virtuous work. Therefore, this study could not be complete without the external audit aspect. The corruptive side of sustainability reporting can't be glossed over and this unbiased evaluation is a crucial feature to compare within reports. Apart from each report's content, this study will also give a brief overview of each report's structure, how it is presented and organized.

The remainder of this report is organized as follows: Section 2 presents the literature review starting with the historical background of the sustainability reports, then it focuses on the most relevant framework alongside the motives, criticisms and difficulties of the sustainability reporting, finishing with the selection of the evaluation criteria that will be used in this research based on the literature. Section 3 elaborates on the methodology used in the study, while the analysis and results are discussed in Section 4. Then Section 5 presents some insights on Porto's report that emerged during my internship in the City Council. The research ends in Section 6 where the conclusion and discussion are presented.

2. Literature review

2.1. History

As early as the 1940s, Professor Theodore J. Krepes argued that corporate accounting based solely on a system of gains and losses was inadequate and begun to look for ways to measure the contribution that companies could make to the general objectives of the global economic system (Hess, 2008). Later Howard R. Bowen also developed an external audit system to measure companies' performance on issues such as wages, human relations, public and community relations. Although the audit was conducted by independent auditors, the information was for the companies' internal use only and wasn't made available to the public. This was contrary to Krepes's ideals as he was an advocate of information disclosure (Hess, 2008).

It was only in the 1970s that the first social reports emerged, which are the precursors of corporate responsibility. Most of the reports were published by large multinational companies in the United States and Western Europe. Despite this development, the hesitation about the external or internal use of the results remained. Still a significant number of companies chose to keep this information for internal use only. (Kolk, 2010)

Due to the recession of the 1980s and the fact that many social reports attracted more criticism than praise, the practice of social reports began to lose enthusiasm and fewer and fewer companies continued to publish them (Hess, 2008).

Only in the 90s, following the concerns about the negative implications of globalization expressed by many NGOs of those years, the social reports began to flourish. Many anti-globalization publications began to attract attention and provoke protests. The criticisms were directed mainly at multinationals and pushed companies to provide information on the measures taken in terms of social and environmental responsibility aimed at preventing human rights violations, pollution and other problems deriving from globalization (Kolk 2003).

In those years, governments also began an explicit regulation of sustainability reports. The suggestions were published by both the government and NGOs to serve as a guide to sustainability reports. One of these organizations was the Coalition for Environmentally Responsible Economies (CERES) from which, in 1997, the Global Reporting Initiative

(GRI) was born (Laird, 2010), which developed guidelines for sustainability reports that will be discussed later (see section 2.4.1.).

Since the 1990s, the practice of publishing sustainability reports has grown exponentially and the notion of "triple bottom line" began to be used, which implies the idea that sustainability reports provide information on environmental, social and economic issues (de Villiers, Rinaldi and Unerman 2014).

Although the public sector is still at an early stage regarding sustainability reports (Fusco & Ricci, 2019), in recent years there has been an ever-increasing diffusion of reporting practices in this sector too, but it is sometimes difficult to understand how many local governments have actually published a Sustainability Report because many times there are no clear boundaries on what constitutes a real report. While some documents labeled as "sustainability reports" are little more than tables of indicators, others are extensive reports of trends, actions and plans (Niemann & Hoppe, 2017).

2.2. Sustainability reporting frameworks

There are various frameworks for sustainability reporting such as the Global Reporting Initiative Standards (GRI Standards), the Sustainable Development Goals (SDGs), the Integrated Reporting (IR) Framework, the Carbon Disclosure Project (CDP) Guidance, etc. In this study the attention will be given to the ones most used in recent years, especially in the international sustainability reports of the public sector, namely the aforementioned Global Reporting Initiative Standards (GRI Standards), the Sustainable Development Goals (SDGs) plus the ISO 37120 Sustainable Community Development - Indicators for Urban Services and Quality of Life.

2.2.1. Global Reporting Initiative Standards

Several organizations have developed guidelines for sustainability reports. These have been established to facilitate the disclosure and comparison between the various reports on social, environmental, ethical and governance issues. The most influential at the international level are the Sustainability Reporting Guidelines developed by the Global Reporting Initiative (GRI). These guidelines are the result of cooperation between researchers, industries and consultants (Dumay et al., 2010).

The origins of the GRI date back to the Coalition for Environmentally Responsible Economies (CERES) organization which in 1997 established the GRI department whose purpose was to create accountability mechanisms to ensure that companies followed the CERES principles for responsible environmental conduct, including other things, sustainable use of resources, energy saving and nature protection (Laird, 2010).

In 2000, the GRI launched its first version of the Sustainability Reporting Guidelines and in 2001 it separated from the CERES organization.

The purpose of this information is to assist stakeholders in understanding the context of a company. The information refers to three main themes of economic, social and environmental impact. In turn, each of the main topics is divided into sub-topics.

The growing interest in public sector sustainability reporting led the GRI to launch in 2005 a supplement called the Public Entities Supplement specifically designed for public organizations (Dumay et al., 2010).

The GRI Standards are a modular system of interrelated standards. They are divided into three sets of Standards that support the reporting process: the GRI Universal Standards, which apply to all organizations; the GRI Sector Standards, applicable to specific sectors; and the GRI Topic Standards, each listing the disclosures relevant to a particular topic:

Table 1 – Global Reporting Initiative Standards

GRI Standards		
Universal Standards	Sector Standards	Topic Standards
GRI 1 Foundation	GRI 11 Oil and Gas Sector	Economic (from GRI 201 to GRI 207)
GRI 2 General Disclosures	GRI 12 Coal Sector	Environmental (from GRI 301 to GRI 308)

GRI 3 Management Approach	GRI 13 Agriculture, Aquaculture and Fishing Sectors	Social (from GRI 401 to GRI 418)
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Source: Consolidated Set of the GRI Standards - [Global Reporting Initiative](#) (2022).

2.2.2. ISO 37120

In 2014, the International Organization for Standardization (ISO) published the standard 37120: Sustainable Community Development - Indicators for Urban Services and Quality of Life. It is the first international standard developed for cities and was then updated in 2018 (Mendes, 2020).

This standard intends to analyze the economic, environmental and social performance of cities through 19 thematic areas, thus allowing comparisons to be made between different cities and communities.

