

# SUSTAINABILITY IN PUBLIC ORGANIZATIONS: A STUDY IN THE SUSTENTA PARANÁ NETWORK

## *SUSTENTABILIDADE EM ORGANIZAÇÕES PÚBLICAS: UM ESTUDO NA REDE SUSTENTA PARANÁ*

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Júlia Mitsue Vieira Cruz Kumasaka<sup>1</sup>  
Bárbara Galleli Dias<sup>2</sup>  
Jeferson Silva Henrique<sup>3</sup>  
Barbara Cruz Braga<sup>4</sup>  
Emanuel Campigotto Sandri<sup>2</sup>

*1 Universidade de São Paulo, FEA, Administration. São Paulo, Brazil.*

*2 Universidade Federal do Paraná, Curitiba, Paraná, Brazil.*

*3 AGU Attorney General of the Union. Curitiba, Paraná, Brazil.*

*4 Universidade Federal do Ceará, Fortaleza, Ceará, Brazil.*

## ABSTRACT

**Purpose** - Evaluate the actions aimed at sustainability in the public sector from their stages of maturity in the context of institutions participating in the Sustenta Paraná Network.

**Methodology** – We analyzed data collected through semi-structured interviews with managers responsible for creating and implementing sustainability projects in three public agencies participating in the Sustenta Paraná Network. Analyses also included information available on the official websites of the organizations, as well as documents from alignment meetings between institutions participating in the Rede Sustenta Paraná. The content analysis technique employed the software ATLAS.ti.

**Findings** - The organizations demonstrated similarities, such as that internal motivation comes from management and those responsible for sustainability. All the organizations presented the need for extensive work to raise employee awareness. Besides that, were confirmed that the changes of public sector makes suppliers need to adapt, demonstrating their influence on their chain and market. However, they also presented significant differences, and each organization is at a distinct stage in the model studied.

**Originality** - The contribution of this study is to expand and allow a better understanding of public organizations. Furthermore, two theoretical frameworks, typically used in the analysis of private organizations, were employed simultaneously. We suggest that public organizations systematize their sustainability information to make it available both to the internal and external public, such as an annual sustainability report with results achieved and ambitions.

**Keywords** - Sustainability; Sustainable development; Public organizations; Public sector; Public Management.



## RESUMO

**Finalidade** – Avaliar as ações voltadas para a sustentabilidade no setor público a partir dos seus estágios de maturidade no contexto de instituições participantes da Rede Sustenta Paraná.

**Metodologia** – Coleta de dados feita por meio de entrevistas com gestoras responsáveis pela criação e implementação dos projetos de sustentabilidade de três órgãos públicos participantes da Rede Sustenta Paraná. Além disso, foi feita a análise documental de informações disponibilizadas nos endereços eletrônicos oficiais das organizações, assim como documentos advindos de reuniões de alinhamento entre as instituições participantes da Rede Sustenta Paraná. Para análise dos dados, foi utilizada a análise de conteúdo, com o apoio do *software* ATLAS.ti.

**Resultados** - As três organizações estudadas apresentaram similaridades, como o fato de a motivação interna delas vir da direção e dos responsáveis pela sustentabilidade. Além disso, todas apresentaram a necessidade de um extensivo trabalho de conscientização de seus funcionários. Confirmaram que, são as suas mudanças que fazem com que os fornecedores sintam a necessidade de se adequar, demonstrando assim, sua influência ao longo da cadeia. Porém, apresentaram diferenças significativas e estão em estágios diferentes do modelo estudado.

**Originalidade** - Contribuiu-se para ampliar e aprofundar os estudos a respeito de organizações públicas, ao mesmo tempo que foram aplicados dois frameworks teóricos propostos e usualmente utilizados para a análise de organizações privadas. Sugere-se que as organizações públicas sistematizem suas informações de sustentabilidade para disponibilizar para o público interno e externo, como por meio de um relatório de sustentabilidade anual retratando resultados alcançados e ambições.

**Palavras-chave** – Sustentabilidade; Desenvolvimento Sustentável; Organizações públicas; Setor público; Gestão pública.

## 1 INTRODUCTION

As far as sustainable development and the role of organizations are concerned, there is a general understanding that it is public organizations that impact changes in buyers' and suppliers' decisions to be more sustainable (Bratt, Hallstedt, Robèrt, Broman, & Oldmark, 2013; Domingues, Lozano, Ceulemans, & Ramos, 2017). On the other hand, it is argued that it is the private sector that indirectly helps the public sector to be more sustainable and transparent when it seeks to please the stock market since the public sector learns from the knowledge acquired by the private sector (Uyar, Kuzey and Kilic, 2020).

Based on the tremendous theoretical diversity regarding what organizational sustainability is, and the studies already carried out on the subject, it can be considered that it consists of organizations that have sustainability incorporated into their strategy and whose purpose is on social aspects, environmental and economic impacts of its operation (Calabrese, Costa, Levaldi, & Menichini, 2019; Stubbs, & Cocklin, 2008). Within public organizations, the logic is the same. Despite not aiming at profit, cost reduction and wasted resources are sought in the economic dimension.

Thus, one of the attentions of corporate sustainability scholars concerns the level or stage of maturity of the practices adopted by organizations (Landrum, 2018; Marrewijk & Were, 2003). In this sense, it is possible to map what is already being done by organizations and what still needs to advance concerning sustainability. Therefore, this study is based on the strength of public actors and their respective influences on the market due to their high purchasing power (Al Nuaimi, Khan, & Ajmal, 2020), what justifies the investigation.

In Brazil, studies were carried out explicitly evaluating: (i) the contracts made by the Federal Government said to be focused on sustainability between 2010 and 2013 (Biage & Calado, 2015), (ii) the Environmental Agenda in Public Administration (A3P) (Araujo, Ludewigs & Carmo, 2015) and



(iii) the perception of employees and students of a university of the effectiveness of the Sustainable Logistics Management Plan (PLS) of the institution (Dotto, Feltrin, Denardin & Ruiz, 2019). Furthermore, Silva, Santinelli and Silva (2015) sought to understand how public organizations could become more sustainable. In this scope, studies call for a deeper understanding of the adoption of sustainability practices by public organizations (Al Nuaimi et al., 2020; Guarnieri & Gomes, 2019; Silva, Santinelli & Silva, 2015).

Nevertheless, a lack of research was identified concerning the stages of sustainability of public organizations. In addition to the importance of the public sector as an agent of change, which justifies the interest in studying it, without a critical analysis of the level of maturity reached by the sustainability actions of institutions it is difficult to verify whether the intention of being a sustainable organization is under way. Knowing the level at which each organization is helps them pinpoint what needs to be improved to have a positive impact on environmental and social issues.

Thus, the research objective is to evaluate organizations in the sustainability stages framework from the maturity levels proposed by Landrum (2018) and Marrewijk and Were (2003), focusing on the Paraná Network for sustainability in Public Management. The contribution of this research lies in the possibility of associating the organizations studied with the sustainability stages of the proposed framework. It is noteworthy that this framework was developed from models usually used to deal only with private companies, even though aspects aimed at the public sector were suggested at the end of the study, which constitutes a theoretical advance that favors public organizations. In addition, this study contributes with suggestions for achieving higher levels of sustainability. The critical relevance of this study is also highlighted. The critical posture, typical of the attentive analyst, is due to the fact that the actions of the organizations under analysis need to have a tangible impact on the sustainable development of society.

