

# Mesurer et améliorer les performances de développement durable dans les organisations publiques<sup>1</sup>

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## Résumé :

L'objectif de cet article est d'analyser les pratiques et les défis qui sous-tendent le développement et l'utilisation d'indicateurs de performance de développement durable dans les organisations publiques. Sur la base d'entretiens avec des gestionnaires et des experts du développement durable (n = 39), d'une analyse de documents stratégiques (n = 135) et d'une observation participante au sein de plusieurs organisations, l'étude montre que le système de gouvernance par les nombres mis en place par le gouvernement est largement dissocié des questions de développement durable et de la performance réelle. L'accent mis sur la quantification des performances et les mécanismes de vérification mis en place ne conduisent pas à plus de rationalité, de rigueur ou de contrôle, mais plutôt à une prolifération d'informations non substantielles qui dépeignent une image fictive des performances. À travers le prisme du fictionnalisme moral, cette étude met en lumière les défis de la mesure des performances de développement durable et les raisons qui sous-tendent la production de données quantitatives d'une utilité discutable par les organisations publiques.

**Mots-clés :** Performance de développement durable, Imputabilité, Fictionnalisme, Sociologie de la quantification, Gouvernance par les nombres

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<sup>1</sup> Cet article est soumis pour publication et en cours d'évaluation dans la revue *Accounting, Auditing & Accountability Journal*.

# **Mesurer et améliorer les performances de développement durable dans les organisations publiques**

## **1. INTRODUCTION**

Organizations are increasingly held accountable for their sustainability performance and must produce specific information in this area to demonstrate their commitment and social responsibility (Islam, 2022; Mattingly & Berman, 2006; Searcy & Elkhawas, 2012). Various stakeholders, including financial markets, NGOs, the media, governments, and the general public, are scrutinizing the impacts of organizational sustainability approaches and the data these organizations disclose on this issue (Arjaliès & Bansal, 2018; Beunza & Ferraro, 2019; Järvinen et al., 2022; Kolk, 2004). The widespread use of sustainability reports based on reporting standards—such as the Global Reporting Initiative (GRI)—reflects the growing need for as much reliable and comparable information as possible on the subject (Hahn & Lülfs, 2014). Public organizations are not immune to the growing emphasis on producing measurable data on their performance, including sustainability (Andrades Peña et al., 2020; Ji & Darnall, 2018; Porter & Haggerty, 1997; Rose, 1991; Shahan et al., 2021; Talbot & Boiral, 2021). Institutional pressures to integrate sustainability into public administration practices and to implement governance by numbers encourage the disclosure of quantitative data demonstrating good performance and accountability of public administration (Berquier & Gibassier, 2019; Chiba et al., 2018; Gherardi et al., 2021; Lundberg et al., 2009; Quayle et al., 2020). However, research on the quality of the data disclosed by companies calls into question the transparency and reliability of this data (Cho et al., 2015; Hahn & Lülfs, 2014; Järvinen et al., 2022; Milne et al., 2006). Although this type of criticism has also been made of public organizations (Chiba et al., 2018; Lyytimäki et al., 2013; Mazzi et al., 2012), the internal practices that lead to the development and disclosure of representations considered by some stakeholders as unreliable

or even fictitious—in the sense of being dissociated from real issues and reflecting a fake image of organizational sustainability—have been overlooked in the literature.

The objective of this paper is to analyze the practices and challenges underlying the development and use of sustainability performance indicators in public organizations. This objective addresses at least three fundamental issues concerning the shortcomings of measuring sustainability in public organizations. First, public organizations play a major socio-economic and symbolic role because of the size of their workforce, their importance in the implementation of sustainability policies, and their public service mission. For example, in June 2022, almost 22% of Canadian employees were working in the public sector (Statistics Canada, 2022). The decisions of these organizations can therefore have a considerable impact on sustainability on a broader scale (e.g., promotion of responsible purchasing and implementation of sustainable infrastructures). Moreover, because of its example-setting role stemming from its wide-ranging decisions on various issues, the public administration must constantly demonstrate its commitment through the publication of indicators that clearly and credibly report on its sustainability achievements and performance (Berquier & Gibassier, 2019; Merad et al., 2013). Second, the proliferation of scientific studies and quantitative evidence on the state of the planet and governments' recognition of the urgency to act are leading to increasing general expectations that the measures put in place to reduce the environmental impacts of public administration will be backed up by evidence-based indicators (Chiba et al., 2018; Merad et al., 2013; Park & Krause, 2021). For example, the importance and reliability of the climate indicators and data published by the Intergovernmental Panel on Climate Change (IPCC) have generated a very broad consensus among scientists and are contested far less frequently than before. In contrast, the sustainability performance data disclosed by private and public organizations are increasingly criticized in the literature for their lack of reliability,

transparency, and materiality (Boiral, 2013, 2016; Cho et al., 2015; Hahn & Lülfs, 2014; Milne et al., 2006).

Third, while the reasons that lead companies to publish unreliable information have been widely studied in the literature (Boiral et al., 2022; Boiral & Henri, 2017; Cho et al., 2015; Järvinen et al., 2022; Kolk, 2004), the motivations of public organizations in this regard are less clear and deserve further investigation. Moreover, the elaboration process of this information, its practical usefulness, and the perceptions of its reliability by the actors involved in the measurement or monitoring of sustainability performance have been overlooked in the literature.