The standard is made up of a total of 111 indicators that are divided between Essential (Core) and Complementary (Support). These indicators aim to contribute to the sustainable development of cities and ensure that citizens receive quality services. With this certification, the achievement of the goals is facilitated through a process of standardization of the indicators that describe the cities and the services they provide to citizens.

Table 2 – ISO 37120 Thematic Areas and number of indicators

Thematic Area	Number of indicators	Example
Economy	9	City's unemployment rate
Education	6	Percentage of female school-aged population enrolled in schools
Energy	8	Total end-use energy consumption per capita

Environment and climate change	9	Fine particulate matter (PM2.5) concentration
Finance	5	Debt service ratio (debt service expenditure as a percentage of a city's own-source revenue)
Governance	4	Women as a percentage of total elected to city-level office
Health	6	Average life expectancy
Housing	5	Percentage of city population living in inadequate housing
Population and social conditions	4	Percentage of city population living below the international poverty line
Recreation	2	Square meters of public indoor recreation space per capita
Safety	10	Number of firefighters per 100000 population
Solid waste	10	Percentage of city population with regular solid waste collection
Sport and culture	3	Number of cultural institutions and sporting facilities per 100000 population

Telecommunication	2	Number of internet connections per 100000 population
Transportation	8	Kilometers of public transport system per 100000 population
Urban/local agriculture and food security	4	Total urban agricultural area per 100000 population
Urban planning	5	Green area (hectares) per 100000 population
Wastewater	4	Percentage of city population served by wastewater collection
Water	7	Percentage of city population with potable water supply service

Source: [ISO \(2018\)](#)

The advantage represented by the standard is the establishment of an international methodology, creating a uniformed standard for comparisons between cities and communities. The performance of cities is not linked to size, but to management efficiency.

The analysis of the indicators is oriented towards management efficiency in the definition and implementation of actions for the population and towards economic development with financial equilibrium. The ISO 37120 provides the city with a globally standardized shared database, which helps in the decision-making process, allowing a comparative and global vision.

One of the negative points is the high cost and the fact that the certification does not lead to immediate benefits. Many cities use the standard as a guideline without being certified themselves. This makes the comparison between the various cities difficult.

2.2.3. Sustainable Development Goals

In September 2015, world leaders pledged to support joint action around the 2030 Agenda for Sustainable Development. This agenda is composed of 17 Sustainable Development Goals (SDGs) with 169 specific targets divided among the goals that establish quantitative objectives associated with the social, economic and environmental dimensions of sustainable development, to be achieved by 2030 (Resolution, 2015). These objectives should provide a framework for action to be adopted and implemented in collaboration with stakeholders.

Many countries have already aligned their national strategies to the SDGs, but while almost all the countries involved have already presented the process through which they will assess and present the national progress made in implementing the 2030 Agenda, this planning has only recently taken place also in local governments (Osman et al., 2021). Cities could provide a practical approach to accelerate the progress of SDG implementation and help address the common obstacles and challenges especially in the urbanization (Mirabella et al., 2021). Localization involves linking global development goals with national and subnational development programs to establish transformation and coherence in the design and implementation of development policies.

Figure 1 – Sustainable Development Goals



Source: Sachs et al. (2022)

These three frameworks will also be one of the aspects for the comparison of the sustainability reports that will be analyzed in this study.

2.3. Motives

The practice of publishing sustainability reports by companies was initially attributable to the effort of gaining the trust of stakeholders and public opinion or even rebuild the company's reputation (Sethi et al., 2017). This may also be true in part for governments and cities, but, more specifically, in this case the reports serve to highlight the characteristics that can attract foreign investment (Goyal, 2006).

Among the other reasons that push the organizations to disclose information there is certainly the public opinion's pressure. Already in the 70s this was one of the reasons that pushed companies to disclose certain information, as various studies that have been made all over the world have shown, such as, for example, that of Guthrie and Parker (1989).

Another reason is that of the media attention and publicity that can derive from the publication of sustainability reports. This can be a double-edged sword because media reception can also be negative. This can push companies to improve or instead have the opposite effect and push companies to disclose only positive information and hide negative ones in order to maintain a positive image, the so-called "greenwashing" (Dumay *et al.*, 2010).

Of course, among the reasons there is also the desire to create awareness on environmental issues throughout the company, in the stakeholders and in society to facilitate the implementation of strategies that can meet the needs of the present without compromising the future (Kolk, 2010).

A recent study (Uyar et al., 2021) demonstrated how the so-called "Spillover effect" also exists for sustainability reports in the public sector. Many governments and cities, seeing that their neighbors are implementing this practice, feel the duty to publish a report too.

A study by Niemann and Hoppe (2018) on the sustainability reports of local governments showed that, whatever was the motivation that drove them to publish reports, none of the local governments did it with the aim of learning from the process of realizing a Sustainability Report, but the effects of the process were evident in all the cities surveyed in the study. The work on the sustainability reports gave inspiration and motivation to resolve sustainability issues and led to greater cooperation between the various departments aimed at improving

the management of internal processes. The study also proves that reports are actively used by policy makers as a basis for their decisions.

2.4. Criticisms and Difficulties

While there are several factors that contribute to the disclosure and success of the sustainability reports, there is still some skepticism. Regarding both the private and public sector reports, some critics fear that the reports are not made with the intent to improve or disclose sustainability information, but instead are made ad hoc from a cost/benefit perspective (Dumay et al., 2010), meaning that the organizations tend to public in the reports only the positive aspects that could benefit them. This has a lot to do with another issue regarding external audit. According to some authors, this practice should be mandatory for every Sustainability Report (Greiling and Grüb, 2014), but more often than not the reports are managed by internal departments and the results are not controlled by third parties. This greatly affects the legitimacy of the results presented.

Gray and Milne (2002) argue that it is nearly impossible to report on the sustainability of an organization. Especially for large companies or public bodies where it is sometimes difficult to delineate the beginning and end of their domain, the collection and reliability of data becomes always more complicated. Therefore, it's almost impossible to obtain a complete and transparent Sustainability Report of a company. Pitts and Fernandez (2009) argue that it is unrealistic to hold entities accountable for achieving results that are largely influenced by forces beyond their control.

