Accepted Manuscript

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Please cite this article as: Figueira Inê, Domingues AR, Caeiro S, Painho M, Antunes P, Santos R, Videira N, Walker RM, Huisingh D, Ramos TomáB, Sustainability policies and practices in public sector organisations: The case of the Portuguese Central Public Administration, *Journal of Cleaner Production* (2018), doi: 10.1016/j.jclepro.2018.07.244.

Sustainability policies and practices in Public Sector Organisations: the case of the Portuguese Central Public Administration

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Abstract

The adoption of sustainability policies and practices in organisations is a rising trend, in particular in companies. Public sector organisations are also following this occurrence but with slower signs. Despite a relevant amount of research work on sustainability practices implemented by private organisations and by some public agencies, central public sectors have been left out of the scope of these studies. The main goal of this research is to identify the sustainability profile (including adopted policies and practices) of the public organisations, using the Portuguese Central Public Administration as a case study. A questionnaire survey was developed and submitted to Portuguese public sector organisations that fulfilled the following criteria: (i) to belong to the Portuguese Central Public Administration and (ii) to have the major area of activity at the national level. The statistical population was also defined on the basis of these criteria. Descriptive statistics and frequency analysis were used to explore the results in the organisations surveyed. The overall results demonstrate a low adoption level of integrated sustainability policies and practices, despite the expected positive trends related with the mandatory social and economic practices. This research contributes to new knowledge by characterising the sustainability profile of the Portuguese central public sector and where actions are needed, leading to a better transition to sustainable societies. The developed questionnaire can be used in other geographical, institutional and cultural contexts to define sustainability profile of worldwide public organisations, working also as a benchmarking tool.

Keywords: Sustainable Development; Public sector; Public organisations; Central public administration; Survey

List of Acronyms:
CPA – Central Public Administration
EMS – Environmental Management System
GPP – Green Public Procurement
GRI – Global Reporting Initiative
OECD – Organisation for Economic Co-operation and Development
PCPA – Portuguese Central Public Administration
PES – Performance Evaluation System
PSOs – Public Sector Organisations

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Highlights

- The adoption of sustainability policies and practices in the Public Sector is mainly unknown.
- A survey was conducted to identify sustainability policies and practices in the Portuguese central Public Sector.
- A profile of the sustainability policies and practices in Portuguese central Public Sector was drawn.

1. Introduction

The adoption of sustainability policies and practices in organisations is a rising trend, in particular in private organisations. Public Sector Organisations (PSOs) are also following this trend but in a slower rhythm, as discussed by Ramos et al. (2007b), Lundberg et al. (2009), Williams et al. (2011) and Myhre et al. (2013). This passive role of public organisations can be explained by the fact reported by Guthrie et al. (2010), that many of these methodologies have been developed in the private sector. These authors also highlight that sustainability practices for public services have been neglected, being left out of the investigation scope, despite a significant amount of work conducted on related organisations, including public universities (Lozano *et al.*, 2017; Ramos *et al.*, 2015). In many cases, these are sate-owned, but due to its particularities and features, are not often considered for the scope of this type of research. Furthermore, as underlined by Welford et al. (1998), it is frequently assumed that the services sector, which is the main focus of PSOs, has less environmental impacts than private sector organisations. Nevertheless, the management and performance of PSOs are increasingly being evaluated according to economic, social and environmental dimensions of sustainability (Enticott and Walker, 2008), which is related with the integration of sustainability principles and practices into their operations and activities (Byrch et al., 2007). This growing concern with sustainability in the management and operations of PSOs led to the development of new approaches and methods that entities can use to assess their sustainability profile (Guthrie et al., 2010; Coutinho et al., 2018).

Sustainability transitions perspectives emphasize the need of the public sector to tailor policies towards technological innovation and be institutionally redesigned (Haley, 2017). So, the public sector has begun to realise that it is necessary to change the way they are operating, in order to include the sustainability aspects within the operations of the organisations (Ramos et al., 2007b). Besides a service provider, the public sector is a meaningful employer and consumer of resources, which imposes an important role in achieving the goals and objectives associated with sustainable development (GRI, 2005). This sector should not only guarantee the adequate management of public resources and installations, but also ensure to fulfil stakeholders expectations, promote public interest, promote the enrolment of stakeholders, engage deeper public commitment, and enhance transparency in public management (GRI 2005; García-Sánchez et al. 2013). In addition, within the Sustainable Development Goals Agenda 2030, besides limited obligations of the governments, the means of the goals implementations must be upgraded significantly (Spangenberg, 2016). Despite some theoretical and empirical research initiatives related to the adoption of environmental and sustainability principles, approaches and practices by PSOs (e.g. Griffiths, 2003, Singh and Mansour-Nahra 2006; Zutshi et al., 2008, Hoque and Adams, 2011; Williams et al. 2011, García-Sánchez et al. 2013; Rainville, 2017), the majority are primarily focused upon one main single practice or issue such as Environmental Management Systems (EMS), quality management systems, sustainability reports, the Balanced Scorecard or a core area of sustainability, such as environment related issues, as discussed by Nogueiro and Ramos (2014). Unlike what happens in the private sector (Lawrence et al., 2006, Collins et al., 2007; Ameer and Othman, 2012;), there is a lack of research on initiatives that offer a broader and integrated sustainability profile of policies and practices that are being implemented by PSOs for performance management of their activities and operations.

In addition, central government has been left out of the scope of most of the above-mentioned studies. Similarly, when analysing the use of performance information by public managers, performance indicators are more often used in local and regional government than central

government (Hammerschmid et al., 2013), and largely explored at a local level (Mapar et al., 2017). Only a few studies are related to Central Public Administration (CPA), namely related to sustainability practices (e.g. Adams et al., 2014), environmental reporting and disclosure practices (e.g. Frost and Seamer, 2002; Lynch, 2010; Lodhia et al., 2012) and EMS (Zutshi et al., 2008). These are mainly associated with operational practices and tools. Consequently, the work of CPA towards the integration of sustainability strategic instruments and the comparison between practices and tools integrated in this type of organisations is mainly unknown. In Portugal, which is a Southern European country, the analysis of sustainability policies and practices adopted by the central administration organisations is an underexplored issue, facing several challenges not yet covered by scientific literature.

To cover this research gap, an assessment of sustainability integration by CPA was conducted. The main aim of this research was to identify sustainability policies and practices adopted by PSOs, using the Portuguese Central Public Administration (PCPA) as a case study. To accomplish this goal, a national questionnaire survey was developed and carried out by the organisations of the PCPA whose scope of activity is mainly national.

2. Overview of Strategic and Operational Sustainability Initiatives in Public Sector Organisations

Several initiatives are promoting the integration of sustainability in the management of PSOs. The Organisation for Economic Co-operation and Development (OECD) played an central initial role launching in the 90s and following years several works about this topic (OECD,1996; 1998; 2002), that include recommendations and guidelines such as: (i) improve the government's environmental performance, (ii) implement EMS in governmental organisations, and (iii) improve environmental performance in contracts and procurement. Also, other national and multinational institutions such as the European Commission (EC 2001), developed specific guidelines for PSOs, as the datasheet for the implementation of EMAS in the authorities of the public sector, among other initiatives (e.g. Green Public Procurement – GPP, (EC, 2016)). In addition, some studies related to GPP have been published (e.g. Michelsen and de Boer, 2009, Brammer and Walker, 2011; Walker and Brammer, 2012; Bratt et al., 2013; Ahsan and Rahman, 2017; Rainville, 2017). In this context, a paramount initiative is being led by the Global Reporting Initiative (GRI) (GRI, 2005), which developed a pilot version of a sustainability reporting sector supplement for public agencies, based on earlier versions of the GRI guidelines, that can be used as complement when preparing a sustainability report for PSOs. Despite various types of criticism around this initiative (e.g. Moneva et al., 2006, Dumay et al., 2010; Marimon et al., 2012;), it presents a broader and integrated system to assess and report sustainability organisational performance and related management practices.

The implementation of sustainability policies and practices in public administration has been taken in different rhythms, depending on the country, the administration level (e.g. local *versus* national/central) or the activities and objectives of each organisation. For instance, OECD (1998), verified that the greatest progress on EMS for governmental organisations has taken place at local level. Joas and Grönholm (2004), showed that, even though European local governments are the most active bodies in the implementation of environmental and sustainability policies and concerns, the initiatives related to this matter are not equally distributed through Europe. Hammerschmid et al.(2013), stressed that the use of self-reported performance information is different across Europe, being higher in Italy and Estonia and lower in Germany and France. These authors also discovered that performance indicators are more widely used in local and regional government that in central government as mentioned above.

An overview of examples of the work being conducted on sustainability policies and practices adopted by PSOs is presented in Table A1 (see Appendix A). In most of the examples the authors used surveys to evaluate the implementation of the practices at local, regional and national scale. Examples of Portuguese practices are also highlighted.