By unveiling the internal processes underlying the measurement and disclosure of sustainability performance, this article makes several important contributions to the literature. In particular, it contributes to research on the uncertain reliability of the sustainability information disclosed by organizations and on the aberration of uncritical use of data that is unsubstantial and sometimes misleading to stakeholders (Balluchi et al., 2020; Boiral, 2016; Hahn & Lülfs, 2014; Järvinen et al., 2022; Zharfpeykan, 2021). The study also contributes to the literature on governance by numbers and on the control practices associated with the often excessive performance quantification (Chelli & Gendron, 2013; Hamann, 2020; Hopper & Macintosh, 1998; Islam, 2022; Jackson, 2011; Robson, 1992). Although these practices have been criticized by research on the sociology of quantification (Espeland & Stevens, 2008; Mazmanian & Beckman, 2018; Mennicken & Espeland, 2019; Porter & Haggerty, 1997; Saltelli & Di Fiore, 2020), they remain relatively unexplored in the context of the production and use of sustainability metrics, particularly in public organizations. Lastly, the article makes an important contribution to the emerging literature on the fictionalist approach to organizations (Boiral et al., 2021; Holt & Zundel, 2018; Rhodes & Brown, 2005; Sarasvathy, 2021; Savage

et al., 2018), by showing how and why public administrations construct and mobilize useful fictions regarding their claimed sustainability performance.

## **2. MEASURING SUSTAINABILITY PERFORMANCE: FACTS AND FICTIONS**

### **2.1. THE HUBRIS OF QUANTIFICATION AND THE ELUSIVE MEASUREMENT OF SUSTAINABILITY PERFORMANCE**

The abundant literature on the growth of information on sustainability performance and the reasons behind the development of reporting practices has highlighted organizations' concerns about their own legitimacy and their propensity to disclose more information when they are subject to strong external pressures (Mattingly & Berman, 2006; Searcy & Elkhawas, 2012). The proliferation of quantitative and seemingly commensurable sustainability information tends to create a "calculable space" (Järvinen et al., 2022; Miller, 1994; Miller & O'Leary, 1994) that seems objective, neutral, and in which sustainability issues, despite their complexity, are considered measurable, comparable, and usable to evaluate organizations (Arjaliès & Bansal, 2018; Beunza & Ferraro, 2019; Boiral et al., 2022; Järvinen et al., 2022). The reliance on quantitative information published on sustainability issue is part of a functionalist paradigm and a mechanistic worldview which posit that, like objectifiable material things, organizations and their impacts can be measured and monitored in an objective, transparent, and robust manner (Boiral & Henri, 2017; Burrell & Morgan, 2017; Crane, 1999; Reid & Rout, 2020). This excessive confidence in the value and power of numbers—that is called the hubris of quantification—presupposes the existence of reliable measures capable of giving an accurate account of often complex real phenomena such as sustainability performance, in order to manage them rationally.

However, the reliability and transparency of data on organizational sustainability performance have been widely questioned in research on the quality of the disclosed information (e.g., Boiral, 2013; Cho et al., 2015; Milne et al., 2006). Among other things, multiple studies have highlighted the lack of balance in the information disclosed by companies and its use for

greenwashing purposes rather than accountability (Balluchi et al., 2020; Boiral, 2016; Hahn & Lülfs, 2014; Zharfpeykan, 2021). Organizations thus tend to implement impression management strategies in order to emphasize the positive aspects of their sustainability commitments and to hide aspects that could damage their image (Boiral, 2016; Cho et al., 2015; Sandberg & Holmlund, 2015; Talbot & Boiral, 2018). The managerial capture of disclosed information and the lack of rigor in the verification process have also been evidenced (Farooq & de Villiers, 2020; Seguí-Mas et al., 2018). For example, empirical research on the assurance of sustainability reports by external auditors has shown the mostly symbolic nature of this verification process, auditors' lack of critical perspective, and the lack of rigor in the data analysis (Boiral & Heras-Saizarbitoria, 2020; Boiral et al., 2019).

The predominance of data that do not conform to the standards supposedly used by companies—including in sustainability reports assured by auditors—also makes it almost impossible to compare corporate performance, despite the use of identical indicators (Boiral et al., 2022; Lueg & Lueg, 2021; Talbot & Boiral, 2018). However, regardless of the impression management strategies used by organizations, the symbolic implementation of standards, and the reliability of the information disclosed, some research has questioned the very possibility of seriously measuring corporate sustainability performance for more fundamental reasons related to the multifaceted nature and intangible aspects of sustainability (e.g., Boiral et al., 2022; Boiral & Henri, 2017; Reid & Rout, 2020). Among other things, problems of indicators' commensurability and fungibility make it difficult, if not impossible, to develop reliable performance metrics based on the aggregation of sustainability data on very different issues such as climate change, biodiversity, working conditions, and corruption (Arjaliès & Bansal, 2018; Capelle-Blancard & Petit, 2017; Huault & Rainelli-Weiss, 2011; Puroila & Mäkelä, 2019; Wegener et al., 2019).

This major discrepancy between, on the one hand, the elusive and fictional nature of sustainability performance and, on the other hand, the widespread use of supposedly reliable quantitative information is not an isolated phenomenon specific to sustainability issues. It rather reflects the symbolic superiority of numbers, which has been highlighted in various studies based on the sociology of quantification (Chelli & Gendron, 2013; Espeland & Stevens, 2008; Mazmanian & Beckman, 2018). These works have underlined the overemphasis on quantitative data in modern societies, in particular because of the legitimate, neutral, and rational appearance they convey independently of their real validity and meaning (Fauré et al., 2019; Mazmanian & Beckman, 2018; Mennicken & Espeland, 2019; Ossandón et al., 2021). Numbers also convey an image of precision, commensuration, and mathematical rigor that acts as a tool of power and that provides justification for decisions that are not necessarily well-founded (Espeland & Stevens, 2008; Islam, 2022; Mennicken & Espeland, 2019; Rose, 1991; Saltelli & Di Fiore, 2020). Because they are easy to use, easy to verify, and easy to integrate into administrative processes, numbers carry a “mechanical objectivity” (Porter & Haggerty, 1997) that seems to be based on impartial and impersonal rules that are therefore more difficult to challenge. These rules are then used in various decision-making processes based on rankings, models, calculative devices, and algorithms that increasingly shape the functioning of organizations and their evaluation by stakeholders (Beunza & Ferraro, 2019; Boiral et al., 2022). In this sense, public organizations seem to be particularly vulnerable to fictions related to the superiority of numbers and to the overuse of numbers in sustainability performance assessment.