For this, four managers were interviewed, responsible for creating and implementing sustainability projects, two at the Hospital de Clínicas at UFPR, one at the Federal Technological University of Paraná – UTFPR, and one at the Regional Labor Court. All of these are public bodies participating in the Sustenta Paraná Network. In line with the Sustainable Development Goals (SDGs) and with the 2030 Agenda of the United Nations (UN), the Sustenta Paraná Network aims to generate and foster actions among public entities in search of promoting social responsibility and sustainable development, covering public institutions at the state and federal levels (UTFPR, 2019).

This article is divided into seven topics, the first being the present introduction. The second topic deals with an overview of sustainability in public organizations. The third topic addresses the stages and motivations for sustainability, presenting the theoretical models that form the framework and the framework itself. The fourth presents the methodological procedures used, whereas the fifth brings details on the results found in each case. The sixth confronts the general findings with previous studies analytically and profoundly. Finally, the seventh contains the final considerations, including the limitations of the research and suggestions for future studies.

## 2 SUSTAINABILITY IN PUBLIC ORGANIZATIONS

Public organizations are large producers and consumers of goods and services, generating significant volumes of purchases and acquisitions (Bratt et al., 2013). In addition, these organizations offer public goods and services to society to achieve their goals. For Domingues, Lozano, Ceulemans and Ramos (2017), public organizations should serve as an example for other sectors, considering their proximity to the government. Thus, these organizations may suffer various pressures to become more sustainable (Uyar et al., 2020; Zutshi, Sohal & Adams, 2008), such as from civil society, superior public entities and even from the market itself (Skarpeta, Koemtzi & Aidonis, 2019).



However, in the process of becoming more sustainable, these organizations may encounter a number of internal difficulties: cultural and strategic challenges (Skarpeta et al., 2019), the lack of support from top management (Domingues et al., 2017; Zutshi et al., 2008), the resistance of employees to adhere to the practices (Al Nuaimi et al., 2020; Zutshi et al., 2008) and the difficulty in collecting the various data required by the responsible sector (Domingues et al., 2017).

In addition, the public sector has other characteristics that differentiate it from the private sector. Among them is the fact that it has a large number of stakeholders (Uyar et al., 2020), makes long-term goals (Bratt et al., 2013; Uyar et al., 2020), needs modernization (Skarpeta et al., 2019), seeks transparency to avoid corruption and must comply with specific legislation (Guarnieri & Gomes, 2019).

Considering that sustainability in public organizations is the search for the efficient use of their resources while positively reaching the social and environmental dimensions of sustainable development, some examples are the bidding or contracting of suppliers considered sustainable (Guarnieri & Gomes, 2019) and the use of sustainability reports to disclose and monitor internal practices (Domingues et al., 2017).

Taking these aspects into account, Al Nuaimi, Khan and Ajmal (2020) carried out a study in which they sought to understand the critical factors for the implementation of sustainable procedures in the public sector. According to them, the most vital aspect is the high cost of sustainable products or processes, followed by the organization's need for commitment and sustainable values, demonstrating that even public organizations, for the most part, are still in stage 2 as defined by Landrum (2018).

### 3 STAGES AND MOTIVATIONS FOR SUSTAINABILITY

The problem is not whether or not organizations adopt sustainability actions, but in defining the fundamental objective of these organizations as to sustainable practices – and the intensity of these organizations' involvement with sustainability. In this perspective, Landrum (2018) created the unified model of corporate sustainability that consists of five phases or stages according to which organizations are classified as to their actions and how they interpret sustainability:

- Stage 1 - compliance (very weak sustainability): companies are still defensive about sustainable practices and need to be externally forced by laws and regulations; in other words, the companies are *reactive*.

- Stage 2 - business-centered (weak sustainability): this is where most companies are, for having a proactive posture, "less harming" to the environment, but still in search of their own benefits.

- Stage 3 - systemic (intermediate sustainability): organizations seek to integrate the three spheres of sustainable development, doing "more good" than bad and aiming at continuous growth. However, at this stage, the view is still anthropocentric.

- Stage 4 - regenerative (strong sustainability): corporations want not only to stop their damage to the ecosystem, but also to repair the damage already done. Thus, seeking qualitative development without quantitative growth.

- Stage 5 - co-evolutionary (very strong sustainability): in this stage, man's management of nature is avoided. Since the vision is already ecocentric, man should only participate in the dynamics of nature. Thus, mutual benefit is focused on, i.e., the harmony of human beings and their technologies with nature and its resources.

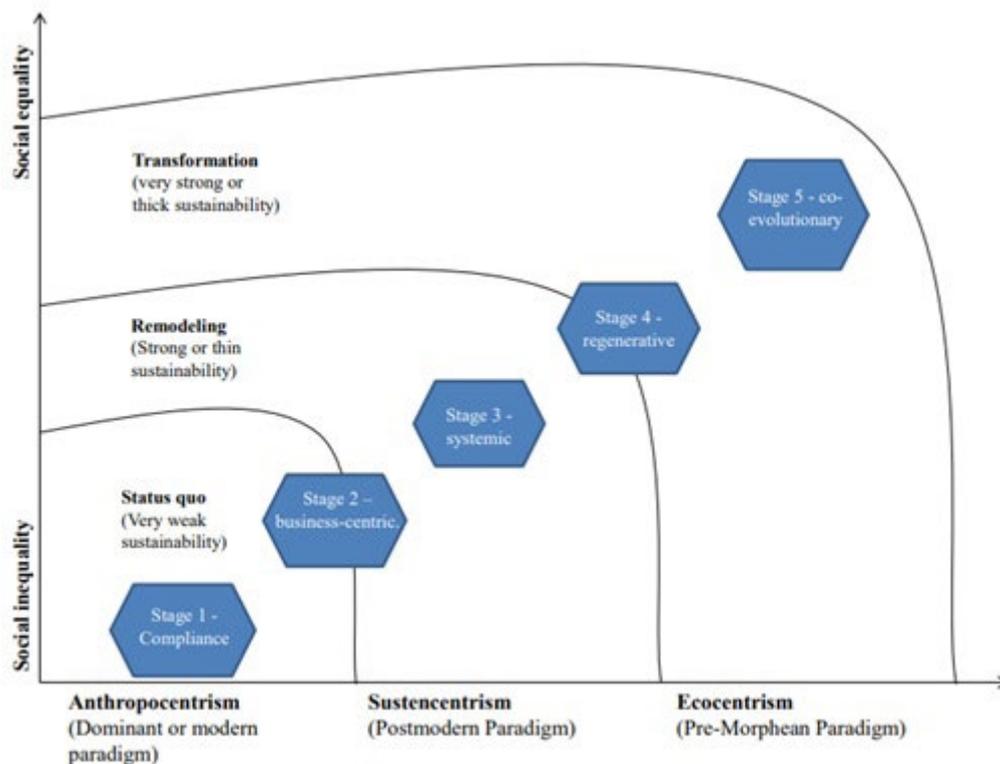


Marrewijk and Were (2003) also defined their corporate sustainability phases and stages, but according to the organization's level of awareness and ambition. For these authors, there is no one way considered ideal to be applied to all types of organizations because how sustainable the organization wants to be must be aligned with its strategy. Furthermore, organizations can change levels of sustainability and this change depends on 1) how the concept of sustainability is approached in organizational strategy; 2) what is the deepening of this concept in the strategy, and 3) how complex the organization's actions related to sustainability are.