Another problem encountered by various studies is the information overload of some reports. The more information there is on individual, social, environmental and economic impacts, policies and practices, the greater the likelihood of information overload for readers (de Villiers et al., 2014). Few people read a report from top to bottom and this risks exacerbating the already immense amount of information provided without adding anything relevant (Adams and Simnett, 2011). On this subject, Pollitt (2006) stated that “it is for the most part equivalent to putting a message in a bottle and throwing it into the sea” (pp 52).

All this then translates into a struggle to maintain public interest over time. This appears to be related to a lack of novelty as the reports showed little variation on the indicators taken from year to year. This is also reflected in the makers of the sustainability reports. In many

cases this practice was initiated with enthusiasm, but due to the repetitiveness of the process, what professionals describe as "reporting fatigue" came into play (Niemann & Hoppe, 2018).

2.5. Evaluation Criteria

The literature review gave the basis for the criteria that will be used to compare the reports analyzed in this study. As seen in Section 2.2, the frameworks are the backbone of the sustainability reporting. These official guidelines give private and public organizations an outline to follow while developing their reports and allow for a standard comparison between the ones that use them. For this reason, it will be checked if and which of the three main frameworks (GRI, SDGs, ISO 37120) are applied in each report and how they are utilized.

Another aspect considered in this study will be to compare the reports' ease of use or accessibility. Trying to understand how effortless it is for readers to understand and navigate the report and if it is reachable for them.

As seen in the literature review, apart from informing citizens, one of the motives that pushes organizations to share the information in their sustainability reports is that it can attract foreign investment (Goyal, 2006). In this sense, the widespread availability may also be a vital component particularly because it can serve to emphasize the characteristics that can appeal to external investments. Furthermore, as one of the problems with many sustainability reports is the information overload (de Villiers et al., 2014), the way a report is written can influence its palatability and help to reach its target audience. Since few people read a report from top to bottom, information overload risks exacerbating the already immense amount of information provided without adding anything relevant (Adams and Simnett, 2011). These are the reasons that pushed me to consider the availability of the reports as one of the main evaluation criteria.

Finally, an important aspect discussed in the 2.4. Criticisms and Difficulties, whether being from public or private organizations was the presence of an external third party involved in the process of drafting the report, that some authors consider it a mandatory feature for every Sustainability Report (Greiling and Grüb, 2014). Most of the time, the reports are executed by a department within the city hall, and while this does not invalidate the data, there may be a tendency to show only the positives and put the negatives aside.

This is a relevant aspect to consider, since the disclosure of only positive information and omitting negative ones in order to maintain a positive image, the so-called "greenwashing" (Dumay *et al.*, 2010) can affect the legitimacy of the results presented. For these reasons the presence of an external audit will be evaluated in the reports taken in consideration in this research.

It will also be taken in consideration the structure of the reports, in order to find similarities and underline where do they differ. The analysis of the general organization of each report intends to do a direct comparison with Porto's report and see if and in which way is it more complete or lacking in some important parts.

3. Methodology

In this study the Porto Sustainability Report will be compared with the reports of six other cities: three Portuguese cities and three cities from the rest of Europe.

Finding reports that could be compared with each other was a relatively difficult task since not many cities publish their sustainability reports. Many documents that are defined as such only consist of a few pages or are included in a small part of the financial report of the city hall.

After gathering some reports from cities across Portugal and the rest of Europe. The national reports were chosen from a small available sample of Portuguese reports. The choice fell upon the most detailed reports and it specifically seemed appropriate to depict reports from different geographic areas inside Portugal, so there are three reports from the North and one from *Lisboa e Vale do Tejo*.

I tried to select the ones that seemed the most suitable, mainly for the honors received for their sustainability work and worldwide recognition as “green cities” in general. The choice fell on the reports of Braga, Vila Nova de Famalicão and Torres Vedras. The reports from the rest of Europe, on the other hand, come from the cities of Hanover, Paris and Stockholm.

3.1. Chosen Reports

This section presents the cities considered for this study and the reasons that led to the choice of their sustainability reports. An overview is provided below in Table 3 where some of the relevant data of the cities and the reports are presented. Each city will then be presented separately.

Table 3 – List of reports analyzed

City	Country	Population	Report title	Reported year/s	Publication year	Consecutive years	Number of pages
Braga	Portugal	193.349 (2021)	Smart & Trendy City Relatório De Sustentabilidade	2019	2021	First report	143
Vila Nova de Famalicão	Portugal	133.574 (2021)	Relatório de Sustentabilidade e	2018-2019	2020	2	126

			<i>Responsabilidade Social</i>				
Torres Vedras	Portugal	83.075 (2021)	<i>Relatório de Sustentabilidade</i>	2016-2019	2020	2	106
Hannover	Germany	534.049 (2020)	Hanover on the Path to Sustainability	Mainly last few years, but sometimes it goes back to 1990	2020	First Report of this kind	218
Paris	France	2.165.423 (2019)	Sustainable Development Report	2019	2020	10	53
Stockholm	Sweden	978.770 (2021)	Voluntary Local Review	Mainly last few years	2021	First Report	65
Porto	Portugal	231.828 (2021)	<i>Porto Futuro Relatório de Desenvolvimento Sustentável</i>	2020	2021	5	123

Source: own elaboration

Braga

Among the reasons that prompted me to consider Braga is the fact that it was included among the 88 best cities in the world in the fight against climate change and awarded "Class A" by the Carbon Disclosure Project. The city was awarded the Green Flag ECOXXI award, which is awarded annually by the *Associação Bandeira Azul Europa* to Portuguese municipalities. Still at the national level, Braga is at the forefront of achieving the United Nations Sustainable Development Goals, with an execution rate of around 70%, according to the independent project CESOP of the Portuguese Catholic University. (Município de Braga, 2021)

Vila Nova de Famalicão

The Sustainability Report of the city of Vila Nova de Famalicão is the second one published by the municipality, with the first being published in 2017. The city in 2022 has also published the *Índice de Sustentabilidade Municipal* which focuses exclusively on the SDGs.

Vila Nova de Famalicão has also been awarded the Green Flag ECOXXI award and, at national level, has an execution rate of around 69.5% (2021) in achieving the United Nations Sustainable Development Goals, again according to the independent CESOP project of the Portuguese Catholic University. Thus, exceeding the national average which is 65.7%.

Torres Vedras

Their Sustainability Report is the second one of the municipality. The first report, published in 2016, took into consideration the period between 2010 and 2015. In 2021 the Municipality of Torres Vedras signed the new Covenant of Mayors for climate and energy, through which municipalities and regions are expected to strengthen their climate ambitions by 2050. Torres Vedras is also one of the few municipalities in the south of the country to have published a report in recent years.