## **2.2. SUSTAINABILITY OF PUBLIC ORGANIZATIONS AS MORAL FICTIONS?**

The fictionalist approach has its roots in Vaihinger (2014) “as if” philosophy, which highlights the tendency of various scientific disciplines to develop fictional representations to describe phenomena that are often difficult or impossible to observe directly, and then to take for granted the accuracy and appropriateness of the measurements derived from these representations.

Although they are based on beliefs much more than on an accurate description of reality, fictions nevertheless often prove very useful, and their common use in science leads researchers to “pretend” or “act as if” their discourses, models, and measurements really reflect the underlying phenomena that elude them (Boiral et al., 2021; Eklund, 2017; Keren & Breugelmans, 2020; Phillips, 1995; Sarasvathy, 2021). The fictionalist approach has been used to describe the proliferation of useful fictions in various disciplines, such as history, physics, mathematics, and ethics (Eklund, 2017; Keren & Breugelmans, 2020; Suárez, 2008). Moral fictionalism relies on the main principles of fictionalism applied to issues whose analysis involves moral judgments—in the sense of questions of general interest that call for duties to conform to collective norms and social expectations concerning the common good—based on fictional representations rather than on an objective description of reality (Boiral et al., 2021; Joyce, 2011; Mabrito, 2013; Nolan et al., 2005). Although these moral fictions are dissociated from reality, their use is based on collectively shared beliefs and these fictions’ practical utility (Boiral et al., 2021; Joyce, 2011; Nolan et al., 2005).

Fictionalism has been used in a number of studies on organizations, notably to show the ways in which theoretical representations are a form of narrative dissociated from reality and serving to simplify, but whose relevance and usefulness nevertheless remain collectively accepted (e.g., Holt & Zundel, 2018; Phillips, 1995; Rhodes & Brown, 2005; Savage et al., 2018). However, this approach is still very little used, especially in the literature on corporate sustainability performance. While the character of sustainability disclosure as self-referenced, narrative and disassociated from actual impacts has been evidenced in many studies (e.g., Boiral, 2013; Cho et al., 2015; Hahn & Lülfs, 2014; Zharfpeykan, 2021), these critical works very rarely underline the practical usefulness of the disclosed data independently of their fictitious character. In contrast, the many studies that emphasize or take for granted the validity and practicality of sustainability performance data (e.g., Schaltegger & Wagner, 2006; Tahir & Darton, 2010;



Wagner, 2010) are not inclined to question their links to the reality of organizations' environmental and social impacts. In a recent study on the practices of corporate sustainability ratings by non-financial rating agencies, Boiral et al. (2021) used the approach of moral fictionalism to highlight that, despite the fictitious representations and arbitrary ethical judgments underlying the evaluation of corporate sustainability performance, the published rankings were still useful for promoting relevant initiatives in this field. Thus, criticism of the fictitious nature and lack of substance of sustainability performance measurements is not necessarily incompatible with the recognition of their practical usefulness. According to Boiral et al. (2021), moral fictionalism and its application to sustainability performance issues have three main components:

1. The generalization of moral or ethical judgments about sustainability performance based on collectively accepted metrics and practices.
2. The fictitious and unsubstantial nature of sustainability indicators and performance measurements.
3. The practical usefulness of measurements regardless of their fictitious and unsubstantial nature.

These three components related to moral fictionalism seem particularly relevant for analyzing judgments about the consideration of sustainability performance by public organizations and their practical implications.

First, like private companies, public organizations are increasingly held accountable for their sustainability commitments and for demonstrating improvements in their performance in this area (Andrades Peña et al., 2020; Ji & Darnall, 2018; Shahan et al., 2021; Talbot & Boiral, 2021). Constantly increasing institutional pressures on public administrations encourage governments to put in place and report on indicators that are supposed to credibly demonstrate the legitimacy and effectiveness of the implemented policies (e.g., Chiba et al., 2018; Park &

Krause, 2021; Shahan et al., 2021). These indicators are part of a more global trend of new public management, which is based on the transfer to public organizations of management methods—particularly in terms of accountability—that are commonly used in private organizations and that are supposed to be more effective (Diefenbach, 2009; Leeuw, 1996). Quantifying the performance of public organizations—particularly in terms of sustainability—has thus become a political imperative and a moral obligation to demonstrate that the public service is efficient and exemplary and that it meets society's expectations (Berquier & Gibassier, 2019; Hyndman et al., 2018; Park & Krause, 2021).

Second, the reliability of sustainability performance measurements in public organizations seems uncertain. While the literature on the subject is much less extensive than in the case of private organizations (Lundberg et al., 2009), the problems of measurement and dissociation from actual observed impacts seem similar. Some studies have shown the lack of quality and comparability of the indicators used (Chiba et al., 2018; Lyytimäki et al., 2013; Mazzi et al., 2012). The superficiality of public organizations' compliance with the sustainability policies and performance indicators in place have also been highlighted (Chiba et al., 2018; Talbot & Boiral, 2021). Like private organizations, the public sector tends to adopt sustainability practices primarily to respond to institutional pressures rather than to actually improve internal practices and performance (Andrades Peña et al., 2020; Bexell & Jönsson, 2021; Darnall et al., 2018). In general, criticisms of the lack of substance and transparency of sustainability disclosures seem to confirm the fictional and elusive nature of most of the measurement indicators used by public organizations.