Marrewijk and Were's levels can be related to Landrum's stages. They start at a level where sustainability actions are practically non-existent and are called *Corporate Pre-sustainability*; the second level is based on compliance, and so related to stage 1, when organizations only comply with legal obligations; the third is the profitable level, often actions that only seek marketing as in the case of Landrum's stage 2. Marrewijk and Were's fourth level seeks balance, as in Landrum's stage 3; the fifth level is synergistic and aims to create value for the three dimensions and can be associated with stage 4; and, finally, the holistic level of Marrewijk and Were happens when sustainable actions are fully integrated with the entire organization and considered the only way to achieve the intended objectives, which can be compared with stage 5 in Landrum.

It is noteworthy that not only the values and internal aspects of a given organization impact its stage, but external aspects, such as the governmental determinations, have significant relevance (Marrewijk & Were, 2003). The union of the concepts described (figure 1) was based on the mapping done by Hopwood, Mellor and O'Brien (2005). The arrangement of stages in the figure indicates the hierarchy between them.

Figure 1: Mapping DS views and stages of organizational sustainability.



Source: Developed by the authors and based on Hopwood et al., 2005; Landrum, 2018; Marrewijk and Were, 2003; Vos, 2007; Ketola, 2009; Brave, 2012.

Hopwood et al. (2005) pointed out that the *ecocentric paradigm* tends towards social and economic equity and redistribution, while the anthropocentric paradigm is more likely to support the economic and political *status quo*. In this way, the x-axis of the graph presents the paradigms, and the y-axis shows the relationship of equality, starting from the lowest level of social inequality to the highest levels of social equality.

Accordingly, *anthropocentrism (dominant or modern paradigm)* defends that the technology created by human beings can replace the resources that are extinct and are still necessary for their survival, seeing men as beings apart from the environment, and at the same the center of attention for decision-making. In addition, it encourages consumption, as it argues that economic growth leads to the development of society as a whole (Hopwood, Mellor & O'Brien, 2005; Ketola, 2009; Valente, 2012; Vos, 2008).

*Sustencentrism (post-modern paradigm)* believes that human beings cannot replace the natural world's resources, and that there must be a mediation between economic growth and environmental protection in a win-win relationship, which is possible with the collaboration of all interested parties. Thus, it has a systemic approach, with economic, social, and environmental protection being interrelated, with neither being more or less important than the other (Hopwood et al., 2005; Ketola, 2009; Valente, 2012; Vos, 2008).

Finally, *ecocentrism (pre-Morphean paradigm)* argues that it is necessary to reduce world consumption and redistribute resources to reduce inequality of opportunities. Moreover, it also highlights that economic growth is different from development and that growth must not exist to stop the planet's degradation. In addition, the world would have the ability to regenerate and regulate itself, since natural disasters have always been present in the terrestrial reality, but it is man's interference that changes it, as pollution and waste are so significant that they become irreversible (Ketola, 2009; Valente, 2012; Vos, 2008). Thus, radical and non-incremental changes are needed in the mindset and consequently in society's practices.

Thus, can be noted the relationship between the internal principles defined by Marrewijk and Were (2003), in addition to the elements defined by the same authors and by Landrum (2018) related to the stages of sustainability in organizations, and also the paradigms explained above.

## 4 METHODOLOGICAL PROCESSES

The organizations investigated are all part of Rede Sustenta Paraná, namely: Hospital de Clínicas of the Federal University of Paraná - HC/UFPR, Federal Technological University of Paraná – UTFPR, and Regional Labor Court of Paraná - TRT-PR. Semi-structured interviews were conducted with employees who occupy positions of responsibility in sustainability management, such as administrative managers, environmental managers and professors who provide consultancy in the area. Two managers from the HC/UFPR and one manager from each of the other two cases were interviewed. Respondents were coded as E1, E2, E3 and E4.

Data collection also took place through document analysis as a source of secondary data. Information available on the official electronic addresses of the investigated organizations (history of the institutions, description of programs aimed at sustainability and their respective commissions), as well as documents from alignment meetings between the institutions participating in the Sustenta Paraná Network were analyzed. The interviews employed a specific script for the group of researched subjects - employees who represent their institutions in the Network. The interviews were recorded and later transcribed to a text editor to operationalize the content analysis step. Based on the data collection methods applied, table 1 depicts the aspects arising from the interview stage.



Table 1: Description of the interviews.

Interviewee	Interview duration	Transcript pages	Organization
E1 e E2	58 min 18 seg	13 pages	Hospital de Clínicas da UFPR
E3	51 min 54 seg	11 pages	Universidade Tecnológica Federal do Paraná - UTFPR
E4	1 h 12 min 06 seg	21 pages	Tribunal Regional do Trabalho -TRT-PR

Source: developed by the authors (2019).

Data analysis (both interviews and documents) was performed through content analysis with the following steps: i) pre-analysis, ii) material exploration, and iii) treatment of results, inference and interpretation (Bardin, 2016). First, the delineation of the analysis categories was made from the research objectives, using the theoretical basis used in this work and the data collected in the field. Then, the analysis process was carried out with the help of the ATLAS.ti software version 7.5, in order to support the organization of the analysis categories. The option to use the program was due to the advantage of generating and structuring qualitative data, allowing analysis to present results through the construction of semantic networks (Correia, 2015). Thus, the textual information obtained in data collection, such as interviews and documents, went through a coding process. Finally, the necessary excerpts were related to the categories created from the theoretical basis of this work (*a priori*) to the collected data (*a posteriori*).

Table 2 presents the internal principles and their elements that help understand the organization's level according to Marrewijk and Were (2003). The codes, established *a priori*, were developed based on characteristics related to the level of ambition for sustainability, internal motivations, and decision-making criteria. It should also be noted that these are the aspects that establish at what level of corporate sustainability the organization is in Marrewijk and Were model (2003).



Table 2: Internal principles for adherence to sustainable actions.

Families	Features	Referring code	Quotation example
Ambition level for sustainability	Remain under legislation or requirements of buyers.	Legal obligation	"It started to be a little more respected after the legislation. Before, it was just seen, ... it wasn't seen in a positive way. Quite the opposite, in fact" (E4).
	Do good for society without going beyond what is required by law.	Doing well and complying with legislation	"Anvisa has already published legislation that prohibits the sale, sale, but what is interesting is that we anticipated all of this, so in 2012 we held a seminar open to the community explaining the problems of mercury, of use of mercury, and the environmental and occupational problem" (E1).
	Gain financial benefits, balance the three dimensions of DS.	Earn financially	"there was this culture of separating for your department to have a return, money" (E2).
	Create value for the three dimensions of DS.	Create value in DS	"So we have the environmental part, we have the social part, but the social part mixes a little with the environmental and the quality of life, well-being, we have the aspect of financial planning, hiring, so within all these large dimensions" (E3).
	Be fully integrated with the DS dimensions.	Integration	"All our actions are aligned with the SDGs, and now we've managed to institutionalize, and we've had this for ten years" (E3).
Internal motivations	Improve reputation.	Reputation	"But in these last two years, let's put it this way, the demands from society" (E4).
	Follow the duty and behave correctly.	Be correct	"Until we don't fix this issue, we'll ask for no values. I can't, I'd not be correct. So how am I going to say that my sector, that my organization is correct, if it deserves or not such placement in the ranking, right?" (E3).
	Avoid the risk of harming oneself and, by doing so, contribute to the organization's success.	Do not harm oneself	"But that's not all, I no longer see sustainability as just environmental, we're not talking about that, but the sustainability of everything, the three pillars, the economic, the environmental and the social. We didn't delay the employee's salary anymore, this is social, we changed contracts, economic" (E1).
	Management's personal values.	Superior management values	"we have a president who gave us a phenomenal opening. It was through her that everything happened, you know?" (E4).
	Stakeholders' personal values for thinking about long-term sustainability.	Stakeholders' values	"But the use of all these questions has a clear objective, institutionally speaking: to change society's view of the judicial institution" (E4).
	Conviction of everyone involved that sustainability needs to be regarded worldwide and by everyone involved with the organization.	Everyone's conviction	This code was not used.
Criteria for decision making	Impact on personal power and reputation.	Personal power	"Not for her role, her role she does very well. But she's not just Justice has the human side, it has to see this human side of society as a whole. It has to show itself human [the justice]" (E4)".
	Decision must be made by the proper authority and based on the organization's goals.	Authorities	"We had a point in that our spending on photocopies was too high, so a whole action was taken to remove the photocopy, to remove the machine, to put each sector in charge" (E1).
	Faster financial return.	Financial feedback	"Not in reprography, so we had the reprography sector there, which had an annual cost of 350 thousand reais and then we took it out" (E1) [exemplifying the impact of a sustainable action].
	Consensus among relevant stakeholders.	Relevant stakeholders	"Changing society's view of the judicial institution" (E4).
	Long-term thinking, taking into account all available knowledge.	Long term	"I think he will, if he continues at this pace, he will dictate new times. If he continues at that level. Of awareness, of actually implementing ideas, actions, policies... "(E4).
	Whichever is most favorable for the planet as a whole.	Planet	"how do we work with climate change, which is a theme that will permeate everything in the coming years, in the next generations, so it has to go into teaching, research and extension" (E3).