Other Portuguese cities that have published a noteworthy Sustainability Report, but which will not be analyzed in this study, include Cascais, Matosinhos and Valongo. While that of Cascais is mainly a plan for the future implementation of the 2030 Agenda, the reports of Matosinhos and Valongo were both published in 2017 and it seemed relevant to analyze more recent reports also to contextualize them in the same historical period.

With regards to the reports of the non-Portuguese cities that will be analyzed in the study, finding them was more complex than expected. Most of the sustainability reports are not widely advertised, there is not much uniformity in the titles' nomenclature and many are not published in English, but only in the official language(s) of the country of origin.

The selection criteria, apart from looking for only those that seemed more suitable, are mainly two: the selected non-Portuguese reports come from European cities that have also published the report in English given that it facilitates the analysis. The choice to analyze specifically European cities makes a more standardized and fair evaluation since they are subjected to a series of common laws dictated by the European Union.

Hannover

The report focuses mainly on achieving the 2030 Agenda's goals. Hannover already has a great tradition in sustainability, it has been following the sustainable urban development model for 25 years and it won "Germany's Most Sustainable Major City 2018".

Paris

Since 2011, Paris has been publishing a Sustainability Report every year. Apart from being the city where the COP 21 launched the "Paris Agreement", Paris was given in 2021 the highest "A-grade" marks from the independent organization, Carbon Disclosure Project, which ranked it as the most ethical in terms of environmental conservation at international level.

In 2018, the city adopted the third Climate and Energy Action Plan that provides a roadmap for a zero-emission, resilient and inclusive city by 2050.

Stockholm

Stockholm's report - similar to the Hannover's - focuses mainly on achieving the 2030 Agenda's goals. It is the first Voluntary Local Review of the city even though Stockholm had already published a report in 2010 after being the first city to be elected European Green Capital. In the same vein as Paris, Porto and Braga, the city received the highest "A-grade" marks from the independent organization Carbon Disclosure Project.

Among the other reports I have encountered from other noteworthy cities are those of Amsterdam, Copenhagen, Kiel, and Tokyo. The reports from Amsterdam, Copenhagen and Tokyo were excluded because the first two were only in their official language, while Tokyo, even though the report seemed worth exploring, Japan is not a part of the EU, so, for different reasons, neither of the three reports met the criteria. Kiel's report also stood out, but I wanted to have a more varied sample, and since Hannover and Kiel are both German cities, I ended up choosing Hannover for the reasons already mentioned.

Porto

Last but not least, there is also the city of Porto's report. During my internship I worked mainly on the development of the 2021 report, which does not differ much from that of 2020 except in the contents. However, until now (29/08/22) the report has not yet been published – it should be published in the middle of September 2022 - so this study will take into consideration the one of the past year.

The municipality of Porto has been publishing a Sustainability Report annually since 2017, although the first was published in 2008. The city also received the highest "A-grade" marks from the independent organization Carbon Disclosure Project.

3.2. Evaluation and Report Analysis

As already explained in the Section 2.5., on Evaluation Criteria, the comparison among the selected reports will be done through the evaluation of i) the Frameworks used, ii) the Structure of the reports, iii) their Availability and iv) the presence or not of an External Audit. In Table 4 is shown which are the assessment criteria used for each dimension.

Regarding the Frameworks, despite the convenience of the presence of GRI tables to do a comparison between reports, it is unfortunate that these standards are not always used. Unfortunately, the Global Reporting Initiative Organization does not share the sustainability datasets of the companies that follow this framework. Personally, this should be an open and easy to access information that could avoid a scattered search.

The same could be said about ISO 37120, with the added difference that the own ISO central secretariat does not own a database of the certifications. Without this centralized repository, only by navigating in the sites of the various cities it was possible to understand which were the certified municipalities.

Table 4 – Evaluation Criteria Summary

Evaluation Dimension	Assessment Criteria
Frameworks	Presence of relevant Frameworks (GRI, ISO 37120, SDGs) used in the elaboration of the report

Structure	Analysis of the general structure of the reports to examine their main focus
Availability	Presence of a summary in the report Availability in more than one language
External Audit	Presence of an external audit

Source: own elaboration

Apart from the analysis of the criteria listed above, I will also analyze the Porto's report following some criteria that came from the study of the literature combined with the new perspective I acquired from this internship. After studying the literature that concerns this field of study and rethinking about my experience in the Porto City Council as an intern, I reflected on some aspects that seemed to be crucial for the sustainability reporting.

In this part of the research, I'll analyze four additional criteria starting with the Internal Cooperation. As told by Niemann and Hoppe (2018), all the organizations that decided to disclose sustainability information through a report increased the internal collaboration in the matter of trying to solve the issues related with sustainability and I could see firsthand how this is true and it came mainly from the internal workshops organized by the external auditing firm.

The Data Collection was actually one of the pain points: as stated by Gray and Milne (2002), this was mainly possible to mitigate in the 2021 report since the work done the previous year (2020 report) by the same team allowed to identify of the main difficulties that served as a starting point for the improvements of the data collection for the 2021 report.

Particular attention was given to avoid Information Overload. For this reason, the structure and the graphic presentation of the report was entrusted to a design company that arranged the contents in a visual way that was easy to read and to navigate through.

Finally, one of the aspects that I did not see in the 2020 report was the Reporting Fatigue highlighted by Niemann & Hoppe (2018) in the cases where a local government had published annually a report from more than three years in a row. Even though the Municipality of Porto has published a report every year since 2017, the 2020 Report was created by a completely different team, this could be one of the reasons that allowed to avoid the Reporting Fatigue.

4. Analysis and results

Because of the disparities between each report, there's an added difficulty when it comes to comparing them. In this section the reports are firstly analyzed by examining the presence of the frameworks most used internationally for sustainability reports of local governments. Secondly, it will be checked if there are some similarities in the structure used. After this, it will be studied how the report is rendered available and its ease of read. Finally, it will be verified if the reports used an external entity and the focus will be on the Porto case underlining the aspects that I was able to observe during my traineeship. Table 5 summarizes and compares the results of the analysis that will be presented in this section.