Third, the possibly fictitious nature of sustainability performance measurements does not necessarily call into question the relevance of their use, which meets broader institutional needs and requirements. Among other things, performance measurement indicators support the auditing practices of public organizations. These practices, which have multiplied in recent

years, contribute, in principle, to strengthening the accountability of public organizations (Mattei et al., 2021; Parker et al., 2021). While their effectiveness remains controversial (Bawole & Ibrahim, 2016; Reichborn-Kjennerud & Vabo, 2017), it is reasonable to assume that the verification of sustainability performance and the publication of audit reports tend to encourage the improvement of existing indicators and the implementation of internal changes to prevent criticism that could damage the organizational image. In general, the multiplication of performance audits in the public sector reflects the spread of the audit society and its growing impact on the control of organizations' efficiency (Power, 1997, 2000). Despite the pernicious effects of this audit society, several studies based on Foucault's Panopticon metaphor emphasize that the control exercised by quantifying and verifying performance has a disciplinary effect that can lead to changes in behavior and to a better consideration of the standards adopted or the objectives pursued (Hamann, 2020; Hopper & Macintosh, 1998; Jackson, 2011; Raffnsøe et al., 2019; Robson, 1992). The power and discipline exerted by performance monitoring is part of the movement toward governance by numbers (Espeland, 1997; Porter & Haggerty, 1997; Rose, 1991), which has an increasing hold on society, particularly in the management of public organizations. In principle, this mode of governance favors a more flexible and less coercive control system than the implementation and monitoring of regulations (Jackson, 2011; Lazarevic & Martin, 2018; Mennicken & Salais, 2022; Rose, 1991). The "mechanical objectivity" of numbers and performance indicators represents a kind of "distance technology" that leads organizations to internalize this control system (Espeland, 1997; Porter & Haggerty, 1997). In this perspective, the quantification of sustainability performance encourages public organizations to self-regulate through the adoption of indicators and objectives (Büyüközkan & Karabulut, 2018; Järvinen et al., 2022; Lazarevic & Martin, 2018).

However, to our knowledge, the effectiveness of this governance by numbers in the context of public organizations' implementation of sustainability indicators has not been the subject of specific in-depth studies. Moreover, the practices that promote the implementation of these fictional representations of sustainability performance and their impact on the governance of public organizations have been overlooked in the literature. Most research remains focused on content analysis based on information disclosed by public or private organizations rather than on how these indicators are developed and used within these organizations (e.g., Järvinen et al., 2022; O'Dwyer & Owen, 2005; Safari & Areeb, 2020; Solomon & Solomon, 2006).

### **3. METHODS**

The objective of this study was to analyze the practices and challenges that underlie the development and consequent use of sustainability performance indicators in public organizations. To explore this topic, three complimentary data collection methods were used: semi-structured interviews, documentation analysis, and observations.

#### **3.1. DATA COLLECTION**

##### **3.1.1. Interviews**

This qualitative study was conducted within public administration organizations in the Canadian province of Quebec. In 2006, Quebec government adopted a law, the Sustainable Development Act (SDA), that targets over 100 public organizations (including ministries, Crown corporations, and other special agencies or tribunals) and that is still in force today (in 2022). The main obligation is to put in place action plans based on objectives and measurement indicators aligned with the issues of the organizations and the Government Sustainable Development Strategy orientations, which are revised approximately every five years (Ministère du Développement durable de l'Environnement et de la Lutte contre les changements climatiques, 2015). Due to the specificity of the SDA, potential participants must have worked closely with this legislation. Specifically, they must have worked on the development or follow-up of sustainability indicators, or conducted sustainability performance

audits, or be involved in the coordination of sustainability-related works in public administration. This research was carried out in collaboration with the Office for the Coordination of Sustainable Development of the Quebec Ministry of the Environment and the Fight Against Climate Change, which is responsible for implementing the government strategy. As part of this research project, this department provided a preliminary list of potential participants. This list was then completed using the snowball sampling approach (Patton, 2015). In the end, 39 people working for 27 government agencies were interviewed. Overall, these organizations employ more than 65% of Quebec's public employees.

**Table 1. Profile of the people interviewed (n = 39)**

<b>Organization type</b>	<b>Managers (14)</b>	<b>Environmental experts (23)</b>	<b>Auditors (2)</b>
Ministry	7	9	0
State-owned company	6	14	0
Office of the Auditor General	1	0	2

Interviews were conducted between March 2018 and December 2021. To encourage respondents to talk openly about various issues, half of the interviews took place outside of respondents' workplaces (Elwood & Martin, 2000). Also, due to respondents' limited availability and travel concerns, 15 interviews were conducted by phone, a technique that does not lead to significantly different results when compared to in-person interviews (Holt, 2010; Vogl, 2013). Prior to each interview, participants were provided with a copy of the research protocol that explained the study's objectives and ensured participants' anonymity.

### **3.1.2. Documentation analysis**

To obtain an encompassing view on sustainability indicators developed by the public organizations in which participants were employed, information was extracted from the sustainability action plans and the annual management reports. In total, 165 sustainability plans or annual reports were consulted. A selective extraction was carried out for several consecutive years between 2016 and 2021. The selection of the extracted sustainability indicators was made

based on their relevance and to validate some of the respondents' claims. The indicators included in the action plans of the 27 organizations studied were extracted. Subsequently, the quality of the indicators was assessed using the grid developed by (Chiba et al., 2018). This framework includes the identification of shortcomings in the conception of the indicators.