Notwithstanding the examples showed in Table 1 there is still a long way to go in order to achieve management levels that promote not only a high quality public service, concerned with the expectations of stakeholders, but also an improved quality of life of populations and the

development of sustainable societies. Most of the initiatives are single actions not integrated in holistic strategies.

These trends have also been verified in Portugal. The Portuguese public administration, and its organisations, is beginning to focus on the integration of sustainability concerns into their management, operations and activities as explored by the works of Ramos and Melo, (2005) and Ramos et al. (2007b), Baptista and Ferraz (2008), Gomes et al. (2008), Gomes and Mendes (2013), Nogueiro and Ramos (2014) .

As Roman (2017) highlights there is still little empirical research on public sector management and on factors that might lead an organisation to become more likely to adopt sustainable practices.

3. Methods

3.1. The Portuguese Central Public Administration

The Portuguese Central Public Administration (PCPA) is structured in to three levels. Some of the main characteristics of each level are presented in Table 1.

Table 1. Characterisation of the Portuguese Public Administration according to the level of administration, definition and organisations included (DGAEP, 2013)

Level of administration	Definition	Organisations
Direct administration	-Bodies, offices and agents integrated in the legal entity "State". -The Portuguese government is directly responsible for these organisations, having hierarchical power.	**-Central services, which have** competency at national level (e.g. General Directorates, General Secretariats, General Inspectorates). **-Outlying services, that have** limited territorial scope (e.g. Regional Directorates).
Indirect administration	-Public entities with legal personality. -Their autonomy is limited to administrative and financial processes. -The Portuguese Government has guidance, oversight and control influence.	-Public Institutes.
Autonomous administration	-Organisations that persecute the interests of people that constitutes them. -These organisations have autonomy and independence to define their orientation and activity. -The Portuguese Government has oversight and control influence.	- Autonomous regions of the Azores and Madeira islands, which constitute the regional government. - Local government, such as by municipalities and parishes. - Public associations.

As shown in Table 1, the regional administration in Portugal is confined to the autonomous region of the Azores and the Madeira archipelagos. Local and central governments administrate the rest of the country. Within the European Union, this configuration is unusual, having a character of singularity (DGAEP, 2013).

The central government can be defined as "the subsector of public administrations that comprise all administrative departments of the State and other central agencies whose competence extends normally across the whole economic territory", encompassing direct and indirect administration (DGAEP, 2009). In Portugal, the need to improve quality, effectiveness

and efficiency of public services and the programs and objectives of the different governments have led to several changes in the PCPA (Madureira and Ferraz, 2010; Rosa, 2012).

The Central Administration Restructuring Program (PRACE) and the Plan for Reduction and Improvement of the Central Administration (PREMAC) are the two more recent programs for the restructuring and improvement of central administration in Portugal. In February 2013, after the implementation of these two programs, the PCPA was composed of 224 organisations: 95 organisms of direct administration, 55 of indirect administration, 8 independent administrative organisations, 25 advisory bodies and 41 organisations defined as "other structures" (DGAEP, 2013).

Some organisations were left out of the scope of PREMAC, despite belonging to central government, namely the National Health Service, the network of embassies, missions and consulates, the military and security forces, the school system and institutions of higher education, and the judicial network (Government of Portugal, 2012). For this reason, they were not included in the 224 organisations mentioned above.

3.2. Survey questionnaire

A questionnaire survey was designed and administered by the research team to collect data related to environmental and sustainability policies and practices that have been implemented by the PCPA organisations. It was distributed among all General Directorates, General Secretariats, General Inspectorates and Public Institutes included in PREMAC universe, which main area of influence is national. In total, 131 organisations (84 and 47 organisations from the direct and indirect public administration, respectively) were covered and the working population identified. On this basis, the entire population was surveyed, meaning that all 131 mentioned public organisations were included. The questionnaire responses were collated and analysed in the period 2013-2014, after being mailed to the top leaders of the target-organisations and requested one single response for the respective institution. An intermediate decision maker was the person in charge of filling and submitting the questionnaire.

Prior to the email distribution, a questionnaire pre-test was conducted with set, pre-selected individuals from academia and public sector organisations, in order to evaluate its quality in terms of clarity, comprehensibility and acceptability (Rea and Parker, 1997). The survey questions were drawn from theoretical scientific literatures covering sustainability and environmental policies, strategies and practices at an organisational level, that were selected and designed considering the literature analysed in sections 1 and 2. It was also taken into account the scope of the public sector organisations and the definition of practices explored by other works related to organisations, namely Nogueiro and Ramos (2014), Montabon et al. (2007), Ramos and Melo (2005), OECD (2003), and Lozano (2012).The questionnaire survey was sent by email because it is quick, effective, is of low cost and environmental impact (Tse, 1998). The questionnaire survey has already been used by several authors as a research method to assess and verify the adoption of one or more sustainability practices of public and private organisations (e.g. Ramos et al., 2007b, Lozano and Vallés, 2007; Enticott and Walker, 2008; Montesinos and Brusca, 2009; Williams et al., 2011, García-Sánchez et al., 2013; Adams et al., 2014).

The survey questionnaire had 53 questions grouped into five categories (see Table 2 – Thematic group), drawn from practical and theoretical, scientific and technical information, analysed in sections 1 and 2. The adopted categories used to aggregate the questions follow a sustainability oriented perspective, covering the main sustainable development dimensions (environmental, social, economic), and a crosscutting dimension, that was named integrated sustainability (thematic group two to five). The first category was for general characterisation of the surveyed institution. Most questions had closed-end response choices. Table 2 presents a summary of the main issues addressed. The complete questionnaire survey is available in Appendix B.

Table 2. Summary of issues raised in the questionnaire survey by issue and theme.

Thematic Group	Themes focused
General background	Occupied and constructed area Budget execution Funding source COFOG functions[1] Geographic location Number of employees
Integrated sustainability	Adoption of a sustainability policy or strategy Existence of a department in charge for the sustainability matters Adoption of a Performance Evaluation System (PES) Use of indicators in the evaluation of the PES Audits conducted Communication of sustainability and/or environmental performance through formal reports Accounting for expenditure related with sustainability practices, Application to awards schemes Perception of sustainability performance and management: role given to sustainability in the organisation's strategic and operational management, organisation's performance in terms of integration of policies and practices that promote sustainability and importance given by the organisation to the adoption / implementation of a sustainability PES
Environmental management	Environmental management systems: state of implementation and certification Use of sustainability and/or environmental criteria in the public procurement, in accordance with the Portuguese National Strategy for GPP Energy certification of the organisation's buildings, in accordance with the Portuguese National System for Energy and Indoor Air Quality Certification of Buildings (SCE) Implementation of Eco.AP Program (Portuguese Public Administration Energy Efficiency Programme) Implementation of eco-labelling systems: construction and product/service Adoption of an environmental monitoring program Rationalisation measures in the use of resources and/or pollution management, waste and emissions: state of implementation and areas of intervention
Social responsibility	Staff hiring in accordance with equal opportunities criteria in terms of gender and disability Facilities adapted for people with reduced mobility Implementation of an occupational health and safety plan Implementation of a social responsibility management system Adoption of a social monitoring program Plan of Risk Management and Related Offenses existence Staff training: provision and percentage of budget execution Development of actions for staff welfare (in the last 3 years) Satisfaction degree evaluation: users, suppliers and service providers Voluntary actions to engage local community Stakeholder involvement in the decision-making processes: frequency and types of stakeholders involved
Economy and finance	Existence of objectives and goals for cost containment

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[1] Classification of the Functions of Government (COFOG) (Eurostat, 2011a)

Thematic Group	Themes focused
	Accounting for unit costs
	Percentage of payments to suppliers within term

Follow-up telephone calls and emails to respondents were made to verify some results. The missing cases (non-responses) were treated as recommended by Rea and Parker (1997). In accordance with the recommendations of Laureano (2011), Wheater and Cook (2000) and Rea and Parker (1997), descriptive statistics were used to analyse the results in the organisations surveyed. The nonparametric test Spearman's correlation (r_s) was performed to assess the relations between quantitative variables that are not normally distributed, according to Wheater and Cook (2000) and Laureano (2011). The statistical tests were conducted using the computer application SPSS Statistics, version 21.0, 2012, from the IBM Corporation.

The limitations associated with questionnaires, e.g. validity, reliability and generalisations, such as those associated with participant and observer error and bias (Saunders et al., 2012), were considered in the discussion of results, and when drawing conclusions.

4. Results and Discussion

In total, 44 organisations returned the questionnaire, representing a response rate of 34%, of which 61% belong to the organisations related to the direct administration and 39% to the indirect administration. This response rate could be considered positive when compared to similar studies. For example, Garcia-Sanchez and Prado-Lorenzo (2008) studied the adoption of Agenda 21 by European municipalities, and had a response rate of 11%; Montesinos and Brusca (2009) assessed the use of management systems by Spanish local governments and had a response rate of 26%; and Nogueiro and Ramos (2014) evaluated the integration of environmental practices and tools in the Portuguese Local Public Administration with a response rate of 31%. According to Bhattacherjee (2012), the response rates from mail surveys tend to be low, typically between 15-20%. The margin of error associated with a confidence interval of 95% for a sample of 44 and a population of 131 in the most conservative situation is 12%.