Table 5 - Comparative table of the evaluated criteria

City	Frameworks	Structure	Availability - Language	Availability - Summary	External Audit
Braga	GRI, ISO 37120 (Present in the report, but city has no certification), SDG	Focus on City Hall + entire city	Portuguese	No	No
Vila Nova de Famalicão	GRI, (ISO 37120 certified, but not mentioned in the report)	Focus on City Hall + entire city	Portuguese	No	No
Torres Vedras	GRI, SDG (generic approach)	Focus on City Hall + entire city	Portuguese	No	Yes
Hannover	SDG	Focus mainly on the city	German and English	Yes, Internal	No

Paris	SDG	Focus mainly on the city	French and English	Yes	No
Stockholm	SDG	Focus mainly on the city	Swedish and English	Yes, Internal	No
Porto	GRI, ISO 37120, SDG	Focus on City Hall + entire city	Portuguese and English	Yes	Yes

Source: own elaboration

4.1. Frameworks

4.1.1. GRI

Regarding the framework of the Global Reporting Initiative, there is a big distinction between the Portuguese and non-Portuguese reports: among the latter no one uses the GRI as a reference or even mentions it. For the Hanover and Stockholm reports this was predictable as both are VLR (Voluntary Local Review) and focus primarily on the SDGs.

On the other hand, among the national ones, the GRI framework is applied but in different forms. As an example, in the Vila Nova de Famalicão's report it is mentioned that it follows the GRI directives, however there is no table nor other type of direct reference to this framework where the points considered are shown and in which way they are addressed.

The reports of Braga, Porto and Torres Vedras also use this framework with the difference that they all have the GRI table presented in the final part of the report where is addressed every point of the framework; still, each report has a slightly different approach.

In Braga's report, for each point in the table, there is a reference of the page where this point is mentioned or developed (figure 2).

Figure 2 – Extract of GRI table from Braga’s report

GRI	Topico	Descrição	Página	Observações
102-1	General Disclosures	Name of the organization	2	
102-2	General Disclosures	Activities, brands, products, and services	11	
102-3	General Disclosures	Location of headquarters	2	
102-4	General Disclosures	Location of operations	2	
102-5	General Disclosures	Ownership and legal form	11	
102-6	General Disclosures	Markets served	11	

Source: Município de Braga (2021)

Torres Vedras’s report does the same, but, in addition to this, in the report itself, next to each chapter and section can be found a reference corresponding each point to the specific part of the report in the Global Reporting initiative table (figure 3).

Figure 3 – Reference to GRI in Torres Vedras’s Report

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ambiente@cm-tvedras.pt | www.cm-tvedras.pt 

Source: Câmara Municipal de Torres Vedras (2020)

Finally, Porto’s report follows a more comprehensive approach. Unlike Braga, the table isn’t filled with just the page number(s) corresponding to each GRI topic, but it specifically indicates which topic/paragraph it refers to or, when more suitable, it directly gives an answer without needing to search in the report (figure 4).

Figure 4 – Extract of GRI table from Porto's report

Tabela GRI

GRI	Nome	
GRI 102: CONTEÚDOS GERAIS		
102	Conteúdos gerais 2016	
102-1	Nome da organização	Câmara Municipal do Porto (CMPorto)
102-2	Atividades, marcas, produtos e serviços	1.4 Gestão Responsável
102-3	Localização da sede da organização	1. O Vosso Município
102-4	Localização das operações	As operações da organização localizam-se em Portugal, essencialmente na área do concelho do Porto.
102-5	Tipo e natureza jurídica da propriedade	1.1 Missão, Visão e Valores 1.2 Estrutura Organizacional
102-6	Mercados servidos	2.1A Cidade Presente tabela, GRI 102-7

Source: *Câmara Municipal do Porto* (2021)

4.1.2. ISO 37120

As we have already seen, the ISO 37120 Standard Sustainable Development of Communities - Indicators for City Services and Quality of Life intends to analyze the economic, environmental, and social performances of cities across 17 thematic areas, thus allowing comparability between cities and communities.

Among the reports taken into consideration in the study, only Porto and Braga have in their reports a table dedicated to the ISO 37120. The Braga's Sustainability Report presents the results and the evolution from 2015 to 2018, whilst the Porto report mainly presents only those of 2018 and no evolution is presented. Curiously, between the two cities, only Porto is certified with ISO 37120, whereas Braga uses the same ISO only as a reference framework while not being certified. Among the other cities, only Vila Nova de Famalicão is certified with ISO 37120, but no reference is made to the certificate in the Sustainability Report.

Still regarding the ISO, it should be noted that Torres Vedras, Vila Nova de Famalicão, Hannover and Porto are also certified with ISO 9001 - Quality Management Systems - Requirements. Porto, together with Hanover, also has the certificate of conformity to ISO 14001 - Environmental Management Systems.

Of all reports analyzed in this study, only Porto shows the list of the certifications in its Sustainability Report and, in addition to those already mentioned, we can also find a number of Portuguese Norms (NP) that, among the Portuguese cities, only Porto has:

NP 4552: 2016 - *Sistema de Gestão da Conciliação entre a vida profissional, familiar and pessoal* (Conciliation Management System between professional, family and personal life).

NP 4427: 2018 - *Sistemas de Gestão das Pessoas* (People Management Systems).

NP ISO 45001: 2019 - *Sistemas de Gestão da Segurança e Saúde no Trabalho* (Occupational Health and Safety Management Systems).

The research carried out shows that neither Paris nor Stockholm have any ISO certification. More often than not, the certifications' high price and the little added value discourage organizations from being certificated, but even in their absence they are sometimes used as guidelines, as in the case of Braga as we saw above. Critics argue that ISOs do not guarantee continuous performance improvement and that in organizations that are already compliant with those indicators it can be used simply to enhance their image (Rondinelli & Vastag, 2000).

4.1.3. Sustainable Development Goals

Regarding the SDGs, all the reports considered in this study use this framework even though in different ways.

The report of Torres Vedras is the only one that has a very generic approach to the SDGs as they are presented in a brief part of the report but are not present throughout the report.



The reports of Braga, Vila Nova de Famalicão and Paris have a similar approach. Although each reports presents its own unique structure, it is indicated which SDGs each report's chapter correlates to. The table with the various targets of the SDGs is not shown in any of these reports. Yet, Braga's report shows a summary page with the Evolution of every SDGs in the last years, while Vila Nova de Famalicão's report reserves a couple of pages to talk generally about 2030 Agenda.