### **3.1.3. Observations**

During the data collection period, three researchers involved in this study collaborated for more than 30 months with Quebec public organizations. Their tasks included assessing sustainability action plans and measurement indicators, analyzing sustainability reports, and drafting recommendations for improvement. Furthermore, over 15 unrecorded coordination meetings were conducted with sustainability officers and performance department directors during this time for the purpose of discussing the development of sustainability indicators and related measurements. These regular interactions with sustainability-related personnel of several public organizations allowed the researchers to collect valuable observational data on the internal dynamics surrounding these questions and on the underlying concerns that would have otherwise been difficult to grasp via other data collection methods (Patton, 2015).

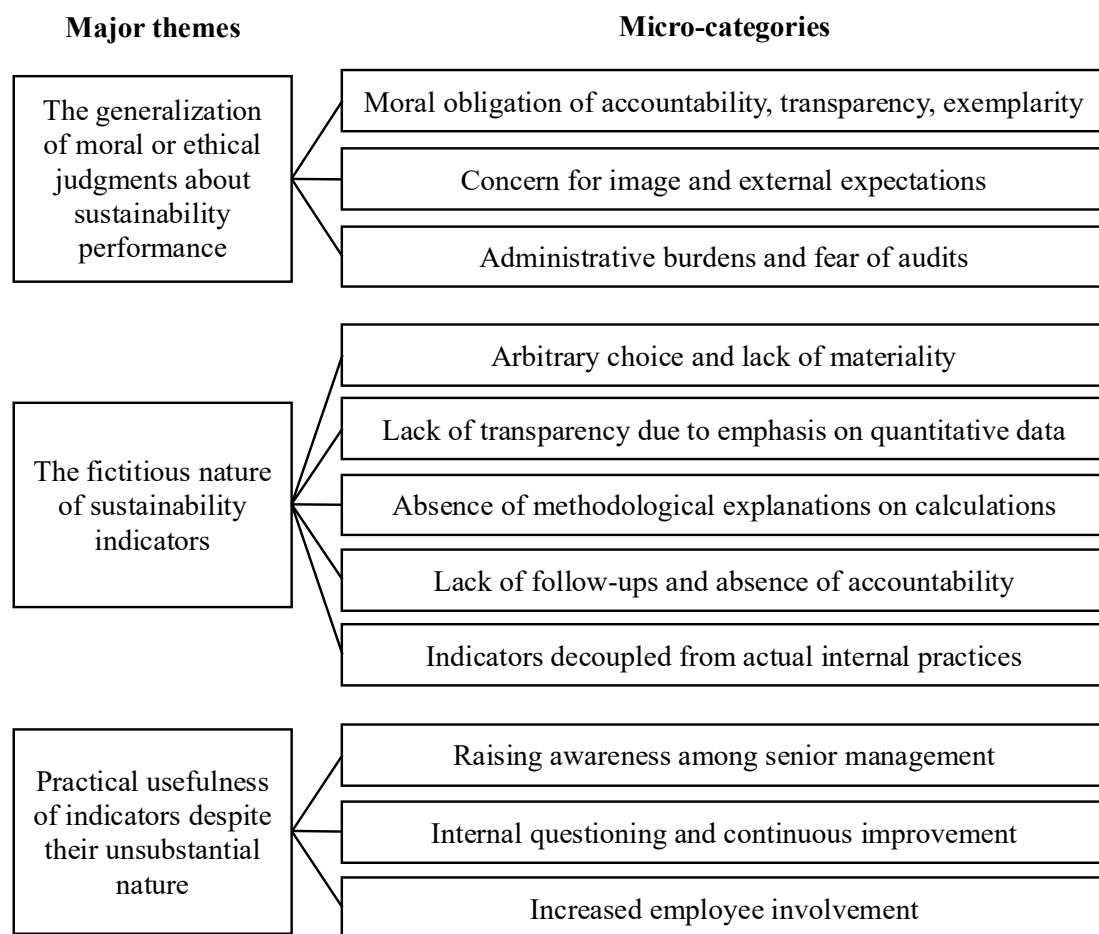
### **3.1.4. Data analysis**

Verbatims from transcribed interviews, totaling 516 single-spaced pages, were uploaded to QDA Miner software (version 4.1.21) for the qualitative content analysis, together with remarks on the comparison of sustainability indicators and notes from the three researchers' participatory observations. This analysis method consists of classifying data around recurrent themes and sub-themes with the purpose of revealing the participants' emerging perspectives (Hsieh & Shannon, 2005; Thomas, 2006). For this research, the categorization was inductive and primarily structured around the moral fictionalism approach, meaning that participants' responses and other data sources were scrutinized for three main components: the generalization of moral or ethical judgments about sustainability performance, the fictitious nature of

sustainability indicators, and the practical usefulness of these indicators despite their unsubstantial nature.

Nevertheless, micro-categories started to emerge from data interpretation when the coders began to code the data in accordance with the three major themes. Upon frequent comparisons and discussions between coders, a total of 11 micro-categories were identified and inserted into the coding grid (Figure 1). This process of continuous improvement of the coding grid is commonly used in qualitative content analysis studies (Beunza & Ferraro, 2019; Huault & Rainelli-Weiss, 2011). A total of 1,018 relevant passages were distributed among these micro-categories.

**Figure 1. Simplified coding grid used for data analysis**



Several validation strategies were used to ensure the quality of the analysis. First, data analysis was performed by three researchers, two of whom were actively involved in data collection as

well. This participation in both data collection and analysis is known to be beneficial in qualitative studies, mainly because the research team members have the same understanding of the interviews (Martin et al., 2018; Thomas, 2006). Second, the coding was based on the coding grid that was co-created by all the researchers involved in the study. Importantly, to minimize possible ambiguities in the codes' meaning, all of them were described in detail, as commonly recommended in qualitative data analysis (Miles & Huberman, 2002). Third, the few disagreements between coders were resolved by in-depth discussions. Following the suggestion of Corbin and Strauss (1990), researchers discussed results approximately every five interviews to learn from each other and code even more consistently. Lastly, the results of the study were presented to four participants to ensure our interpretation of their words and the accuracy of the analysis (Birt et al., 2016).