The outcomes obtained from the questionnaire survey enabled the trace of a sustainability profile of the PCPA organisations. These results will be presented and divided in to a group of issues: (i) general background; (ii) sustainability performance; (iii) environmental management; (iv) social responsibility and associated areas; and (v) economy and finance.

4.1 General Background

The total area occupied by the facilities ranged from 0.005 ha to 11 897 ha, with an average of 380 ha. The average area of the buildings and constructed infrastructures was 17 ha, ranging from 0.005 to 426 ha.

The majority (51%) of the respondents stated that they are fully financed by public funds. These results are similar with the results from Boland and Fowler (2000) and Ramos et al. (2007b), who found that the majority of public organisations are funded by the State. The budget execution has been declining between 2010 and 2012, which can be linked to the financial crises that Portugal has been going through since 2011 and that obligated the PSOs to reduce their spending. In 2012, the budget execution ranged between 210 k€ (thousand euros – k€) to 590 368 456 k€, with an average of 14 818 421 k€. Nevertheless, these figures include the values of budget execution of an organisation that, due to its specific public administration roles and tasks, presents a budget much higher than the other organisations. Excluding this organism, the average values of budget execution becomes much lower, i.e. 60 726 k€.

Regarding the distribution in terms of public functions, or domain of activity, and considering the first level of COFOG classification, 49% of respondents identified "general public services" as their main area of activity.

All organisations have their headquarters in the Lisbon NUTS II region[2], showing a significant trend towards services' geographic centralisation. This spatial pattern was also identified by Ramos and Melo (2005), in their work on environmental management practices in the Portuguese defence sector.

Regarding the number of employees, it ranged from 3 to 11 566, with an average of 974 per organisation. About 62% of the organisation respondents have less than 250 workers, having an organisation size similar to small and medium enterprises (SMEs), according to one of the criteria's used to define SMEs by the European Commission definition (EU, 2003a). At local level, Nogueiro and Ramos (2014), in their evaluation regarding the integration of environmental practices and tools in the Portuguese municipalities, have also reached a similar result: 58%. Therefore, it can be assumed that the majority of Portuguese local and central government organisations have similar sizes (in terms of employees) to SMEs. The budget of the surveyed PSOs shown to be associated with the number of employees (r_s=0,821, α=0.01).

4.2 Integrated Sustainability

The majority (57% of the respondents) claimed that a sustainability policy was implemented, but in 83% of the cases this policy is incorporated into the organisation global strategy and it does not represent an independent policy. It is important to highlight that only 5% of the organisations have an environmental policy and 2% a social policy, while 20% only have an economic and financial policy, which reflects the importance of the economic and financial issues in the PCPA**.** More than half of the respondent organisations (55%) do not have any department responsible for the management of sustainability matters. In the majority of these organisations, there is no member of staff responsible for this area. As discussed by Mascarenhas et al. (2010), this may reveal that the sustainability issues are not very important to the high level managers of these PSOs, showing a compartmentalised vision of a broad inter-sectoral domain. Other studies show that in some better cases there is one department and one person responsible for the sustainability performance assessment and reporting in the PSOs (Schaltegger and Wagner, 2006; Lodhia et al., 2012; Domingues et al. 2017) .

Almost all the surveyed organisations have implemented at least one Performance Evaluation System (PES). In Portugal, with the aim of "assess the performance of public services, their respective managers and other staff", the Integrated System for Management and Performance Assessment in Public Administration (SIADAP) was mandatorily implemented (Baptista and Ferraz, 2008). Thus, SIADAP is the most obviously adopted system (98% of the organisations have this system, see Table 3). The use of a sustainability performance evaluation system is almost inexistent. Only 2% of the respondents mentioned the existence of such a tool. It should also be highlighted that all PES that were implemented, used indicators. Performance indicators are a common tool to assess the performance of public organisations, and many authors have used them (e.g. Ramos et al., 2007b; Lundberg et al., 2009; Lynch, 2010; Larsen and Hertwich, 2011; Wu and Wang, 2011; Mazzi et al., 2012; Myhre et al., 2013; Adams et al., 2014; Alcaraz-Quiles et al., 2014; Cruz and Marques, 2014).

The main areas in which organisations were audited were the economic-financial (92% of organisations) and human resources (69%). This is related to the need of proving the correct use of public funds, as discussed by Flynn (2002), and with the implementation of SIADAP, that established the assessment of managers and other employees of the direct and indirect administration (Baptista & Ferraz, 2008). However, as discussed by these authors, the degree of difficulty to implement these type of tools is greater in some PSOs than others, which may explain why only 68% of the surveyed organisations have implemented a performance evaluation system within the human resources areas. It should be noted that only 10% of organisations claim performing environmental audits. This weak tendency had already been verified for the Portuguese municipalities by Nogueiro and Ramos (2014).These authors also

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[2] Nomenclature of Territorial Units for Statistics (NUTS) of level II. Portugal have 7 territorial units of level II (Eurostat, 2011b).

highlighted that environmental audits are more likely to be carried out when an EMS is implemented, which can help to explain these results (see Table 3). Regarding the topic of sustainability report, 53% of the respondents have never completed one. Only 7% of the organisations developed environmental or sustainability reports and 33% included the sustainability evaluation in another type of report, such as: (i) activity report; (ii) health and safety report; (iii) inspections/audits or specific project report; (iv) quality report; (v) social responsibility report; and (vi) integrated report. Most of the organisations (82%) that stated that they developed a report complete it throughout annual reports. Other authors found similar behaviour in PSOs from other countries: Lamprinidi and Kubo (2008) and Dumay et al. (2010) recognised that the adoption of sustainability reports by PSOs has been slow; García-Sánchez et al. (2013) concluded that the Spanish local governments disclose more financial information than environmental and social responsibility information. Clements and Bowrey (2010) stated that the organisations of the Australian Commonwealth Government present this information in their annual activity reports.

The majority of the organisations (77%) do not account for expenditure related with the management of sustainability practices. For the ones that have information regarding this topic, in the year of 2012, sustainability costs ranged from 2 to 175 thousand euros, with an average of 63 thousand euros. No association was found between costs related to sustainability and the budget execution (r_s = 0.357, for α = 0.05), which could be due to the low adoption level of integrated sustainability practices, as shown within the results section.

Taking into account good practice award schemes (or similar processes), 40% of respondents claim that they participate regularly, of which 77% has already been awarded. As discussed by Borins (2000), the programs and awards of recognition have become a key piece in the reform of public management and, as focused by Hartley and Downe (2007), it is a way to promote good performance and communicate good practices. Comparing the rate of participation of good practice award schemes in the organisations surveyed and the low rate of participation of Portuguese municipalities in the ECO XXI award, which is presented in Nogueiro and Ramos (2014) research, 22 %, it is shown that the Portuguese public authorities are beginning to understand the importance of these tools.

Table 3. Results of the questionnaire survey to the Portuguese Central Administration organisations: characterisation of integrated sustainable performance practices.

Question	Category label	N	%
Adoption of sustainability policy or strategy	No	7	16
	Yes	25	57
	Only at environmental level	2	5
	Only at social responsibility level	1	2
	Only at economic and financial level	9	20
	Non-responses	0	
Documented sustainability policy or strategy (if the policy/strategy exists)	Is not in a document	1	3
	Integrated into the organisation's overall strategy	29	83
	In a separate document	5	14
	Non-responses	9	
Existence of a department in charge for the sustainability matters	No	23	55
	Yes	19	45
	Non-responses	2	
Staff in charge of sustainability matters (in case of inexistence of department)	No	19	86
	Yes	3	14
	Non-responses	22	
Adoption of Performance Evaluation System	Environmental	6	14
	Quality	18	42
	Human resources	9	21

9

Question	Category label	N	%
(PES)[a]	Occupational health and safety	4	9
	Sustainability	1	2
	Economic	10	23
	SIADAP	42	98
	Social	4	9
	Other	1	2
	Non-responses	1	
Use of indicators in the evaluation of the PES	No	0	0
	Yes	43	100
	Non-responses	1	
Audits conducted[a]	Environmental	4	10
	Economic and financial	36	92
	Health and safety	15	39
	Quality	17	44
	Human resources	27	69
	Other	13	33
	Non-responses	5	
Communication sustainability and/or environmental performance through formal reports	Was never presented in report	23	53
	Presented sporadically in report	3	7
	In environmental report	1	2
	In sustainability report	2	5
	In another type of report	14	33
	Non-responses	1	
Periodicity of the report (in case of communication through formal reports)	Annual	14	82
	Semi-annual	1	6
	Quarterly	2	12
	Non-responses	27	
Accounting for expenditure related with sustainability practices	No	33	77
	Yes	10	23
	Non-responses	1	
Application to awards schemes	No	26	60
	Yes	17	40
	Non-responses	1	
Awarded with prizes (in case of application to awards schemes)	No	4	23
	Yes	13	77
	Non-responses	27	

([a]100 per cent may be exceeded, since respondents could provide multiple responses to this question)

4.2.1. Perception of sustainability performance and management

The first three questions regarding sustainability integration section aimed at finding organisations' perception in relation to their sustainability performance and management. The results (see Table 4) show that organisations have an optimistic perspective of their behaviour in terms of sustainability: 77% indicate that the role that is given to sustainability in strategic and operational management of its organisation is very important or important, while 74 % consider the implementation of a sustainability performance evaluation system in the organisation as very important or important.