While the municipalities' policies should be adapting and changing according to the SDGs proposed, the reports above seemed to already have their agenda and then simply checked which SDGs best fitted each part of the report.

The reports of Hannover and Stockholm are both VLR (Voluntary Local Review), so they focus mainly on the SDGs, although each one follows a different approach.

Hanover's report is divided in its own strategic goals and then identifies which SDGs each strategic goal refers to. In addition, at the end of the report, included in the annexes, two tables are shown: in the first one, the strategic goals and sub-goals of the city of Hanover are combined with the SDGs. All the targets are listed, even the ones without a proposed strategy; for those, the table is simply left blank (figure 5).

Figure 5 – Extract of SDG targets list from Hannover report

SDG 2 – End hunger, achieve food security and improved nutrition and promote sustainable agriculture		Goals of the City of Hanover	Sub-goals of the City of Hanover
SDG targets			
 <p>TARGET 2.1</p>	By 2030, end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round	Strategic goal 10: Strengthen family-, youth- and senior-friendly infrastructure, enable participation	Sub-goal 10.3: Enable participation in society regardless of financial circumstances
 <p>TARGET 2.2</p>	By 2030, end all forms of malnutrition, including achieving, by 2025, the internationally agreed targets on stunting and wasting in children under 5 years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons		
 <p>TARGET 2.3</p>	By 2030, double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment	Strategic goal 7: Ensure the forward-looking preservation and development of resources, strengthen sustainable business	Sub-goal 7.2: Strengthen sustainable business

Source: City of Hanover (2020)

In the second table it is shown the other way around: the indicators used are instead matched to the relevant strategic goals and sub-goals of the city. Then each one is matched to the programs, projects and measures contributing to its implementation. As seen in the table (figure 6), one municipal sub-goal can support not just one, but multiple SDGs.

Figure 6 – Extract of list of sub-goals from Hannover’s report

ENVIRONMENTAL DIMENSION					
Strategic goal 1: Ensure the quality of open spaces, maintain biodiversity					
SDG	Sub-goals of the City of Hanover	Indicator	2019 data	Description of indicator	Programmes, projects and measures (selection)
11.3	1.1 Protect green and open spaces and develop them in a forward-looking manner	# 1. Green and open spaces	9,565 ha, 46.9% (2018)	Size of green and open spaces in hectares, percentage of municipal land and in square metres per resident	<ul style="list-style-type: none"> ■ "Urban green space 2030" open space development concept ■ Implementation of allotment concept 2016–2025 ■ Implementation of agriculture programme ■ Guidelines for the development of commercial spaces ■ "Green Hanover" funding programme
11.7			107 m ³ per resident, publicly accessible (2018)		
12.2		# 2. Intensity of land use	20,430 ha in total (2018)	Land by type of use (total) in hectares and as a percentage of the total municipal area as well as area used for housing and transport in hectares and as a percentage of the municipal area	
15.1			Housing: 10,741 ha (52.6%) Transport: 3,500 ha (17.1%) Housing and transport: 14,097 ha (69.0%)		



Source: City of Hanover (2020)

On the other hand, Stockholm has a less thorough approach. In its report, the SDGs are clustered into three operational goals that follow the 2040 Vision of the city. Each SDG is then analyzed and there’s a chosen indicator to measure the development of that SDG in the city. In the Sustainability Report of Stockholm only the general SDGs are presented but not the targets in which every SDGs is divided into. Although Stockholm report appeared less detailed, it was the most straightforward and concise report that was able to compact every relevant aspect.

Unlike Stockholm and Torres Vedras, Porto highlights in each report’s section which SDG it refers to. It goes even further by specifying in each project / initiative which SDGs’ target it will affect. Finally, among the annexes there’s also a table that describes each mentioned target. This description is given as a reference to the reader to better interpret the report (figure 7). Although in different ways, both Porto and Hannover are the only reports that consider not only the SDGs, but also the targets.

Figure 7 - Extract of table with SDG targets from Porto's report

Tabela ODS

ODS	Meta	Descritivo
1		1.4 Até 2030, garantir que todos os homens e mulheres, particularmente os mais pobres e vulneráveis, tenham direitos iguais no acesso aos recursos económicos, bem como no acesso aos serviços básicos, à propriedade e controlo sobre a terra e outras formas de propriedade, à herança, aos recursos naturais, às novas tecnologias e aos serviços financeiros, incluindo microfinanciamento
		1.5 Até 2030, aumentar a resiliência dos mais pobres e em situação de maior vulnerabilidade, e reduzir a exposição e a vulnerabilidade destes aos fenómenos extremos relacionados com o clima e outros choques e desastres económicos, sociais e ambientais
2		2.1 Até 2030, acabar com a fome e garantir o acesso de todas as pessoas, em particular os mais pobres e pessoas em situações vulneráveis, incluindo crianças, a uma alimentação de qualidade, nutritiva e suficiente durante todo o ano
		2.2 Até 2030, acabar com todas as formas de malnutrição, incluindo atingir, até 2025, as metas acordadas internacionalmente sobre nanismo e caquexia em crianças menores de cinco anos, e atender às necessidades nutricionais dos adolescentes, mulheres grávidas e lactantes e pessoas idosas

Source: *Câmara Municipal do Porto* (2021)

4.2 Structure and Contents

Although frameworks serve to give uniformity to reports, the way of organizing information varies greatly from each city's report. There are some general common parts but upon closer inspection, the content seems to adapt to the specificities of each city, therefore presenting substantially different indicators and projects.

Among the common features that the reports analyzed, there is always the presentation of the city and most of the time the opening of the report is given by the mayor's message to its readers. Only Paris and Hannover are presented without the mayor message in the first part of their reports. Then there is a division between the Portuguese reports and the rest as the former ones are divided into two macro sections of which the first one is dedicated mainly to the city hall where its expenses, environmental impact and human capital are examined. In the second macro section, the focus is instead on the entire city and presents the projects completed in recent years, the evolution of the indicators that are deemed important and future strategies aimed at improving the sustainability of the city as a whole. This section is the only one present in the non-Portuguese reports and it is explored in a variety of ways. This makes a qualitative comparison of some of the indicators between reports very difficult since they adapt to the realities and necessities of the city, making them very different from each other. To compare all the indicators and the differences in the reports it would take a whole study alone.