Source: adapted from Marrewijk and Were, 2003.

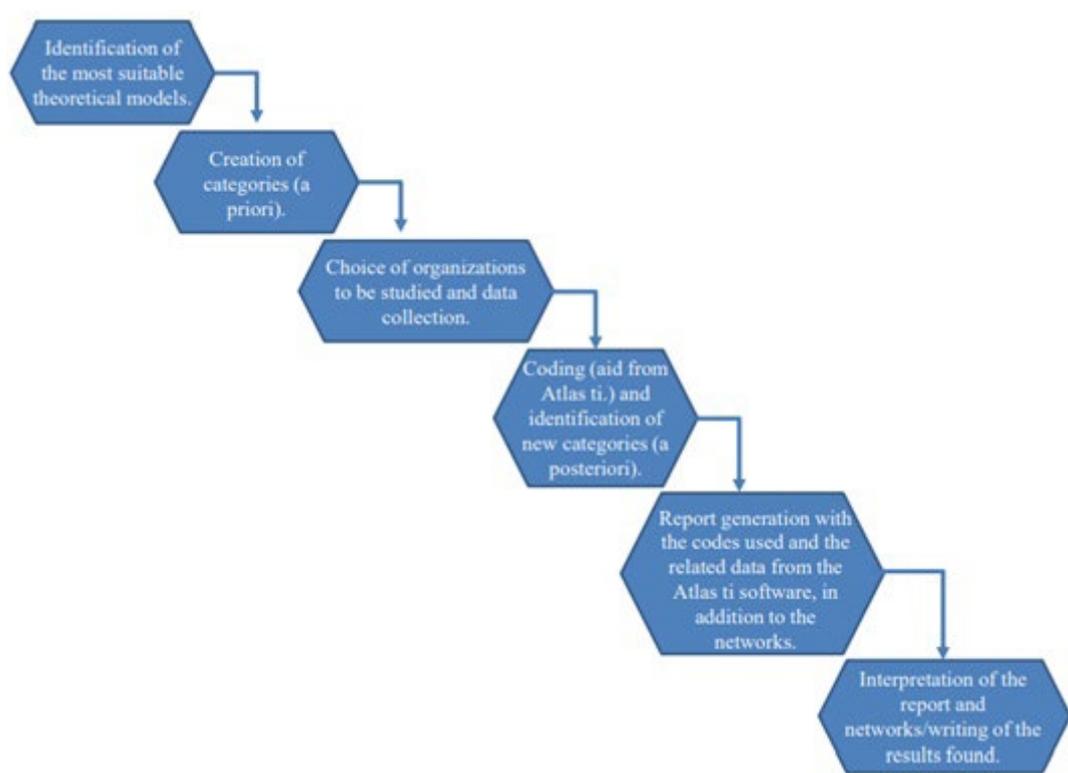


Other aspects were relevant in the data analysis, causing other codes to emerge from the field. For example, they highlight actions taken and planned by the organization, how they are carried out or how the sustainability sector was structured. They also highlight the need to create ways to report advances in organizational sustainability, the seals, rankings or networks which the organization has developed or participates in. Furthermore, they highlight the challenges faced by them about the distinctive aspects of the public sector, such as bureaucracy and the size of organizations.

Then, we generated a report in ATLAS.ti 7.5 in which all marked sections are gathered by a code, allowing the information to be more transparent. Graphical representations (networks) were also added, which relate the codes, excerpts and categories of analysis, and generate the frequency in which the codes were used in the system.

Figure 2 synthesizes and facilitates the understanding of the methodological procedures adopted and the order in which they were used:

Figure 2: Research steps.



Source: developed by authors (2020).

## 5 RESULTS

### 5.1 Hospital de Clínicas da UFPR (HC)

HC is the teaching hospital of UFPR and one of the largest teaching hospitals in Brazil (Portal UFPR, 2020). Its attention to aspects related to sustainability grew in 2002. Despite not heading a specific department, the person responsible for sustainability in the organization is part of the management staff (E1, 2019).

The main actions already taken by the interviewees were: laundry outsourcing, waste treatment, closing the copying and printing sector, exchanging mercury thermometers for battery thermometers, and bidding processes with clauses that prioritize sustainability. The subsequent impact action will be the replacement of fluorescent lamps for LED. Thus, the main gains so far were related to the institution's economic sustainability, as interviewee E1 declared (2019): "The hospital was not sustainable, but today it is, today if we hand in the hospital to the new generation, it is up to date with suppliers and employees, it receives what it spends" (E1, 2019).

Furthermore, the organization works to raise the awareness of its employees, a challenge already reported when dealing with internal motivations for adopting sustainability. But the size of the organization hinder actions, as discussed by interviewee E2 (2019):

Last year, we worked with 2,800 people talking face to face, there were 270 classes, [...] the vast majority of us have to go to the sector and talk to small groups, 24 hours a day. So, it takes a lot of time and lots of people, [...] but this is a "city", right?, so any action that we think of is not an action: "Oh, I'll do it [and] next week you can transmit to everyone" (E2, 2019).

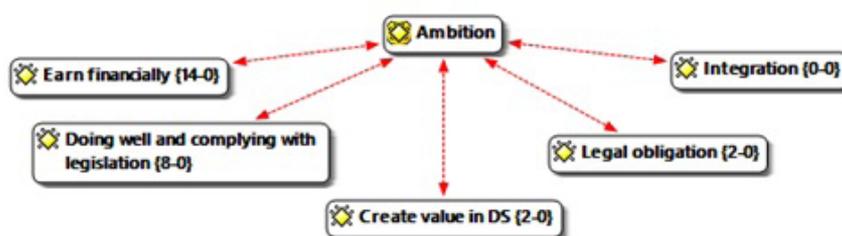
In addition, the lack of a systematized sustainability report was perceived, which was also reported as a must by interviewee E1 (2019): "So it's awareness, then planning, then action, and then, necessarily, it would have to be a review of what is happening, and indicators" (E1, 2019).