This optimistic trend is also evident in the self-assessment of organisations' sustainability performance: 71% classify their performance in terms of sustainability as very good or good. This positive rating trend is similar to that found by Ramos and Melo (2006) and Nogueiro and Ramos (2014) in their study on environmental performance self-assessment in other sectors of the Portuguese public administration. As noted by these authors, the results may be explained by the intention to preserve the reputation of these organisations towards its stakeholders and to be a leading example to other sectors.

Table 4. Results of the questionnaire survey to the Portuguese Central Administration organisations: characterisation of perception of the sustainability performance and management

Question	Category label	N	%
Role given to sustainability in the organisation's strategic and operational management	Very important	15	35
	Important	18	42
	Relatively important	7	16
	Slightly important	2	5
	Nothing important	1	2
	Non-responses	1	
Organisation's performance in terms of integration of policies and practices that promote sustainability.	Very good	8	19
	Good	22	52
	Medium	9	22
	Weak	2	5
	Don't know	1	2
	Non-responses	2	
Importance given by the organisation to the adoption / implementation of a sustainability PES	Very important	14	33
	Important	17	41
	Relatively important	6	14
	Slightly important	4	10
	Nothing important	0	0
	Don't know	1	2
	Non-responses	2	

4.3 Environmental Management

The majority (59%) of the respondents did not implement or intended to implement an EMS (Table 5). Only 5% of the organisations have implemented this tool and 12% were doing so. This low rate of EMS implementation in the organisations of the PCPA is still in line with previous trends identified by the OECD (1998), where is pointed out that the central government has been slower in the adoption of these systems than the local administration. According to the CPES and CE (2012), the criteria with the highest weight in public procurement in Europe are not the environmental and sustainability issues, but the price. The same authors claim that in Portugal, 86% of public procurement is adjudicated by price. However, the results of the questionnaire survey seem to contradict these data. Only 5% of the respondents stated that they have never applied the criteria of the National Strategy for GPP. According to the organisations surveyed, 67% claims that these criteria are used almost always or oftentimes. These results seem to indicate that the rate of adoption of environmental and sustainability criteria is higher in the PCPA than in the municipalities. According to Nogueiro and Ramos, (2014), only 36% of the Portuguese municipalities stated that adopt these criteria in public purchasing. Nevertheless, tools like GPP have the potential to promote policy goals of environmental improvement and innovation (Aldenius and Khan, 2017, Rainville, 2017).

As presented in Table 5, only 15% of the agencies have energy certification according to the National System for Energy and SCE. According to Santos et al. (2008), new buildings, major renovations, public buildings and all buildings when sold or rented are encompassed in the certification system. However, Santos and Fragoso (2013), verified that in 2012, 90% of the certifications belongs to residential buildings. The public buildings, defined as all non-residential buildings, held by private or PSOs, match only 1% of the certifications. The Portuguese Public Administration Energy Efficiency Programme (ECO.AP Program) has taken place in 86% of the organisations, through Local Energy Managers since it is a mandatory procedure. Energy Efficiency Contracts are only conducted depending on the consumption values (see Table 5) (Government of Portugal, 2013).

None of the respondent organisations have invested in the adoption of environmental or sustainability related labelling systems, neither in the buildings performance nor in terms of goods and services. Worldwide the majority of environmentally related label initiatives were developed for goods and services that are produced by the private sector, but an exploratory

research study has already been proposed and applied to a municipality in Portugal (see Domingues et al., 2015).

The majority (58%) of the respondents do not have a monitoring program to collect environmental data. In 19% of the organisations the collection of these data is done sporadically and 23% do it in a periodic manner. Ramos and Melo (2005), have also identified a weak trend in the adoption of such procedures in the Portuguese defence organisations, where 73% of them do not have a monitoring program to collect environmental data.

About 91% of the respondents stated that they have implemented or are implementing measures to rationalise the use of resources and/or managing pollution, waste and emissions. The three main areas of rationalisation are energy (83%), materials (65%) and waste (65%), while the three major sectors/processes of rationalisation are the use of equipment (89%), operation and maintenance of facilities (76%) and dematerialisation of services (73%). Portugal has implemented a diverse number of policies and programs for energy efficiency that can justify these results.

Table 5. Results of the questionnaire survey to the Portuguese Central Administration organisations: characterisation of environmental management practices

Question	Category label	N	%
Implementation of EMS	Not, and is not intended	2 5	59
	No, but is planned	1 0	24
	Yes, in implementation phase	5	12
	Yes, and is implemented	2	5
	Non-responses	2	
EMS Certification[a]	EMAS	1	13
	ISO 14001	1	13
	Is not certified	7	88
	Non-responses	36	
Use of sustainability and/or environmental criteria in the public procurement, in accordance with the Portuguese National Strategy for Green Public Procurement	Never	2	5
	Rarely	0	0
	Sometimes	1 1	28
	Oftentimes	1 0	26
	Almost always	1 6	41
	Non-responses	5	
Energy certification the organisation's buildings, in accordance with the Portuguese National System for Energy and Indoor Air Quality Certification of Buildings (SCE)	No	3 5	85
	Yes	6	15
	Non-responses	3	
Implementation of Eco.AP program elements[a]	Energy Efficiency Management Contracts	2	7
	Local Energy Manager	2 4	86
	Energy Efficiency Action Plans	1 2	43
	Non-responses	16	
Implementation of construction labelling in the buildings	No	4 2	10 0
	Yes	0	0
	Non-responses	2	
Implementation of products /services labelling	No	4 2	10 0

Question	Category label	N	%
	Yes	0	0
	Non-responses	2	
Adoption of an environmental monitoring program	No	25	58
	Sporadic collection	8	19
	Regular collection	10	23
	Non-responses	1	
Implementation of rationalisation in the use of resources and/or pollution management, waste and emissions	No	4	9
	Yes	40	91
	Non-responses	0	
Rationalisation of thematic areas[a]	Water	22	55
	Emissions	9	23
	Energy	33	83
	Materials	26	65
	Waste	26	65
	Noise	3	8
	Non-responses	4	
Rationalisation of processes or/and sectors[a]	Services dematerialisation	27	73
	Car fleet	11	30
	Operation and maintenance of facilities	28	76
	Equipment	33	89
	Behaviours	1	3
	Non-responses	7	

([a]100 per cent may be exceeded, since respondents could provide multiple responses to this question)

4.4 Social Responsibility

Almost all organisations (98%) claimed to follow equal opportunities criteria in terms of gender and disability. However, only 14% of organisations have their facilities fully adapted for people with reduced mobility. On the other hand, 19% of organisations do not have any adjustment that allows the access of these citizens, which may indicate that the rate of criteria adoption for equal opportunities is overrated. People with mobility limitations cannot access and work in most buildings and facilities of the PCPA, that are old and located within the city centre.

In 58% of the respondent organisations, an occupational health and safety plan has been implemented (Table 6) and 21% have implemented a social responsibility management system. These results show that the organisations of the PCPA are beginning to realise the importance of adopting occupational health and safety procedures. However, the implementation of social responsibility system is still poor despite being higher than the adoption of EMS (5%) (see table 5).

Unlike what was found for environmental data, most respondents confirmed that they have a program for collecting social data, with a pattern of 16% of the organisations doing it sporadically and 43% periodically. This higher trend related to social monitoring and the marked difference between the management systems adopted (5% for EMS against 21% for social

responsibility management system) may indicate that the PCPA can be more focused on social issues when compared to environmental issues.

The majority (91%) of the surveyed organisations have implemented a risk management plan and related offenses. This high rate of adoption of plans of risk management and related offenses can be explained by the Recommendation No. 1/2009 of the Portuguese Board of Corruption Prevention (Government of Portugal, 2009), which states that all entities that manage public funds, assets and properties should develop this kind of plan.

All respondents had submitted their employees to training initiatives. In the assessment of sustainability practices of the business sector made by Ameer and Othman (2012), Collins et al. (2007) and Lawrence et al. (2006), it was considered that the training of employees was an essential practice. As explored by UNEP (2008), there is an increasing awareness in the promotion of trained jobs that improve organisational sustainability.

In the three years before the realisation of the survey, the great majority of respondents (74%) have developed actions for staff welfare, such as improvement of buildings and equipment, development of socialising actions or lectures and training activities.