4.3. Availability

Another aspect considered in this study to compare the reports is the ease of use or accessibility; to try to understand how easy it is for readers to understand the report and how many readers it can reach.

Among the important factors in this case, the presence of a summary version of the report and the availability of the same in more than one language can make the difference. These types of reports, in fact, are often published not only to inform citizens, but above all to attract investments in the city.

Starting with Porto's report, this is available in both the full version and the summary version which consists of one third of the pages of the full report. The summary version was also published in English and, for the 2021 report, the full version is also expected to be published in English.

The report explains in the beginning its graphic structure and helps the reader to navigate it. There are many internal hyperlinks that take the reader directly to the relevant section and also external links that refer to external content which are used to deepen the topics. Among all the reports, it is the only one that dedicates a page to the report navigation (figure 8).

The other reports all have links to external content, but only Hannover and Stockholm have hypertext links in the index present in each report. Since it is a feature that helps immensely in reading and navigating the report and given its ease of application, it could easily be implemented to the other reports as well.

Figure 8 - Page that explains report navigation form Porto's report



Source: Câmara Municipal do Porto (2021)

The Paris report has been published in both French and English since 2014 and, from that same year, there has been a summary version available for download in both languages. The summary version is usually composed of a few pages.

The Stockholm report is available in both English and Swedish without a summary version, but within the report, after each of the three main sections a very clear and comprehensive summary of the section is made.

The Hanover report is also available in both German and English and the summary of the report is included in the report itself. As previously mentioned, in the annexes there is the table of the SDGs with the summary of the goals set by the city and further there is an overview always that summarizes what they call their "Strategic goals" in a very clear and intuitive way. Both overviews have a total of 41 pages out of the 218 overall of the report which is the longest among those taken into consideration.

As for the three Portuguese cities, the reports were only published in Portuguese and there is no summary version. Even within the reports, there are no pages that summarize the topics covered.

All the non-Portuguese reports were edited by a communication company, while among the Portuguese reports only the one of Porto was edited by an external company specialized in editing, for the others the design was managed internally.

4.4. External Audit

Finally, an important part in many reports, whether of public or private organizations is the presence or absence of an external body in the process of drafting the report. According to some authors it 'should be a permanent element of every sustainability report' (Greiling and Grüb 2014, 220).

Most of the time the reports are developed by a department within the city hall, this does not invalidate the data, but there may be a tendency to show only the positives and put the negatives aside. The research showed that only two of the reports considered by the study made use of the help of an external body for the production of the report.

Torres Vedras made use of the Department of Environmental Sciences and Engineering of the *Faculdade de Ciências e Tecnologia* from the Lisbon NOVA University for the execution of the report, while Porto has relied on a sustainability consulting company that is specialized in sustainability reports. As it was expected, the external audit does not seem to be a feature present in most of the reports considered by the study.

4.5. Focus on Porto's report

As all the Portuguese reports analyzed, Porto uses the GRI guidelines, that makes it easier to compare it with other reports using the same framework. Among the two cities certified with the ISO 37120, the other one being Vila Nova de Famalicão, Porto is the only one that presents the ISO in a table with the results. We saw how in the report of Braga the table seems more complete as it presents the development of the indicators throughout the last years, but the authenticity of those results could be contested as Braga lacks the certification.

Regarding the SDGs, the Porto's report also addresses most of the targets inside the goals, not merely indicating a general scheme of which SDG could be attributed to a specific section of the report (as, for instance, in the reports of Braga and Vila Nova de Famalicão). Only the Hannover's report does something similar, even though the focus is more oriented towards their own goals, but it is clear that there was a deeper research in this matter. This is also expected as the Hannover report is a VLR and focuses mainly on the SDGs.

Porto's report is probably the most accessible among the Portuguese reports considered in this study as it is the only one that has a summarized version both in Portuguese and English and its ease of reading is also due to the graphical presentation cured by a design agency. Probably only the Stockholm report was lighter and easier to read, this mainly being due to the fact that it only focused on the SDGs and has half the pages of Porto's.

Finally, together with Torres Vedras, Porto is the only report that made use of an external audit. In the case of Torres Vedras, it was performed by the Nova University of Lisbon, while for Porto it was a sustainability consulting company specialized in sustainability reports. This is probably one of the most important aspects the other reports could take from Porto as it could make the difference. As we saw, many times the work on the sustainability reports results in giving inspiration and motivation to resolve sustainability issues and leading to greater cooperation between the various departments. This process can be enhanced under the guidance of a sustainability consulting company.

5. Insights on Porto's report

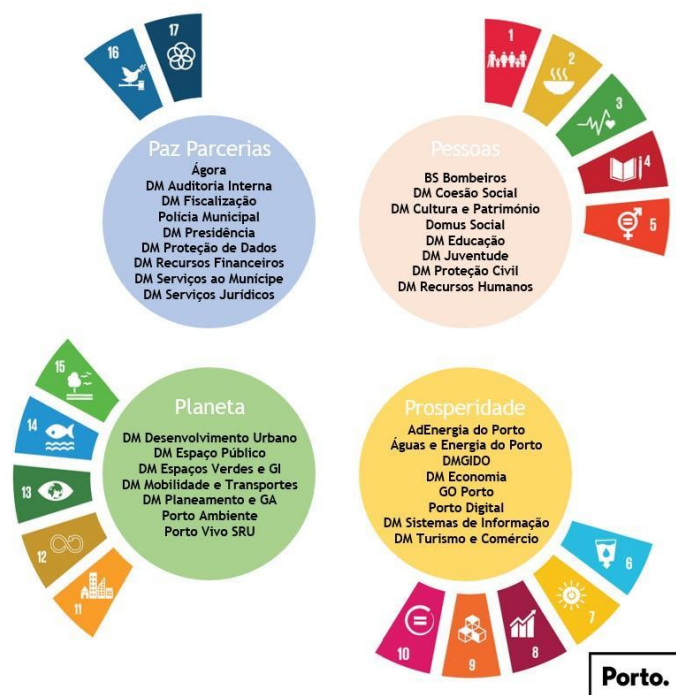
The aspects listed above can be outlined by reading and analyzing the reports. In the next paragraphs I will share some of the characteristics that I found relevant during my traineeship in the Porto City Council, which emerged from my daily work and reflection on the issue.