#### **4. GOVERNING SUSTAINABILITY BY NUMBERS**

The evaluation of public organizations based on performance indicators set up in a relatively flexible and decentralized manner is one of the main pillars of the sustainability governance system put in place by the Quebec government. The SDA defines the broad outlines of this governance by numbers without imposing coercive measures or specific objectives that each public organization must achieve. Quebec public organizations must demonstrate improvement in their sustainability performance through a regularly updated reporting system that is aligned with overall sustainability principles. To promote this alignment, the SDA identifies 16 sustainability principles that must be taken into account by public organizations. Because of their very general formulation, these principles are more akin to moral rules than to a structuring framework for defining precise targets and indicators. The government has published various lists of sustainability indicators to provide a more structured account of performance at the level of public organizations, the government, and Quebec society as a whole. However, these indicators are quite general and in practice are not widely used by the organizations studied,



which rely mainly on internally developed metrics on a discretionary basis. For most of the respondents, the development of these indicators and, more generally, the compliance with the SDA are above all a moral obligation as part of the public service's accountability, transparency, and exemplarity.

We have to reach our goals, we have to be exemplary [...] That's why we felt this pressure. (SD manager, ministry)

There's the aspect of regulatory requirements, accountability requirements for the Strategy. Everybody does that, it's like the basics. (SD manager, Crown corporation)

Despite the discretionary nature of the indicators that have been put in place, the disclosure of information on sustainability performance is driven by institutional pressures, including the auditing of information by the Sustainable Development Commissioner and the concern for organizational image. While the Commissioner's audits only affect a few ministries each year, the fear of being audited for shortcomings in sustainability reporting leads organizations to put in place targets, plans, and indicators that appear to be in line with the spirit of the SDA. Moreover, the public nature of the disclosed information reinforces organizations' desire to be exemplary. In most cases, the quantification of performance thus seems to be motivated primarily by a concern for image, administrative compliance, and meeting external expectations. As a sustainability expert from a Crown corporation involved in indicators development summarizes:

I really insisted three years ago that all the indicators of the Sustainable Development Action Plan be measurable. So, we have ratios, standards, percentages, satisfaction rates, because I was aware of the opinion of the Sustainable Development Commissioner on this issue, and it was very important for us to be in compliance.

While this concern for compliance and social image seems legitimate, it is primarily driven by an administrative and moral logic, in the sense of an alignment with the general duty of

continuous improvement and compliance with sustainability principles, which does not encourage the implementation of meaningful indicators aimed at substantially improving the measurement and monitoring of organizations' actual sustainability performance. The predominance of this administrative and superficial logic in the accountability process was underlined by 59% (23/39) of respondents. The governance-by-numbers approach put in place by the government encourages organizations to adopt objectives that are quantifiable and relatively easy to achieve in order to make the improvement in their performance visible and thus demonstrate their exemplary nature and social responsibility. However, this system leads to administrative burdens related to the publication of documents (e.g., action plans, indicators, targets, results monitoring) aimed at complying with the relatively vague regulatory guidelines rather than responding to clearly identified internal needs or adopting well-established metrics. Finally, the fear of audits by the Commissioner leads organizations to prioritize high-visibility issues that can be verified while leaving in the shadows essential but more qualitative aspects that are more difficult to verify.

We are guided by our accountability obligation [...] When you know that it's public or that it's being audited, you put that first. But the files that are not subject to accountability, that are not audited by the Auditor General, sometimes you can leave them out. (SD manager, Crown corporation)

The focus was on the administrative obligation to make a plan, to provide accountability, therefore on the tool rather than on the objective. (SD manager, ministry)

## **5. THE ELUSIVENESS OF SUSTAINABILITY PERFORMANCE**

Despite the SDA's focus on continuous performance improvement, the Commissioner's monitoring mechanisms, and the lists of indicators published by the government, the measurement of sustainability performance remains elusive, unclear, and largely dissociated from the real issues facing public organizations. Approximately 62% (24/39) of respondents

recognized that the development of relevant, reliable, and meaningful performance indicators is a major challenge. The existence and implementation of such indicators present us with a kind of fiction because of four main interrelated pitfalls that were observed in all the organizations studied.

The first pitfall underlying the elusiveness and unsubstantial nature of the information used to quantify sustainability performance is related to its decoupling from internal practices and the lack of management commitment. This problem, which was highlighted by 64% (25/39) of respondents, is partly related to the lack of employee involvement in the reporting process. In most organizations, sustainability reporting is done by few managers with minimal (if any) employee consultation and thus may not reflect the organization's situation. The lack of employee training, the limited dissemination of the Sustainable Development Action Plans, and the vagueness of many of the indicators disclosed reinforce the gap between the administrative reporting process on the frontstage and the reality of sustainability issues on the backstage as they may be perceived within the organization. Several respondents acknowledged that the disclosed performance indicators were not those used internally to manage sustainability issues. This dissociation illustrates the opacity of internal practices and reinforces the fictitious nature of official representations on organizational sustainability. In this sense, the use of performance data is met with skepticism in organizations, including those responsible for promoting sustainability.

When we looked at the way these data were used, we had certain reservations [...] Can we talk about skepticism? Listen... an accountability that is based strictly on saying that there is X number of organizations that have adopted so many actions... What does that even mean? (SD manager, Crown corporation)

We mobilize senior management by making choices to minimize the time spent on this process [...] It is certain that if we had come up with something that required several

hours a year to implement, we would not have had the support of management on this.