Regarding the assessment of the degree of satisfaction of suppliers and service providers, 37% of respondents do it often and 21% very often or always. When it comes to user satisfaction, 38% do it very often or always and 48% often. Sá and Sintra (2008) verified that 62% of the Portuguese municipalities do not have any procedure to assess user satisfaction. The surveyed results suggest that in Portugal, the central government seems to lead the implementation of these procedures, compared to the local government.

About 40% of the organisations stated that they are enrolled with communities in initiatives such as: (i) collecting food, clothing, toys and books; (ii) initiatives with the school community; and (iii) planting trees. These types of actions related to environmental concerns, public relations, corporate philanthropy and community relations, are important to improve the engagement and interests of all parties affected by the organisation actions, within social responsibilities (Murmura et al., 2017).

As displayed in Table 6, the majority (51%) of the organisations either do not involve stakeholders in their decision-making process or do it rarely. Approximately 30% of respondents do it often and 19% very often or always. The internal collaborators are queried by 82% of organisations, comprising the main stakeholders involved, as also highlighted by Farneti and Guthrie (2009) and Domingues et al. (2017) regarding sustainability reporting in PSOs. As stressed by Midin et al. (2016), and Coutinho et al. (2018), stakeholders' participation and inclusiveness are part of multi-stakeholder engagement processes where they can strengthen sustainability, thus improving governance.

Table 6. Results of the questionnaire survey to the Portuguese Central Administration organisations: characterisation of the social responsibility and associated areas practices

Question	Category label	N	%
Staff hiring in accordance with equal opportunities criteria in terms of gender and disability	No	1	2
	Yes	41	98
	Non-responses	2	
Facilities adapted for people with reduced mobility	Entirely	6	14
	Mostly	14	32
	In half	4	9
	Partly	11	26
	No	8	19
	Non-responses	1	
Implementation of an occupational health and safety plan	No	18	42
	Yes	25	58
	Non-responses	1	

Question	Category label	N	%
Implementation of a social responsibility management system	No	34	79
	Yes	9	21
	Non-responses	1	
Adoption of a social monitoring program	No	18	41
	Sporadic collection	7	16
	Regular collection	19	43
	Non-responses	0	
Adoption of Plan of Risk Management and Related Offenses	No	4	9
	Yes	40	91
	Non-responses	0	
Staff training initiatives	No	0	0
	Yes	44	100
	Non-responses	0	
Development of actions for staff welfare (in the last 3 years)	No	11	26
	Yes	31	74
	Non-responses	2	
Evaluation of user satisfaction	Never	3	7
	Rarely	3	7
	Often	20	48
	Very often	5	12
	Always	11	26
	Non-responses	2	
Evaluation of suppliers/service providers' satisfaction	Never	11	26
	Rarely	7	16
	Often	16	37
	Very often	3	7
	Always	6	14
	Non-responses	1	
Voluntary community engagement actions	No	26	60
	Yes	17	40
	Non-responses	1	
Stakeholder involvement in the decision-making processes	Never	15	35
	Rarely	7	16
	Often	13	30
	Very often	5	12
	Always	3	7
	Non-responses	1	
Types of stakeholder involved[a]	Internal collaborators	23	82
	Providers	4	14
	NGO	3	11
	Citizens in general	3	11
	Other (governmental entities, directors, target audience, users and other public organisations)	15	54
	Non-responses	16	

[a]100 per cent may be exceeded, since respondents could provide multiple responses to this question

4.5 Economic and Finance

The definition of goals and objectives of cost control and the accounting for unit costs exist in, respectively, 93% and 45% of responding organisations (Table 7). The Portuguese government established a program to reduce the expenditures and costs of the State (PCM, 2011). The adoption of these two practices enables organisations not only to have more control over what they spend, but also it helps them to gain a deeper understanding of the consumption and development of its activities according to the budget execution, helping them to achieve financial stability and meet the government's objectives.

The majority of respondents (91%) argued that the rate of payments to suppliers made on time is higher than 75%. This issue is particularly important in Portugal, where several SMEs are dependent of the contracts with the public sector. Since the publication of the Law 55-A/2010 of December 31 (State Budget for 2011), the Portuguese PSOs are forced to publish the amounts owed to suppliers (Government of Portugal, 2011).

Table 7. Results of the questionnaire survey to the Portuguese Central Administration organisations: characterisation of economic and financial practices

Question	Category label	N	%
Existence of objectives and goals for cost containment	No	3	7
	Yes	37	93
	Non-responses	4	
Accounting for unit costs	No	22	55
	Yes	18	45
	Non-responses	4	
Percentage of payments to suppliers within term	≤25%	0	0
	26-50	0	0
	51-75	3	9
	>75%	32	91
	Non-responses	9	

Based on this questionnaire and earlier research (Nogueiro and Ramos, 2014), the Central Public Administration in Portugal seems to have a slightly better sustainability profile when compared with local government. Nevertheless, sustainability policies and practices in PCPA are low besides the optimistic perceptions and importance given to sustainability by the organisation's management. As highlighted by Ahsan and Rahman (2017), the public "organisational green issues" (like for example application of Green Public Procurement) are critical challenges, lacking legislation, government incentives and lack of financial support. Some of the good results received are due to mandatory regulation (e.g. energy efficiency programs and Performance Evaluation System), or related with the financial support measures implemented in Portugal within the 2008 financial crisis. These findings are in line with Adams et al. (2014) work, which verified that the sustainability performance measures most used by the Australia government agencies are related with economic activity and employee diversity.

The current study allowed characterising the sustainability central administrative profile and highlight where are the main flaws. Based on these findings, further research may consider the engagement of top decision makers in collaboration with all the stakeholders to allow the organisations to determine priority areas of intervention. Also, incentive programs could be developed to promote a large-scale implementation of sustainability initiatives in public sector organisations, covering both strategic and operational levels. A voluntary employee-driven sustainability performance assessment can be put in place (according to Coutinho et al., 2018), to monitor and assess the implemented measures, also allowing a cross-validation with the formal results evaluation.

The public sector has a major hindrance that is the barrier of being financed by state budgets that might cause inefficiency in many perspectives, including sustainable performance. Nevertheless, as stressed by Roman (2017), public sector has the opportunity to take a leading role and to make a substantial contribution towards forwarding the sustainability agenda. Governments must be the drivers to change the unsustainable direction through decisive political actions (Spangenberg, 2016), and also serving as example of good practices.

5. Conclusions

The public sector, by defining the policies and strategies that constrain the performance of the entities under its supervision and regulation, needs to be sustainable in order to influence other sectors and improve their performance. It is so essential to define the current sustainability

profile to identify potential improvements and identify good policies and practices that are already being implemented to enable other public or private organisations to adopt them. The Portuguese central public administration profile was analysed in this study, as an example of a southern European country, integrated within the European Union.

The overall results demonstrate a low adoption of integrated sustainability practices and tools by the PCPA, despite the expected positive trends related to some mandatory social practices. There are some positive signals related to the integration of sustainability practices in some Portuguese public sector organisations, but mainly focused on economic and social issues, neglecting the environmental dimension. This stresses the need to adopt new public policies to improve the current trend, in order to integrate holistically all the dimensions of sustainability. The sustainability profile reported by the surveyed organisations shows that the PCPA is not fulfilling its leadership role in seeking and promoting sustainability and sustainable development. In order to improve the degree of adoption of some of the practices and tools it is important to invest in the sustainability training and engagement of the employees, managers and decision-makers. If these agents are capable of recognising the benefits associated to the integration of sustainability concerns in the public management, it will be possible to increase the contribution of this fundamental sector to sustainable development goals. Furthermore, despite the private sector having first realised the benefits of integrating sustainability in the management of their strategic and operational activities, the increasing commitment of the public sector in adopting environmental and sustainability practices and tools can serve as a booster for private entities to adopt more behaviours of excellence and good practice in this matter.

The developed questionnaire survey can be adapted and used as a self-assessment tool for PSOs, in order to evaluate the implementation of sustainability policies and practices. Research limitations are related to being used a self-reported survey with associated respondent's bias that could be overcome by complemented interviews and organisation's documentary search. Nevertheless, it is expected that the description of the current sustainability profile of the surveyed organisations can serve as a driver for them to improve their performance and degree of integration of sustainability initiatives, helping to build a more sustainable public administration. The developed questionnaire can also be adapted to other geographical, cultural and institutional contexts, where a public sustainability profile has not yet been conducted.