5.1. Internal cooperation

As shown in the study by Niemann and Hoppe (2018), the work on the sustainability reports results in giving inspiration and motivation to resolve sustainability issues and leads to greater cooperation between the various departments aimed at improving the management of internal processes. Not surprisingly, I was able to see firsthand how this is true.

The external auditing firm organized some workshops in the municipality before starting the work on the report. This gave them the opportunity to know the people they were going to work with for the creation of the report and the workshops were also used to explain to the various departments of the Porto City Council how the process was going to be carried out. In these workshops the various departments of the City Hall were divided following the 5P (People, Prosperity, Planet, Peace and Partnership) resulting in 4 different workshops as shown in the figure 9.

Figure 9 – Division of Porto City Hall departments in the 5P



Source: own elaboration

In every workshop there were activities focused on the report that required people from different departments that rarely spoke to each other to collaborate. During the workshops they were actively talking to each other regarding the issues of the city and especially during the coffee breaks they were openly discussing about what they could do to work together on different aspects for the city. These kinds of interactions seemed to be important not only to improve the quality of the report, but also for the accomplishment of important improvements for the city itself, that is why this could be a fundamental aspect in the assembly of a Sustainability Report.

5.2. Data Collection

As underlined by Gray and Milne (2002), especially for a public organization such as a city council, it is difficult to collect and organize all the data that regards sustainability to do a thoroughly complete report.

This was one of the main challenges for writing the report. It was already difficult to collect and organize the data on the city council itself and the ones from the *Empresas Municipais*.

Collecting the data from the rest of the city was even more complex as it is out of the control of the city council.

The work done on the report of the previous year, for the 2020 edition, served as a base to identify which were the areas where there was a lack of data and how to improve this aspect for the 2021 report. For instance, the data of the emissions of some municipal entities was not available for the 2020 report, so it was requested the responsible departments to start taking account for that data so it will be available for this year report. As seen, the data collection is a feature that can be improved year after year and this underlines the importance of continuity of the reporting exercise as this seems to lead to better data and clearer results.

5.3. Information overload

The amount of information and the relevance of it could determine if the report itself is "equivalent to putting a message in a bottle and throwing it into the sea" Pollit (2006). I had this sensation reading some parts of the reports of Pontes Vedras, Braga, Paris and Vila Nova de Famalicão, but the main reason was the structure of the reports that was sometimes, in my opinion, confusing. One of the strengths of Porto's report is that it is very fluid and easy to navigate and jump from one section to another. This gives the opportunity to the readers to check only the relevant parts. So even if there is plenty of information, the report appears to be very light.

This was mainly possible because the structure and layout of the report were taken care of by a design agency and one of the aspects most discussed during the meetings with them was the attention to the presentation of the contents, so that they could be easily navigated, consulted and read even by people who are not experts in those specific subjects. For this reason, the use of an external agency seems crucial to the good outcome of the report.

5.4. Reporting Fatigue

As reported by Niemann & Hoppe (2018), one of the reasons that leads to the creation of useless reports is the reporting fatigue. After various annual publications the new reports seem to have a lack of novelty as the reports show little variation on the indicators taken from year to year. This is also reflected in the makers of the sustainability reports that lose their enthusiasm.

In the case of Porto's report this could be true until the report published in 2019. The reports prior to 2020 are very similar to each other with the introduction of only some information and some new indicators throughout the years. That all changed for the 2020 report when a new team took responsibility for the report and ambitioned to bring some newness that perhaps had been lost in previous reports. The young age of the people working on its realization may also have had a positive impact.

Perhaps the secret to not falling into the reporting fatigue could be precisely to change the approach to the report and change the people in charge for its drafting, maybe not every year because continuity is also important, but as soon as the reports seem repetitive over the years. In this way new eyes looking at the problems of the city can find new solutions.

6. Conclusion and discussion

The main question for this study was to find how the Porto report compares with the sustainability reports of national and international cities and if there was room for improvement. After analyzing the other reports, it seems that there are some aspects that could be improved in the Porto's report, yet some aspects could be taken from it and applied to the reports of the cities taken in consideration by this research.

Regarding the improvements that could be implemented by Porto's report, there could be the addition of a summary and the end of every chapter as done in Stockholm's report. Porto's report has already a summarized version, but a summary or a table that resumes the content at the end of every chapter could further improve the reader experience. While for what concerns the ISO 37120, the report could show the improvements along the years as shown in Braga's report to give a more comprehensive evolution.

As for the other reports present in this research and the sustainability reports of local governments in general, it was highlighted that the use of the frameworks is an important tool that serves as guidelines for reporting and facilitate the comparison between reports. Some of the reports analyzed uses only one or two of the frameworks and this leads to a lack of information and to an additional difficulty with the comparison between them.

The use of an external audit (Greiling and Grüb, 2014), apart from validating the data presented in the report, could improve the internal cooperation between the various city departments and lead to a better result, not only in the report realization, but mainly in the strategies adopted by the city regarding the improvement of the sustainability in the various areas of the municipality.

Entrusting the design of the report to an external company can also improve the readability of the report itself and lower the information overload. This, together with the external audit, gives the opportunity to people with different backgrounds to review the content of the report and give different insights that leads to the improvement of the document. Having a report that is easy to read and that presents the information in a comprehensive and effective way can lead to a broader audience and more investments in the city (Goyal, 2006).

Always in this perspective, for the Portuguese reports analyzed in this report, the lack of an English version can make the difference as it reduces drastically the number of the readers.

The reporting practice through the years could lead on one hand to a better data quality as throughout the years the reporters understand where the data is lacking and can try to improve the collection and analysis of the missing data. On the other hand, it can cause what in the literature is called Reporting Fatigue (Niemann & Hoppe, 2018) as through the years the reporters could lose the enthusiasm, so the format and the indicators used end always being the same. This could be avoided by regularly changing the team assigned for the report, as this can keep the enthusiasm alive and the new reporters could focus on aspects that were previously overlooked.

Despite the efforts for a thoroughly research, this study has a few limitations that could be the subject of future studies on the matter, the first of all being that it only takes into account seven reports. A larger study could draw attention to more differences between the various reports and it could discover additional points to work on and make progress on.

This study also did not focus on the indicators used in the reports. A specific study on the subject could highlight which indicators are used to monitor the evolution of improvements in sustainability issues and find the most frequently used among all cities or which ones are used only by one city and why.

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