Regarding the level of ambition for sustainability, the HC showed that it mainly seeks to save its resources. Thus, sustainability helps to contain costs and review expenses while complying with related legislation and reducing waste and environmental impacts. This goal of reducing costs was evident many times during the interviews, for example, in the following speech by interviewee E1 (2019) when asked about the sustainability actions already carried out:

[...] all of this, we reduced costs here by 25%, with this improvement in the laundry and in addition, the space where the laundry used to be, it now holds the administrative center, [...] so I still have the rental cost, which was saved, right?. And so, I have already saved on water, electricity, boiler equipment, fuel, you know, besides the cost of a kilo of clothes (E1, 2019).

Interviewee E2 (2019) also reports the importance of this aspect for the organization when she talks about the success of sustainability actions: "We managed to maintain the quality of work and reduce costs enormously" (E2, 2019). This is reflected in the frequency, represented by the numbers within the keys, in which the codes were used in the Atlas.ti analysis, as shown in figure 3.

Figure 3: Ambition level for the sustainability of the HC.



Source: developed by the authors (2020).

In addition, the interviewees also emphasize that they need to be more reactive to projects and ideas for sustainability, taking into account the limited resources and the problems that arise in the institution's day-to-day activities, as reported in the excerpt: "the innovations here arise based



on the problems that happen, so you have the problem you have to solve, what are you going to do with it? And then you start solving and fixing other problems, right?” (E1, 2019). Unfortunately, such an attitude can prevent more ambitious ideas for achieving a higher level of sustainability from being planned.

As for the internal motivations for the adoption of sustainable practices, it was highlighted by the interviewees that the support of managers in higher positions and entities above the HC is an essential factor for the actions to be carried out. Interviewee E1 (2019) highlights this aspect:

But the key factor, I still think, is top management commitment, if you think about adopting sustainability [...]. So, every time you say why you are taking that action, people embrace the cause and do it, so you can convince them (E1, 2019).

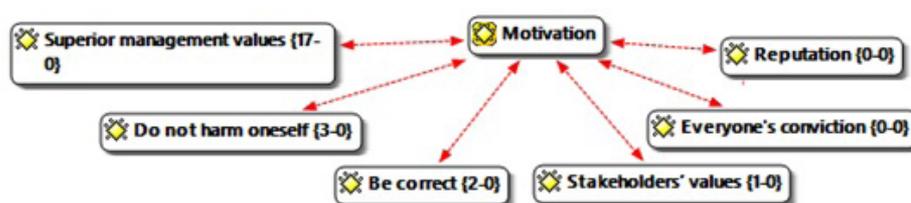
In addition to this factor being essential for the plans to be approved, the values of the management and their desire to make the organization sustainable are necessary since employees, in general, are not supportive of new practices. According to E1 (2019), many actions put into practice are received with complaints: “employees are unhappy because we are taking their work away or deviating... and so on, but anyway...” (E1, 2019).

Thus, one of the main challenges managers who seek to implement sustainable practices face is to change the organizational culture so that employees support ideas and actively contribute. For interviewee E2 (2019), in addition, it is necessary to make people understand the importance of actions :

[...] culture is the most challenging thing to work with, in this sense. Of course, there was exhaustive work about standardization, organization, but making people understand the objective and reason to make an adequate separation, what the risk of not separating was (E2, 2019).

Figure 4 shows the codes referring to the HC’s internal motivations, and it is possible to verify that the management values show up many times, as mentioned above.

Figure 4: Internal HC motivations.



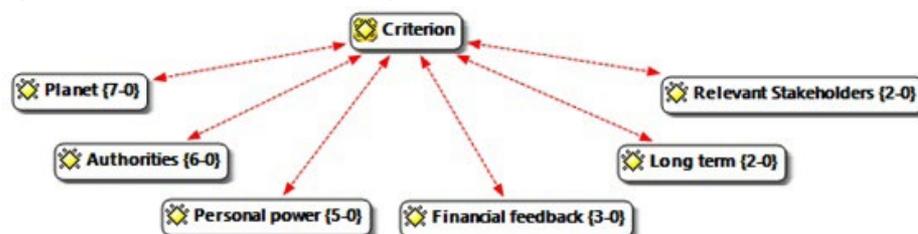
Source: developed by the authors (2020).

Corroborating our findings concerning the ambition for sustainability, the decision-making criteria were also more related to the financial return that could be generated. Thus, when talking about the results of the actions, the interviewees refer to the savings generated as in the following excerpts: “So in the beginning, before working with digital, the hospital had around 3,000 to 3,500 mercury thermometers per year, every year. The following year, when we only bought digital thermometers, it went down to 700” (E2, 2019), and “Not in reprography, so we had the reprography sector there, which was an annual cost of 350 thousand reais, and then we removed that” (E1, 2019).



Undoubtedly, bringing results related to cost reduction stands out compared to other impacts for the organization and the external environment. Figure 5 below demonstrates this visually, and it is possible to see that perspectives that prioritize environmental and social outcomes are not mentioned throughout the interview.

Figure 5: Criteria for HC decision-making.



Source: developed by the authors (2020).

## 5.2 Tribunal Regional do Trabalho da 9ª Região (TRT)

The TRT is an organ of the Judiciary Power and operates throughout the State of Paraná. It has a specific sector to deal exclusively with issues related to sustainability, with three employees (E3, 2019). The main actions mentioned by interviewee E3 (2019) are related to cost reduction and correct waste disposal, with her sector being responsible for supervising and monitoring other areas. In addition, much attention is paid to employee awareness and changes to make space more accessible.

The area still does not have a systematized sustainability report; therefore, according to interviewee E3 (2019), a way to inform all areas about their development in matters related to sustainability is under consideration.

Regarding the level of ambition for the sustainability of the TRT, it is essential to emphasize that sustainable practices started with legal or regulatory obligations, as described by E3 (2019): “I think the greatest weight is our supervisory bodies first. It started to be a little more respected after the legislation. Before [...] it was not seen in a positive way. Quite the opposite, in fact” (E3, 2019).

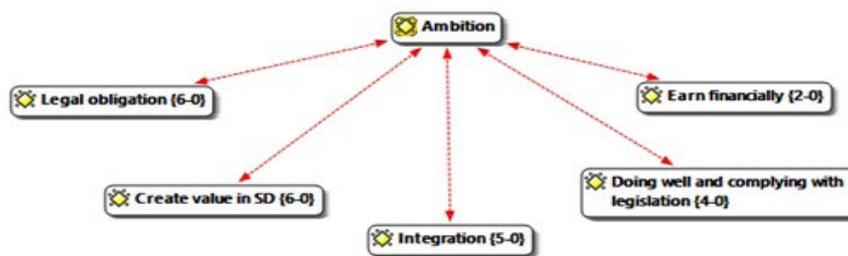
However, despite this beginning with difficulties of acceptance, the organization is currently seeking to insert sustainability into its strategy so that it can permeate all sectors, as stated by interviewee E3 (2019): “This, we are part of the strategy. Do you understand? We are even having conversations to see what form we gonna be, which way we are going to act, how insert goals for sustainability itself” (E3, 2019).

In addition, the TRT stands out for presenting a social concern, with committees that deal exclusively with accessibility and questions such as the one described in the following excerpt by interviewee E3 (2019):

To catch up, they need to give up navel-gazing and start seeing the world as it is. Looking at his faults, right?, for example: can you imagine an openly homosexual judge? Or, how many general directors have you found so far, you... working [who are] black? (E3, 2019).