Acknowledgments

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Appendix A

Table A1. Examples of environmental and sustainability strategies and practices in public organisations

Strategies and Practices	Initiatives conducted in PSOs
Management systems	During the last few years, organisational management systems that aim to improve the performance and internal management organisation have been adopted by public agencies, covering different levels and issues: Quality (e.g. Debnath et al. 2010; Montesinos and Brusca 2009; Singh and Mansour-Nahra 2006); EMS (e.g. Dettenkofer et al. 2000 in hospitals; Disterheft et al. 2012 in European universities; Larrinaga-González and Pérez-Chamorro, 2008 in the public water companies; Montesinos and Brusca 2009 in Spanish local autorithies; Wang and Wu 2013 in defence sector; Ortiz 2005 in federal government; OECD 1998 e Zutshi et al. 2008 in government agencies); Social responsibility (Rosa et al., 2011; Santric-milicevic, 2013). Larrinaga-González and Pérez-Chamorro (2008) in their evaluation about the sustainability accounting and accountability in Spanish public water companies verified that one of the assessed organisations have implemented an Occupational health and safety management systems, while Fonseca and Fermam (2015) have developed a proposal for the conformity assessment of these management system in the Brazilian federal public administration. Along with the referred management systems, organisations of public and private sector have been focused in the implementation of integrated management systems, as analysed in Karapetrović (2010) work about the implementation of this tool in organisations of two Spanish regions (Catalonia and Basque Country), in which 1% of the respondents belong to Public Administration.
Performance measurement and management	Pressures of stakeholders to promote efficient and effective public services, capable of providing the necessary services and goods with a specific quality and a lower rate of taxes, led to the introduction of performance measurement and management in PSOs (Micheli et al., 2005). In recent years, several authors, like Micheli et al. (2005), have been investigating the implementation of performance management tools in the public administration: Dooren (2005) and Julnes and Holzer (2001) investigated the reasons and factors that lead public organisations to implement these performance measurement tools; Jarrar and Schiuma (2007) introduced the trends and challenges of performance measurements; Cuganesan et al. (2014) presented the risks of public sector performance management, while Arnaboldi et al. (2015) identified the effectiveness key areas of these tools. There are different approaches to manage the performance of public organisations, and the following examples explore some of those: Results and Determinants Framework (Ballantine et al., 1998); Balanced Scorecard (Gomes et al., 2008; Griffiths, 2003; Hoque and Adams, 2011; Montesinos and Brusca, 2009); budgetary control (Arnaboldi et al., 2015; Montesinos and Brusca, 2009); environmental performance evaluation (Lundberg et al., 2009; Ramos et al., 2007a; 2009). According to Jarrar and Schiuma (2007), the implementation of these tools is different across countries. In Portugal, with the aim of "assess the performance of public services, their respective managers and other staff", it was implemented the Integrated System for Management and Performance Assessment in Public Administration (SIADAP) (Baptista and Ferraz, 2008). Gomes and Mendes (2013) verified the implementation of SIADAP and its performance tool QUAR (Assessment and Accountability Framework) in Portuguese law enforcement.
Audits	Public sector auditing plays an important role in assessing the responsibility and effectiveness of public resources, promoting a policy of accountability, integrity and transparency, increasing stakeholders trust in public sector

Strategies and Practices	Initiatives conducted in PSOs
	(IAA 2012). Several authors explored the use of audits in public organisations. For instance Dettenkofer et al. (2000) analysed the implementation of EMAS's environmental auditing in an university hospital; Nogueiro and Ramos (2014) verified the adoption of environmental audits by the Portuguese local public administration; Johnsen et al. (2001) studied the use of performance auditing in local government of Finland and Norway and Robson et al. (2012) have analysed the methods used by public organisations in their occupational health and safety management audits.
Indicators	The use of indicators in PSOs is usually related to performance assessment and management systems, allowing the verification, evaluation and communication of the practices implemented. Various works have used this tool (e.g. Mapar et al., 2017, Domingues et al., 2015; Hammerschmid et al., 2013; Lundberg et al., 2009; Montesinos and Brusca, 2009; Myhre et al., 2013; Nogueiro and Ramos, 2014; Ramos et al., 2007a).
Reports	Public authorities must not only ensure proper management and use of resources, but also do it with transparency (GRI 2005, Midin et al., 2016), so reports are a way for information disclosure. For accountability purposes, information is reported to stakeholders through activity (Araújo and Branco, 2009), budgetary and financial (Carvalho et al., 2007; Mack and Ryan, 2006; Nogueira and Jorge, 2012), social (García-Sánchez et al., 2013; Mussari and Monfardini, 2010), environmental (Frost and Seamer, 2002; Lodhia et al., 2012; Lynch, 2010) and sustainability reports (Dumay et al. 2010 and Lamprinidi and Kubo, 2008 analysed the application of the GRI guidelines and the prodution of sustainability reports by public entities; Farneti and Guthrie (2009), examined the reasons why Australian PSOs present these reports; Fonseca et al. (2011), presented the state of sustainability reports in Higher Education in Canada or Ceulemans et al. 2015, worlwide; Williams et al. (2011), investigated the use of this reports by the local government in Australia).
Good practice awards	In order to reward and promote the adoption of best practices by PSOs, awards of excellence and quality have been established by several international and European entities, such as: United Nations Public Service Awards (UPSA) (UN 2011); European Public Sector Award (EPSA) (EIPA 2013); European Prize for Innovation in Public Administration (EC, 2016); Public Procurement of Innovation Award (PPI, 2015); European Energy Award[3] (EEA) (ICLEI 2012); European Green Capital Award[3] (ICLEI 2012); EMAS Award[3] (EC, 2017); European Business Awards for the Environment[3] (EC, 2016); EFQM Global Excellence Award[3] (EFQM, 2017). As referred by Tien (2012), also the countries worldwide have been implementing good practice awards to the public sector level (see Borins, 2000; Hartley and Downe, 2007; Löffler, 2001 and Radnor, 2009). In Portugal, some of the good practices awards for PSOs are the "Environmental-Defence Award", a national award attributed to the environmental good practices of the military units and bodies belonging to the Portuguese Armed Forces (Ramos and Melo, 2005); "ECO XXI Award", which aims to distinguish the local government sustainability practices (Nogueiro and Ramos, 2014); "Water and Waste Service Quality Awards", assigned by the sector regulator (ERSAR - Entidade Reguladora dos Serviços de Águas e Resíduos) and the newspaper Água&Ambiente, which purpose is to prize the management entities of the sector of Water and Environment that outstanding in the services provided (ERSAR, 2014).
Ecoabels	An ecolabel, like the European Union (EU) Ecolabel (EC, 2010), is used to identify goods and services that have less environmental impacts through

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[3] For public and private organisations.

Strategies and Practices	Initiatives conducted in PSOs
	their life-cycle than similar goods and services. The Fairtrade label from Fairtrade Labelling Organisations International (Amand-Eeckhout, 2012) aims to ensure that the payment due to producers of the products reflects an adequate return relative to expenses associated with the necessary skills, work performed and resources used to develop the products, as well as a portion of the associated profit (EC, 1999). Public agencies can use these environmental and social labels in their acquisitions process or public procurement. During the construction or rehabilitation of public buildings, organisations can choose to have a green building label through the implementation of a sustainable construction assessment tool, like the four methods discussed by Ferreira et al. (2014): the Building Research Establishment Environmental Assessment Method (BREEAM), Leadership in Energy and Environmental Design (LEED) or the Portuguese tools such as LiderA (2009) and SBTool^{PT} (2009). Public organisations are already adopting this tools, as shown by Menassa et al. (2012) that verified the energy consumption of U.S. Nay buildings certified with LEED. Another label that can be adopted by public entities is the sustainability label for local public services proposed by Domingues et al. (2015). This label is based on environmental, economic and social indicators and a set of criteria from the EU Ecolabel and GRI guidelines. It enables local public organisations to disclose information about sustainability performance of their services to stakeholders.
Green Public Procurement (GPP)	Nowadays, public agencies are investing in GPP, which means that they are taking into account environmental criteria in the acquisition process (Nissinen et al. 2009; Palmujoki 2010; CPES and CE 2012; ICLEI 2012, Bratt et al. 2013; Ahsna and Rahman, 2017;) and also as a way to enhance innovation (Rainville, 2017). Some organisations are also implementing sustainable public procurement, including an integrated set of economic, environmental and social criteria (Walker and Brammer, 2012, 2009). Others are using GPP as a tool to diffusion of green technologies and introduction of renewable fuels in the public bus transport systems (Aldenius and Khan, 2017).
Dematerialisation	The dematerialisation process and the concept of e-government are associated to the recognition that Information and Communication Technologies (ICT) can support administrative procedures (Mirabella et al., 2013; Yildiz, 2007). In recent years, governments have been focusing on the use of ITC for public procurement (Carayannis and Popescu, 2005; Walker and Brammer, 2012). The implementation of these procedures is related with cost savings (Sun and Meristo, 1999) and also with efficiency and effectiveness (Valdés et al., 2011). Sometimes, the use of this process in PSOs is connected with the implementation of a quality management system (Debnath et al., 2010; Singh and Mansour-Nahra, 2006).
Energy efficiency	Several programs have been implemented in order to promote energy efficiency within public administration. Some examples of those programs are the Covenant of Mayors (ICLEI 2012); the Portuguese Public Administration Energy Efficiency Programme (ECO.AP) (Government of Portugal, 2013); and the Irish Public Sector Energy Efficiency Strategy (DCCAE, 2017; SEAI, 2015, 2013). The energy efficiency programs and practices have been investigated by several authors (e.g. Geller et al. 2006, investigated the energy efficiency strategies adopted in some OCDE countries; Christoforidis et al. (2013, 2011) analysed the implementation of Covenant of Mayors in Europe and the public perception and barriers of implementation in Greece; Amorim (2014) presented some methodologies to the implementation of several Sustainable Energy Action Plans, part of the Covenant of Mayors execution; Radulovic et al. (2011) investigated the energy efficiency of public lighting management in a Croatian city; Lee