It wouldn't have worked. (SD expert, Crown corporation)

The second pitfall explaining the elusiveness and fictitiousness of sustainability performance quantification was raised by 54% (21/39) of respondents and concerns the measurement of indicators, particularly the overemphasis on quantitative data, the lack of information transparency and the uncertainty about the meaning of various pieces of information. Although most respondents agree on the importance of measuring sustainability performance, the pressure to produce seemingly quantifiable results is reflected in two types of responses that seem to contradict the government's governance-by-numbers approach. The first response is to ignore the pressure for quantification at the risk of making the organization non-compliant with the SDA requirements. The absence of a specific quantitative indicator on objectives achievement is essentially explained by the difficulty of quantifying certain complex issues in a meaningful way. As a manager of a culture-related public organization explains:

We have difficulty in getting very tangible portraits of what is happening and then being able to say where we are going. Because in culture, things are a little more intangible, which makes it very difficult to define indicators and targets.

The other response to the pressure for quantification is to disclose figures that are often opaque, difficult to contextualize, and dissociated from real impacts. The analyzed indicators in the documents consulted are often provided without any methodological explanation of their meaning or underlying calculations. When asked about this issue, virtually all respondents acknowledged that quantifying sustainability performance is a major challenge and that it is more a matter of administrative accountability than of rigorous disclosure of reliable, accurate, and useful figures. Moreover, the lack of balance in the published figures is quite evident in the documents, and the tendency not to disclose information on indicators reflecting deteriorating performance was spontaneously mentioned by several respondents. The figures disclosed are

therefore not intended to show performance but rather to show, in an “academic” way, that the objectives have been seemingly achieved in compliance with the government’s vague guidelines. When this is not the case, the administrations studied do not hesitate to change the objectives after the fact, to modify the indicators to make their results look more positive, or to withhold specific quantitative data on problematic indicators. In general, organizations that produce quantitative results tend to adopt meaningless indicators that are dissociated from core activities and that are intended first and foremost to pay lip service to the pressures for quantification (e.g., number of staff awareness activities, number of sustainability principles addressed, number of stakeholders consulted). The proliferation of this type of unsubstantial information tends to create a kind of background noise that gives the appearance of accountability based on quantitative data that is consistent with government requirements, but in fact gives no meaningful indication of sustainability commitments and performance.

It doesn’t make sense. After all, what is the ultimate impact? If you’ve developed something, even if you don’t have to measure it perfectly, you know it’s going to have an impact. That’s what’s important. (SD expert, Crown corporation)

Well, in last year’s annual report, there was one piece of information that we kept confidential because we hadn’t met the results. I was really uncomfortable with that, but the president decided that it was better for our image. (SD expert, Crown corporation)

The third pitfall, which was mentioned by 46% (18/39) of respondents, is related to the arbitrary choice of indicators and their lack of materiality. Most of the performance indicators are not focused on key sustainability issues. For example, one large government agency has set the amount of greenhouse gases (GHGs) emitted from company cars as a key indicator of its climate commitment in 2021, with a reduction target of 10 tons per year. This type of metric and target is insignificant in relation to the importance and diversity of the sustainability issues at stake and reflects the organization’s tendency to choose indicators that are easy to implement

and that allow them to project a semblance of improvement without too much effort. The lack of materiality of the indicators can be explained by the absence of in-depth reflection about the most essential issues, by the search for ease in the choice of indicators, by the concern to exercise control over the disclosure of information likely to influence organizational image, and by the reluctance to be accountable for their (in)action. In this context, the information disclosed does not really reflect environmental performance but is rather the result of a cherry-picking logic based on arbitrary and superficial indicators that aim above all to give a positive image of the organization and make it seem efficient at a lower cost.

When I look at the indicators, sometimes it's organizing two eco-responsible conferences or setting up three video conference rooms. What does that bring in the end? (SD expert, Crown corporation)

As managers, we understand that we will give ourselves indicators on things over which we have control. When you have no control, as it is often the case with result indicators, if you are judged on these indicators, you put yourself at risk. (SD manager, Crown corporation)

The fourth pitfall, mentioned by 38% (15/39) of respondents, is the lack of follow-up and the absence of real accountability for the results. This explains the tendency to disclose unsubstantial quantitative information on sustainability performance. In principle, the Commissioner's audits should prevent or limit this problem but, in practice, fewer than 4% of organizations subject to the SDA are audited annually (four out of 108!). Additionally, the Commissioner's audits focus primarily on the organization's compliance with the SDA requirements and not on the verification of actual sustainability performance. This logic of administrative compliance encourages organizations to ensure that published information—particularly on targets and indicators—is compliant on paper, but it has little impact on the implementation of meaningful indicators or on actual performance improvement. In fact,

although the Commissioner's audit reports are public, they are rarely widely publicized and the consequences for organizations seem minimal to nonexistent. In this context, organizational compliance is essentially a moral and administrative issue that has no legal or coercive consequences that could change existing practices. In the absence of consequences linked to the symbolic and superficial nature of sustainability performance measurement, the indicators frequently concern relatively insignificant aspects that do not entail obligations of results on the part of organization. Thus, about 33% (13/39) of the respondents spontaneously emphasized the tendency of organizations to implement indicators that focus on inputs rather than results because the inputs are easier to implement, measure, and control.