This transition from an organization that sought to respond to legal obligations in a reactive way to one seeking to create value for sustainable development is evident in the codifications presented in Figure 6 below.

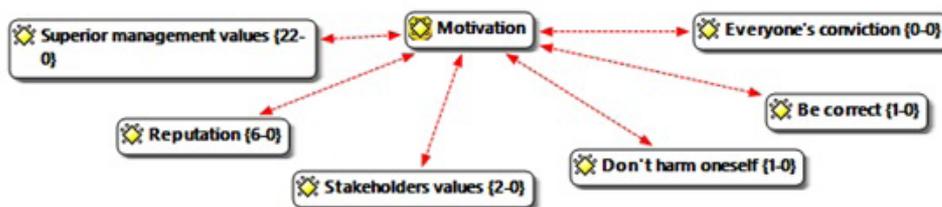
Figure 6: Ambition level for TRT sustainability.



Source: developed by the authors (2020).

In the TRT, the need for support from top management was also very present and as actions, in general, only occur because they are aligned with the values of management and not because of support from employees, as interviewee E3 (2019) states: “He [the employees] does it out of obligation. So that’s why each and every action we’re going to do has to come from the top down” (E3, 2019). Thus, it is also possible to see the difficulty in creating this organizational culture for sustainability, with awareness and acceptance of employees. For interviewee E3 (2019), the dynamics of implementing the actions is complex because they are lawyers, judges, and other legal professionals who often do not want to discuss among themselves or do not want to give up their ideas. They need to discuss matters with their advisors as well. Figure 7 below demonstrates the importance of management participation and support.

Figure 7: TRT’s internal motivations



Source: developed by the authors (2020).

On the other hand, reputation was also highlighted as necessary for the organization since that, for respondent E3 (2019), the organization is losing the support of society as a whole, which jeopardizes its credibility. Being sustainable can bring TRT closer to the community again: “But it is not just Justice, it has the human side, it has to see this human side of society as a whole. It [Justice] has to show herself human” (E3, 2019).

In addition, reputation helps the sustainability sector to, through competition, convince some managers to agree with sustainable practices “so you use your placement in the national ranking to the ego, right? You will work with the ego. And then you can feed it” (E3, 2019).

Regarding the TRT decision-making criteria, there is a tendency to seek sustainability according to global goals, as the organization signed the UN Global Compact and is seeking to align its actions with the SDGs: “From the moment you start working with these SDGs, you start to direct them towards the social, pro-environmental, and you have a solid basis to say ‘I’m doing this for the SDGs’” (E3, 2019).

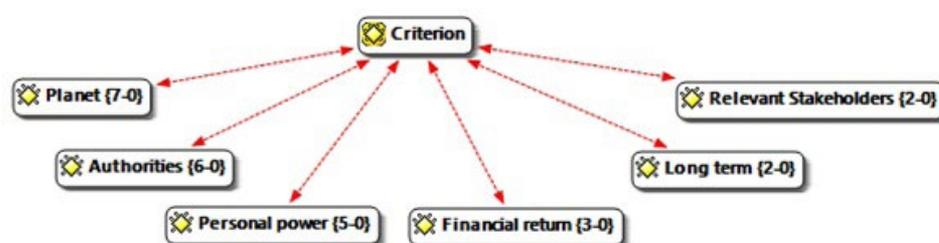
In addition, respondent E3 (2019) stressed that the organization is also starting to worry about its suppliers or service providers: “you have to, otherwise you are transferring your responsi-

bility”, expressing an external view to the TRT itself. However, many sustainable actions are not mandatory in the organization, depending on each manager to be accepted and carried out. This means that these practices are not standardized and extended throughout the TRT, making organizational sustainability difficult:

On this issue, we make suggestions because we cannot impose, it is just a suggestion, that for each order of pile, if I order 10 piles, I have to return 10 piles. You only get what you give back. It is a form of control, and guarantees that this material really goes to the right place (E3, 2019).

In addition to the two aspects already mentioned, the most observed in the codification, Figure 8 below also highlights *personal power*. In other words, in line with the desire to improve the organization’s reputation, decisions are also made according to the possible impacts on the organization’s image before society, and other organizations deemed relevant by it.

Figure 8: Criteria for TRT decision-making.



Source: developed by authors (2020).

### 5.3 Universidade Tecnológica Federal do Paraná (UTFPR)

UTFPR is the only Technical University in Brazil, as it originated from the Federal Center for Technical Education of Paraná (CEFET-PR). It has about 2,550 teachers, 1,180 servers, and more than 32 thousand students distributed on 13 campuses (UTFPR, 2017). Unfortunately, the University does not yet have a sustainability department but works with specific committees on the different campuses.

Its main sustainability actions include the elimination of all disposable plastics in University restaurants, solid waste management, the introduction of the Electronic Information System, the elimination of paper in administrative processes throughout the University, among others, like the one exemplified in the following excerpt from interviewee E4 (2019):

So now we want to do a project to change all collectors to organic, tailings and recyclables. Then we’re going to make them even for the visually impaired because it doesn’t exist. Then we’ve done several interviews with our disabled students on different campuses. We’re getting to a model that is to be inclusive [...] because the selective collection is all done for those who can see; for those who do not see, it is useless because it is by color (E4, 2019).

In addition, E4 (2019) mentioned that their proposal is to have the most complete internal reports in the future. Thus, the organization is still in the process of structuring its sustainability report, but is already participating in PRME (Principles for Responsible Management Education).

Regarding the level of ambition for sustainability at UTFPR, it clearly seeks a high level of organizational sustainability, such as the innovative projects in progress already mentioned and on different fronts of the organization, as reported by E4 (2019):



We are going to have a photovoltaic plant here, in Pato Branco, we already have the electric car being developed, with a parking lot with photovoltaic plates to charge. We are considering everything that is being done to try to unite all these people and show it as a joint action (E4, 2019).

In addition, we noticed that reducing financial expenses is not the focus of the organization, even if it comes as a result of some actions taken, as interviewee E4 (2019) stated: “a disposable cup does not impact so much financially because it is very cheap, but it impacts in terms of waste volume, so not even the collectors want the disposable cups anymore because they have no market value” (E4, 2019). Therefore, the objective of the action is to reduce the amount of solid waste and not cut costs.

Another aspect of the ambition for sustainability is the alignment of planning and its organizational goals with the SDGs, bringing a global perspective to all the University’s fronts. “We are making a huge effort for this with the SDGs, trying to insert in all our actions, teaching, research and extension, to have the evidence, demonstrating how this is done” (E4, 2019).

Thus, the search for the internal integration of sustainable values in the organization and global objectives is so clear that the interviewee states that the intention is to become a reference: “I wish it were better, we want to become a model”(E4, 2019). Figure 9 below shows the use of codes related to value creation for sustainable development and integration, with the other codes being virtually unused.

Figure 9: Ambition level for UTFPR’s sustainability.



Source: developed by authors (2020).