Strategies and Practices	Initiatives conducted in PSOs
	(2008) analysed the effectiveness of energy management in Taiwan government office buildings; and Silva and Ganhão (2013) presented ten energy efficient practices in Portugal, which include the ECO.AP program.
Energy certification	Aiming to promote the improvement of energy performance of buildings, the Energy Performance Building Directive (EPBD) (Directive 2002/91/EC) required the development of a system of energy certification of buildings by its member states (EC, 2003b). The National System for Energy and Indoor Air Quality Certification of Buildings (SCE) is the system that current exist in Portugal (Santos et al., 2008, 2013). Papaglastra et al. (2006), presented the EP label project that proposes a harmonised methodology for energy certification in accordance with EPBD by public buildings. Cohen et al. (2008) analysed the implementation of EPBD by public building in Germany and United Kingdom. Santos et al. (2008, 2013) presented the implementation of EPBD in Portugal, including in public buildings, that includes all non-residential buildings, held by private or public organisations.
Agenda 21	It is a global instrument adopted in the United Nations Conference on Environment and Development (UNCED), held in 1992 in Rio de Janeiro in order to promote sustainable development (UN 1992). Since that time, national (Bárcena, 1994; Gan, 1999) and local governments (Fidélis and Pires, 2009; Joas and Grönholm, 2004; Smardon, 2008), as well as regional authorities or association at regional level of municipalities (Fidélis and Pires, 2009; Walser, 2004) have been implemented this instrument. Smardon (2008), analysed the degree of implementation of Local Agenda 21 in European Union, North America and India, having noted that European local governments are leading the implementation of this practice. Joas and Grönholm (2004) referred that the rapid diffusion of Local Agenda 21 in European cities, and the introduction of this process in Europe sets a success story, considering European cities and their local authorities the most active organisations in the introduction of policies and concepts of sustainability. However, these initiatives are not distributed evenly throughout all Europe. For instance, in Portugal, Fidélis and Pires (2009), discovered that the principal Portuguese local governments that have implemented this tool are the smallest municipalities.

Appendix B

SURVEY QUESTIONNAIRE

INTEGRATION OF SUSTAINABILITY PRACTICES IN CENTRAL PUBLIC ADMINISTRATION

1. If you have any questions or difficulties in filling out the questionnaire, you will be able to put them to the members of the research team of CENSE, Faculdade de Ciências e Tecnologia da Universidade Nova de Lisboa.
2. This questionnaire can be answered at different times. If you need to interrupt the session, please save the code presented in the upper right corner of the questionnaire, so that you can produce this code if requested.

1. GENERAL BACKGROUND

Name: _____

E-Mail: _____

Address: _____

Post code: _____

County: _____

1.1. Select the NUTS II region of the Organisation

— North
— Centre
— Lisbon and Tejo Valley
— Alentejo
— Algarve

1.2. Please indicate, in thousands of euros, the annual implementation value of the organisation's budget in the last 3 years.

2010		2011		2012	

1.3. What is the financial source of the organisation?

— Totally public
— Partly from private sources
— Own resources

Indicate the percentage: _____

1.4. What was the number of employees on 31st December, in the last 3 years?

2010		2011		2012	

1.5. In which NUTS II regions does the organisation have facilities or delegations?

— North
— Centre
— Lisbon and Tejo Valley
— Alentejo
— Algarve
— Azores
— Madeira

1.6. What is the area occupied by the facilities of the organisation? (Please present value in m^2 or hectares)

1.7. Within the total area occupied by facilities, which is the constructed area? (Please present value in m^2)

Note: constructed area means the area of the buildings.

1.8. Please indicate, using the terms of the Assessment and Accountability Framework (QUAR) or the organic law, the organisation's mission.

1.9. Using the second level of COFOG Classification System (Classification of the Functions of Government), please indicate the function/s performed by the organisation.

Note: in the multiple choice list below, capital letters indicate the 10 fundamental COFOG's divisions: for example, Defence, or Health. Within the corresponding division, please indicate which of the function(s) are specifically performed by the organisation. Please consult the detailed descriptions of each group on the following page: UNSTATS COFOG https://unstats.un.org/unsd/classifications/

— **G010 GENERAL PUBLIC SERVICES**
— G0101 Executive and legislative organs, financial and fiscal affairs, external affairs.
— G0102 Foreign economic aid.
— G0103 General services.
— G0104 Basic research.
— G0105 R&D general public services.
— G0106 General public services n.e.c.
— G0107 Public debt transactions.
— G0108 Transfers of a general character between different levels of government.
— **G020 DEFENCE**
— G0201 Military defence.
— G0202 Civil defence.
— G0203 Foreign military aid.
— G0204 R&D defence.
— G0205 Defence n.e.c.
— **G030 PUBLIC ORDER AND SAFETY**
— G0301 Police services.
— G0302 Fire-protection services.
— G0303 Law courts.

— G0304 Prisons.
— G0305 R&D public order and safety.
— G0306 Public order and safety n.e.c.
— **G040 ECONOMIC AFFAIRS**
— G0401 General economic, commercial and labour affairs.
— G0402 Agriculture, forestry, fishing and hunting.
— G0403 Fuel and energy.
— G0404 Mining, manufacturing and construction.
— G0405 Transport.
— G0406 Communication.
— G0407 Other industries.
— G0408 R&D economic affairs.
— G0409 Economic affairs n.e.c.
— **G050 ENVIRONMENTAL PROTECTION**
— G0501 Waste management.
— G0502 Waste water management.
— G0503 Pollution abatement.
— G0504 Protection of biodiversity and landscape.
— G0505 R&D environmental protection.
— G0506 Environmental protection n.e.c.
— **G060 HOUSING AND COMMUNITY AMENITIES**
— G0601 Housing development.
— G0602 Community development.
— G0603 Water supply.
— G0604 Street lighting.
— G0605 R&D housing and community amenities.
— G0606 Housing and community amenities n.e.c.
— **G070 HEALTH**
— G0701 Medical products, appliances and equipment.
— G0702 Outpatient services.
— G0703 Hospital services.
— G0704 Public health services.
— G0705 R&D health.
— G0706 Health n.e.c.
— **G080 RECREATION, CULTURE AND RELIGION**
— G0801 Recreational and sporting services.
— G0802 Cultural services.
— G0803 Broadcasting and publishing services.
— G0804 Religious and other community services.
— G0805 R&D recreation, culture and religion.
— G0806 Recreation, culture and religion n.e.c.
— **G090 EDUCATION**
— G0901 Pre-primary and primary education.
— G0902 Secondary education.
— G0903 Post-secondary non-tertiary education.
— G0904 Tertiary education.
— G0905 Education not definable by level.
— G0906 Subsidiary services to education.
— G0907 R&D education.
— G0908 Education n.e.c.
— **G100 SOCIAL PROTECTION**
— G1001 Sickness and disability.
— G1002 Old age.
— G1003 Survivors.
— G1004 Family and children.
— G1005 Unemployment.
— G1006 Housing.
— G1007 Social exclusion n.e.c..
— G1008 R&D social protection
— G1009 Social protection n.e.c.

2. INTREGRATED SUSTAINABILITY

2.1. In your opinion, what is the importance that is given to sustainability at strategic and operational level management in your organisation?

Please consider the following definition of the concept of sustainable development: "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED, 1997). Sustainable development implies the integration, understanding and action of the interlinkages that exist between the environment, the economy and society.

— Not important
— Less important
— Relatively important
— Important
— Very important

2.2. Please indicate the main factor(s) that justify your answer to the previous question (2.1).

2.3. How would you classify the performance of the organisation in terms of integration of policies and practices that promote sustainability?

— Very weak
— Weak
— Medium
— Good
— Very good
— Not stated

2.4. How do you classify the importance given by your organisation to the adoption/implementation of a sustainability performance evaluation system?

To answer this question, please consider the following definition of performance evaluation system: A performance evaluation system is a scheme or template for the systematic collection and analysis of information related to the activity of an organisation and/or its members and procedures. The SIADAP is an example of a performance evaluation system, whose goal is to evaluate employees' efficiency and effectiveness in the provision of public services. Several other aspects can be considered in performance evaluation systems, particularly economic, social, and environmental. ISO 14031 standard sets environmental performance as the "results of the management of the environmental aspects of an organisation" in which, 'environmental aspect' means the "element of the activities, products or services of an organisation that can interact with the environment ". Following this definition, sustainability performance is given by the results of the management of the organisation in relation to those elements of the activities, products and services of the organisation that can interact with sustainability, in its environmental, economic, social and institutional dimensions.

— Not important
— Less important
— Relatively important
— Important
— Very important
— Not stated

2.5. Does the organisation have a department that deals with sustainability aspects of the operations and activities of the organisation?

— No
— Yes, with the following designation: _____

34

2.5.1. If you answered "no" to the previous question (2.5), please indicate whether there is a person responsible for managing sustainability aspects of the operations and activities of the organisation:

— No
— Yes, he/she belongs to the Department with the following designation: _____

2.6. Is the organisation adopting or has it adopted a performance evaluation system?

To answer this question, please consider the following definition of performance evaluation system: A performance evaluation system is a scheme or template for the systematic collection and analysis of information related to the activity of an organisation and/or its members and procedures. The SIADAP is an example of a performance evaluation system, whose goal is to evaluate employees' efficiency and effectiveness in the provision of public services. Several other aspects can be considered in performance evaluation systems, particularly economic, social, and environmental.

— No
— Yes. Please specify which:
    — Environmental
    — Quality
    — Human resources
    — Occupational health and safety
    — Sustainability
    — Economic-financial
    — SIADAP
    — Social
    — Other. Please specify: _____

2.6.1. If you answered "Yes" to the previous question (2.6), does this performance evaluation system use indicators?

— No
— Yes

2.7. Is the organisation adopting or has it adopted a sustainability policy or strategy?

— No
— Yes
— Yes, but only at environmental level
— Yes, but only at the level of social responsibility
— Yes, but only at economic-financial level

2.7.1. If you answered "Yes" to the previous question (2.7), please indicate whether the policy/strategy corresponds to the following characteristics:
    — It is integrated into the overall strategy/policy of the organisation
    — It is not written down in a document
    — It constitutes a separate document. Please indicate which: _____

2.8. Is information about environmental or sustainability aspects provided regularly via a formal report?

To answer this question, please consider the following definition of performance evaluation system: A performance evaluation system is a scheme or template for the systematic collection and analysis of information related to the activity of an organisation and/or its members and procedures. The SIADAP is an example of a performance evaluation system, whose goal is to evaluate employees' efficiency and effectiveness in the provision of public services. Several other aspects can be considered in performance evaluation systems, particularly economic, social, and environmental.

— No, it has never been presented in a formal report
— No, it has been only presented in a formal report irregularly
— Yes, it is presented in an environmental report
— Yes, it is presented in a sustainability report
— Yes, but it is presented in another type of report. Please specify: _____

35

2.8.1 If you answered "Yes" to the previous question (2.8), please indicate the frequency of the formal report.

— Annual
— Other. Please indicate: _____

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2.9. Does the organisation account for the expenses related to the management of sustainability practices (for example, spending on the separation of waste or safety measures within the workplace)?

To the answer to the question, please consider the following definition: "sustainability practices means the set of measures and management routines whose objective is the maintenance or improvement of the sustainability performance of the organisation."

— No
— Yes

2.9.1 If you answered "Yes" to the previous question (2.9), please indicate the value in thousands of euros.

2010		2011		2012	

2.10. Please indicate in which of the following areas the organisation has already been audited:

— Environmental
— Economic-financial
— Hygiene and safety
— Quality
— Human resources
— Other. Please specify: _____

2.11. Does the organisation apply regularly to awards (e.g. quality, best practices)?

— No
— Yes

2.11.1. If you answered "Yes" to the previous question (2.11), please indicate whether your organisation has already received an award.

— No
— Yes

3. ENVIRONMENTAL MANAGEMENT

3.1. Does the organisation, or its facilities, have an environmental management system (EMS)?

— No and it is not planed
— No, but it is planed
— Yes, it is being implemented
— Yes, it is implemented

3.1.1. If you answered "Yes" to the previous question (3.1), please indicate whether the system is certified by any of the following standards:

— EMAS
— ISO 14001
— The system is not certified

3.2. Do the organisation facilities have an energy certification in accordance with the Portuguese National System for Energy and Indoor Air Quality Certification of Buildings (SCE)?

— No
— Yes

3.3. Within the framework of the Eco.AP Program (Portuguese Public Administration Energy Efficiency Programme), please indicate whether the organisation has any of the following elements:

— Energy Efficiency Management Contract
— Local Energy Manager
— Energy Efficiency Action Plan

3.4. Do purchasing or procurement procedures of the organisation include sustainability and/or environmental criteria in accordance with the Portuguese National Strategy for Green Public Procurement?

— Never
— Rarely
— Sometimes
— Many times
— Almost always

3.5. Has the organisation implemented or is it implementing measures to rationalise the use of resources and/or pollution management, waste and emissions?

— No
— Yes

       3.5.1. If you answered "Yes" to the previous question (3.5), please indicate in which area(s):

       — Water
       — Emissions
       — Energy
       — Materials
       — Waste
       — Noise
       — Other. Please specify: _____

       3.5.2. If you have selected at least one area in the previous question (3.5.1), please indicate specifically the processes or/and sectors:

       — Service dematerialization
       — Vehicles' fleet
       — Operation and maintenance of facilities
       — Equipment
       — Other. Please specify: _____

3.6. Has the organisation adopted a monitoring program to gather environmental data?

— No
— Yes, for sporadic data collection
— Yes, for data collection on a regular basis

3.7. Has the organisation implemented or is it implementing a sustainability or environmental labelling system in the building (e.g. Leads)?
— No
— Yes

3.8. Has the organisation implemented or is it implementing a sustainability or environmental labelling system of products or services (for example the European Ecolabel)?

⎯ No
⎯ Yes

4. SOCIAL RESPONSABILITY

4.1. Has the organisation implemented or is it implementing an occupational health and safety plan?

⎯ No
⎯ Yes

4.2. Has the organisation implemented or is it implementing a system of social responsibility (e.g. ISO 26000/SA 8000)?

⎯ No
⎯ Yes

4.3. Is the staff recruiting procedure in accordance with equal opportunities criteria's in terms of gender and disability?

⎯ No
⎯ Yes

4.4. Does the organisation promote staff training initiatives?

⎯ No
⎯ Yes

>   4.4.1. If you answered "Yes" to the previous question (4.4), please indicate the percentage of the value of the executed budget: _____

4.5. Has the organisation developed actions for staff welfare in the last 3 years?

⎯ No
⎯ Yes. Please provide one or two examples: _____

4.6. Are the organisation's facilities adapted for people with reduced mobility?

⎯ No
⎯ Yes, in part of the facilities
⎯ Yes, in half of the facilities
⎯ Yes, in most of the facilities
⎯ Yes, in all facilities

4.7. During the last 3 years, has the organisation promoted any voluntary community engagement actions (for example, a voluntary action organised by staff including the local community)?

⎯ No
⎯ Yes. Please give one or two examples: _____

4.8. Does the organisation involve citizens and other stakeholders in decision-making processes (for example, in the elaboration of the strategy of the organisation or annual plan)?

⎯ No, never
⎯ Yes, rarely
⎯ Yes, often
⎯ Yes, very often
⎯ Yes, always

4.8.1. If you answered "Yes" to the previous question (4.8), please indicate which types of stakeholders are usually involved:

— Internal collaborators
— Suppliers
— NGO
— General citizens
— Other. Please specify: _____

4.9. Does the organisation evaluate user satisfaction of the services provided?

— No, never
— Yes, rarely
— Yes, often
— Yes, very often
— Yes, always

4.10. Does the organisation evaluate suppliers and providers of services' satisfaction?

— No, never
— Yes, rarely
— Yes, often
— Yes, very often
— Yes, always

4.11. Has the organisation adopted a monitoring program to gather social data (for example, data about the working conditions of employees)?

— No
— Yes, for sporadic data collection
— Yes, for data collection on a regular basis

4.12. Has the organisation adopted a plan to manage the risk of corruption and related infractions?
— No
— Yes

5. ECONOMY AND FINANCE

5.1. Does the organisations have objectives and goals for cost control?

— No
— Yes

5.2. Does the organisation account for unit costs?

— No
— Yes. Please specify: _____

5.2.1 If you answered "Yes" to the previous question (5.2), please indicate whether the unit costs measured evolution was:

— Negative
— Neutral
— Positive

5.3. Which percentage of payments to suppliers are made within the period specified in the contract?

_____

6. DATA CONCERNING THE RESPONSIBLE PERSON FOR FILLING IN THE QUESTIONNAIRE

Please fill in the following spaces as it may be used to clarify any questions regarding the content of the answers.

Employee name: _____

Service/Department: _____

Service/Department Address: _____

Post code: _____

Email of the employee responsible for the response of the questionnaire: _____

Phone number of the employee responsible for responding to the questionnaire: _____