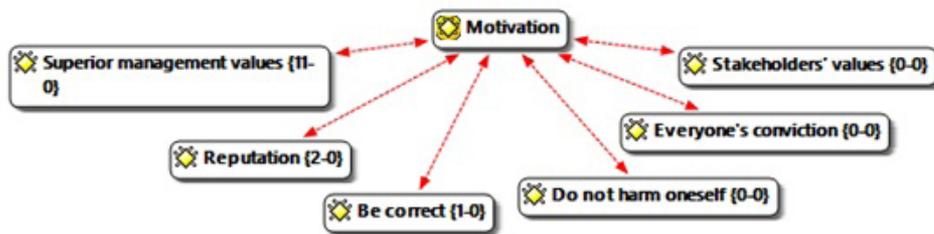
Regarding internal motivations, E4 (2019) also highlighted the importance of management values and incentives so that sustainability actions are carried out: “I think that first this internalization of our senior management in the understanding that this is important, then the actions of the SEI [electronic information system], from the theses, dissertations, and digital papers and the academic system, it was our top management who commanded it, so we already had this direction” (E4, 2019). He also highlighted the need to develop an organizational culture so that everyone understands and supports sustainable practices:

And what’s even more, we have to create internal culture, it’s on paper, it’s in the framework that regulates the University [...] and culture comes with this issue of visual communication, with training, we have already instituted it here the Environment Week and the Sustainability Week, one every semester, which is a moment where we respond and align our themes to what is happening (E4, 2019).

However, he highlighted that his biggest challenge currently is convincing the servants and not the students (E4, 2019). In addition, another internal motivation pinpointed is to improve University’s reputation: “And another issue that we have to learn to do as a University is that we are an asset and not a liability, today society sees us as passive” (E4, 2019).

The emphasis given to the importance of the management’s values being aligned with the sustainability committee and the fact that the values of other stakeholders are still not in agreement with top management in terms of sustainability can also be seen in Figure 10.

Figure 10: UTFPR’s internal motivations.

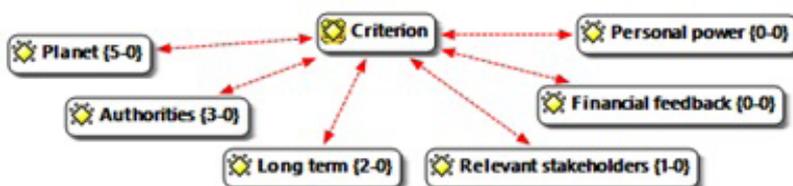


Source: developed by authors (2020).

Regarding decision-making criteria, in line with their ambitions to become a sustainable University model, attention is focused on initiatives that impact the planet in a positive and long-term way: “For example, as one of the items, how we work with climate change, which is a theme that will permeate everything in the coming years, in the next generations, so it has to go into teaching, research and extension” (E4, 2019). For this, E4 (2019) highlights the search for the alignment of the entire organization with the SDGs: “we are making a huge effort for this with the SDGs, trying to insert in all our actions, teaching, research and extension” (E4, 2019).

Few decisions are taken individually or by different sectors and departments: “So what will be left: tests, which will still need paper. There are some minor demands that are in use and that we cannot be reduced, then it depends on the teacher, how he or she will want it” (E4, 2019). High-impact decisions are taken by senior management, such as the Rector and Pro-Rectors, together with the sustainability committee, and are only passed on to the rest of the University. This is positive from the perspective of sustainability, as it makes the entire organization align with its purposes.

Figure 11: Criteria for UTFPR decision-making.



Source: developed by authors (2020).

## 6 ANALYSIS AND DISCUSSION

Undoubtedly, the difficulty in supporting top management highlighted by Domingues et al. (2017) and Zutshi, Sohal and Adams (2008) was not observed in any of the organizations studied. On the contrary, the internal motivation of the three of them comes from the management and the employees responsible for sustainability internally. However, all of the organizations presented the need for extensive work to raise awareness among their collaborators, which corroborates Al Nuaimi et al. (2020) and Zutshi, Sohal and Adams (2008).

Thus, as discussed by Marrewijk and Werre (2003), and Skarpeta, Koemtzi and Aidonis (2019), organizations have suffered external pressures to become more sustainable. Such pressures, coming mainly from superior public entities, prove that the need to comply with specific legislation, highlighted by Guarnieri and Gomes (2019), can be positive from the perspective of sustainability. In addition, TRT and UTFPR are also concerned about their good reputation.

However, no organization studied highlighted the use of practices or examples from the private sector as the main starting point, as stated by Uyar, Kuzey and Kilic (2020). In addition, the three organizations confirmed that it is their changes and actions for sustainability that make their suppliers need to adapt, demonstrating the influence of these public organizations in their respective production and consumption chains, and in their markets, as defended by Bratt et al. (2013), Domingues et al. (2017), and Al Nuaimi et al. (2020).

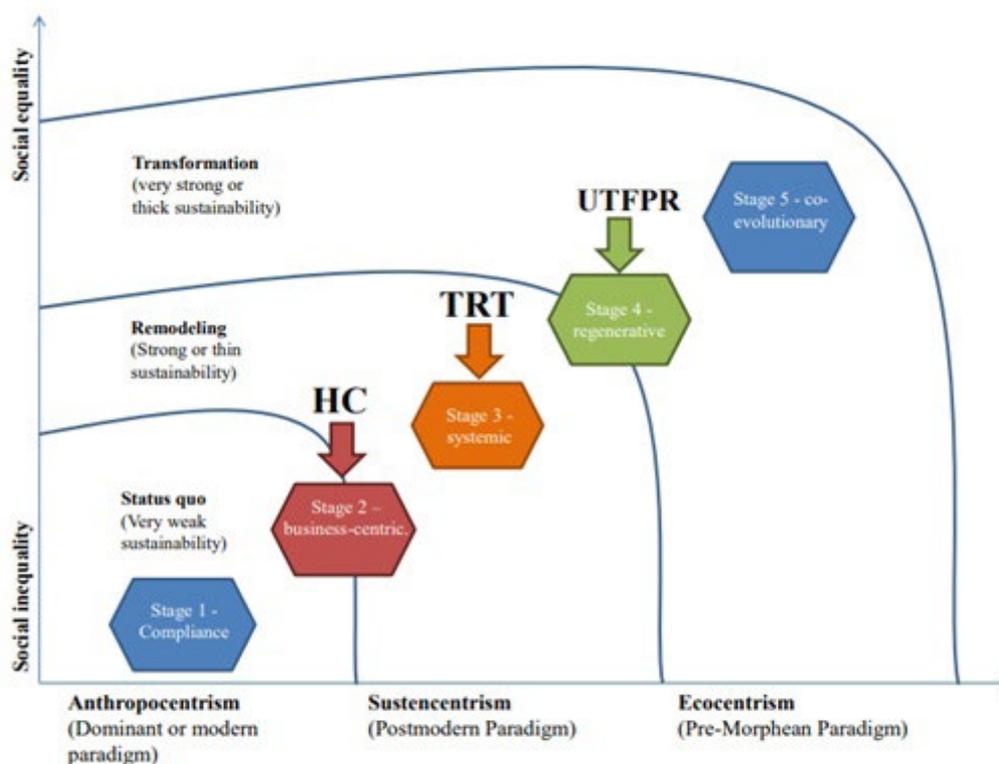
HC's ambition for sustainability aims to contain its costs, the main criterion for its decisions being the reduction of its financial expenses. As it is a public organization with limited resources, and a hospital with complex costs, the institution does not aim to profit or have a competitive advantage, as defined by Marrewijk and Were (2003), but only to settle its debts to be considered a hospital economically sustainable. In addition, motivation comes from its management and other employees responsible for sustainability. Thus, the organization is in stage 2 defined by Landrum (2018), as it seeks to reduce its impact on the environment, but its main objective is reducing costs.

As for the TRT, the ambition is already related to the SDGs, besides meeting legal demands. In addition, the organization stood out in the social perspective, being concerned with actions that help accessibility and questions about equality. In this sense, its criterion for decision-making is more focused on the planet as a whole, although its efforts are not entirely institutionalized, as they depend on the adhesion of each manager. In this way, it fits Landrum's stage 3 (2018), in which benefits are being sought for the three dimensions of sustainability in a continuous improvement to achieve an internal balance (Marrewijk and Were, 2003).

UTFPR ambition is high, aiming to be a reference in sustainability, with its decision-making criteria focused on the planet and towards achieving the SDGs. Despite having its internal motivation fully aligned with the management and other employees, the organization has aligned and integrated actions and plans between all departments and operating fronts. Landrum's stage 4 (2018) is the closest to UTFPR, as it not only wants to reduce its negative impacts, but also wants to contribute to the improvement and balance of the three dimensions of sustainability (Marrewijk and Were, 2003), having a vision which is external to the organization. In order to illustrate the distribution of the organizations studied in the stage they are in, Figure 12 visually characterizes the stages of sustainability that each organization is in Figure 1.



Figure 12: Sustainability stage of the organizations analyzed.



Source: developed by authors (2020).

Thus, we observe that, while for the HC sustainability is aimed at minimizing financial costs, with the consequence of reducing the negative impact on the environment, relating to stage 2 of sustainability, the TRT seeks, mainly within the social perspective, to making decisions that contribute to the planet as a whole and, at the same time, generating balance between the three dimensions of sustainability, which is related to stage 3. UTFPR, on the other hand, seeks not only to reduce actions that degrade the environment and to have an alignment between the three dimensions of sustainability, but also to be an external reference for these actions, which is in line with stage 4 of sustainability. The distinctions in sustainable practices are evident even between organizations that are part of the same sustainability network. Furthermore, it is clear that some aspects need to be better adapted in the models used to the reality of public institutions.

By analyzing the institutions surveyed, it became clear that the public sector is increasingly seeking to carry out sustainability management by creating specific commissions, promoting actions with the management and other employees. However, management occurs in different sustainability stages between organizations, showing that each has a different level of ambition, internal motivations, and decision-making criteria.

So, it is advisable that institutions in lower stages of sustainability observe and exchange information with institutions in higher stages, in order to contribute to increasing their level of sustainability. Among the organizations studied, it was observed that the constitution of a specific sector for environmental and social management was interesting, but it is also necessary to change the fact that the actions do not occur in a standardized way and covering the entire organization, but according to the support of each manager to carry out the activities, as in the case of the TRT.

Thus, it is essential that institutions build proposals in favor of a change in culture, especially regarding environmental aspects, starting with the employees themselves so that the transformations aimed at sustainable practices and social responsibility reflect in civil society. More significant support from employees for sustainability actions contributes to organizations having more ambition, thinking and executing activities with greater impact.

## 7 CONCLUSIONS

This study proposed to analyze the actions aimed at sustainability within the public sector, from the stages of maturity presented by Landrum (2018), and Marrewijk and Were (2003), in the context of institutions participating in the Sustenta Paraná Network. So, it contributed to expanding the studies about public organizations while applying the two theoretical frameworks proposed and usually used to analyze private organizations. From this perspective, other characteristics of the sector could be better addressed by its own model, such as bureaucracy and the size of organizations.

In addition, as a contribution, it is suggested that public organizations systematize their sustainability information to make it available to both internal and external audiences. For example, an annual sustainability report portraying results achieved, indices and ambitions can help these organizations build support from employees.

Among the limitations of this work, it is not possible to describe whether the situation of public bodies studied are equal or similar to their peers in other states since the sample represents but three organizations. Therefore, it is not possible to generalize the results identified here. In this sense, a suggestion for future studies is expanding the sample of public institutions to be researched with the method presented in this work so that it is possible to map the stages of sustainability of public organizations in Brazil.

Furthermore, analyses are advisable that show the favorable factors for the integration of collaborators in the insertion within the sustainability and social responsibility actions to reach the objectives raised in stage 5, proposed by Landrum (2018), and Marrewijk Were (2003). Future studies can also analyze a more significant number of organizations, make new comparisons between different spheres of power and regions, and use quantitative approaches to make proper generalizations.

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## AUTHORS

### 1. Júlia Mitsue Vieira Cruz Kumasaka

Institution: Universidade de São Paulo, FEA, Administration. São Paulo, Brazil.

Master of Administration from University Federal of Paraná and Graduate of Administration from University Federal of Ceará.

E-mail: [juliamitsue@hotmail.com](mailto:juliamitsue@hotmail.com)

ORCID: <https://orcid.org/0000-0002-2148-7140>

### 2. Bárbara Galleli Dias

Institution: Universidade Federal do Paraná, Curitiba, Paraná, Brazil.

Professor at the Federal University of Paraná (UFPR), coordinator of the Innovation and Technology research line at Postgraduate Program on Administration at UFPR. PhD in Business Administration from the University of São Paulo (FEA / USP), with internship at Aston University, Birmingham, UK. Master in Administration from the State University of Londrina (UEL).

E-mail: [b.gallelidias@gmail.com](mailto:b.gallelidias@gmail.com)

ORCID: <https://orcid.org/0000-0001-9650-2619>

### 3. Jeferson Silva Henrique

Institution AGU Attorney General of the Union. Curitiba, Paraná, Brazil.

Graduated in Business Administration - FAE Business School. He is currently an information technology analyst - AGU Advocacia Geral da União.

E-mail: [jef.henrique10@gmail.com](mailto:jef.henrique10@gmail.com)

ORCID: <https://orcid.org/0000-0002-1174-7543>

### 4. Barbara Cruz Braga

Institution: Universidade Federal do Ceará, Fortaleza, Ceará, Brazil.

Master's student in Rural Economics at the Postgraduate Program in Rural Economics at the Federal University of Ceará (PPGER/UFC). Graduate in Economic Sciences in the Federal University of Ceará.

E-mail: [barbarabc\\_16@hotmail.com](mailto:barbarabc_16@hotmail.com)

ORCID: <https://orcid.org/0000-0001-8055-6743>



## 5. Emanuel Campigotto Sandri

Institution: Universidade Federal do Paraná, Curitiba, Paraná, Brazil.

Professor-Tutor (EAD and Semi-attendance) at the Pontifical Catholic University of Paraná - PUC PR. EAD Tutor in the Public Administration course at the Federal University of Paraná. Doctoral candidate in Administration at the Federal University of Paraná. Master in Administration, Professional program, by the State University of West Paraná (UNIOESTE).

E-mail: emanuel.sandri@hotmail.com

ORCID: <https://orcid.org/0000-0002-4539-2090>

### Contribution of authors

Every author should account for at least one component of the work. Paper approved for publication need to specify the contribution of every single author.

Contribution	[Author 1]	[Author 2]	[Author 3]	[Author 4]	[Author 5]
1. Definition of research problem	X	X	X		
2. Development of hypotheses or research questions (empirical studies)	X	X	X		
3. Development of theoretical propositions (theoretical work)	X	X			
4. Theoretical foundation / Literature review	X	X			X
5. Definition of methodological procedures	X	X	X	X	
6. Data collection			X	X	
7. Statistical analysis					
8. Analysis and interpretation of data	X	X		X	X
9. Critical revision of the manuscript	X	X		X	X
10. Manuscript writing	X	X		X	
11. Other (please specify)					

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