The government's expectations are high at times, precisely in relation to the definition of indicators [...] It's easier to have quantitative indicators that are really focused on action, on the activity as such, than on results. (SD manager, ministry)

What is your indicator? Your deadline? We want results indicators, we want numbers, we want detail [...] When you get to the end of this process, when you put it all together... it's a big brick of blackened paper. But if you were to audit this, you'd find a lot of mistakes and things that are not supported by anything. (SD expert, ministry)

## **6. MOBILIZING USEFUL FICTIONS**

The elusive, vague, and dissociated nature of sustainability indicators could reasonably lead to the conclusion that the accountability process put in place in Quebec's public administration is of little or no use. However, a more in-depth analysis of the interviews conducted calls for a more nuanced position on the subject. In general, sustainability performance information appears to be a useful fiction, the mobilization of which brings benefits that are not limited to improving the organization's image. Despite the widespread recognition of the lack of reliability and substance of this information, the reporting process is perceived by most respondents (25/39 = 64%) as a useful tool, notably for raising management awareness,

highlighting and correcting certain shortcomings in the consideration of sustainability, and communicating on these issues within the organization.

First, approximately 46% (18/39) of respondents indicated that the measurement indicators they have put in place are an essential tool for raising awareness among senior management and for promoting the inclusion of sustainability in strategic planning. Several respondents acknowledged that, in the absence of quantitative indicators, such leverage would be ineffective. The greater attention given to quantitative data, particularly among senior management, encourages their use, which in turn makes the lack of indicators substance and insufficient management commitment more visible to stakeholders. However, indicators should not only be included in specific sustainability action plans, but should be integrated at a broader strategic level. This integration should result in more substantial measurement indicators due to the increased power of sustainability managers and the increased awareness among other managers involved in the process.

When you have a measure, it's much easier to go to senior management, and say, "Look at where we are. Do we want to do more? Are you satisfied with that result?" The data allows you to do that. (SD manager, Crown corporation)

Top managers are interested in what appears in the annual report. It must be interesting; it must show that we have made progress on the issue. If it wasn't for [sustainability indicators], I'm not sure that the process could move forward. (SD manager, ministry)

Second, despite the elusive nature of sustainability performance measurement, 54% (21/39) of respondents believe that it allows for internal questioning and improvements that would otherwise be more difficult to achieve. The SDA requirements and the deadlines for producing plans containing targets and performance indicators are causing organizations to regularly consider how to better address these issues and measure progress. According to the respondents, the institutional pressure to produce these documents by a specific deadline represents a lever



for internal mobilization that should not be overlooked. It is not so much the reliability of the indicators per se that is important here but rather the concept of “working tool,” which was mentioned quite often in the interviews and reflects the instrumentalization of measurement for the purposes of reflexivity and internal mobilization. Ultimately, the elusive nature of organizational sustainability performance, and even the impossibility of measuring it appropriately, can be seen as rather beneficial to internal discussions. In this context, sustainability performance data should not be exclusively seen in a static and objectifiable way, but also as the most visible manifestation of a deeper and broader dynamic process of learning about sustainability within the organization.

If I didn't have the timeline associated with our target measured by the indicator, maybe I'd have a hard time making it a priority. That makes accountability also the necessary evil. (SD manager, Crown corporation)

Accountability puts pressure on us to put in place what we believe will advance sustainability. This is an important positive contribution. (SD manager, Crown corporation)

Lastly, 46% (18/39) of respondents emphasized the benefits of measuring sustainability performance for employee communication. It facilitates internal communication with the different organizational functions through the mobilization of sustainability indicators and targets. In general, the success of organizational sustainability-related initiatives depends to a large extent on discretionary behaviors that are difficult to monitor (e.g., recycling, energy conservation, the adoption of sustainable transportation). Setting targets and measuring performance is therefore part of a broader communication strategy aimed at influencing internal behavior, rather than being able to compel it through rigid procedures or coercive actions that would be likely very poorly accepted within the organization. The image of rationality, rigor, and objectivity conveyed by numbers encourages the use of quantitative data to raise employee

awareness. In this context, the accuracy and reliability of the figures are less important than their ability to convince and encourage certain actions. Measuring and communicating performance within the organization also makes it possible to define commitments and responsibilities for achieving them, and thus to promote a certain accountability. While this accountability seems in most cases to be very limited, if not symbolic, the sustainability action plans of some of the organizations studied specified internal responsibilities for achieving certain objectives that are measured by various indicators.

I find that it allows us to raise awareness, to do a better follow-up at the governance level, to mobilize more actors in the organization. (SD expert, Crown corporation)

Our new action plan was very comprehensive. There were a lot of actions, and all sectors were involved. So, it's certain that once it's ratified, yes, there's really better adherence afterwards. (SD expert, Crown corporation)

## **7. DISCUSSION**

The objective of this study was to analyze the practices and challenges associated with the measurement and use of sustainability performance indicators in public organizations. The results show how the Quebec government has implemented a system of governance by numbers through an accountability process aimed at highlighting the exemplarity and accountability of public administration in terms of sustainability. This ideal is at the heart of the SDA, which is based on a set of general principles that more greatly resemble moral obligations than legal requirements and that leave a great deal of latitude to public organizations. On paper, the quantification process underlying the accountability required by this law is aligned with the efficiency ideal of the new public management, the increasing focus on numbers in society, and the appearance of “mechanical objectivity” that they provide (Espeland & Stevens, 2008; Lazarevic & Martin, 2018; Porter & Haggerty, 1997). In practice, however, performance quantification through the accountability practices required by the SDA faces numerous pitfalls

linked to the arbitrary choice of indicators, their lack of materiality and transparency, and their decoupling from the reality of organizational practices. Thus, the data disclosed on the organizations' performance and the image of rationality that they project appear, to a large extent, as fictions that reflect the elusive, unmeasurable, and unsubstantial character of organizational sustainability rather than the ideal of control and results monitoring that governance by numbers is supposed to bring (Hamann, 2020; Jackson, 2011; Mennicken & Salais, 2022). Paradoxically, despite the uncertain reliability we observed in the disclosed indicators and data, most respondents perceived attempts to measure sustainability performance as rather useful. These data ultimately appear to be helpful fictions whose mobilization, despite their ambiguities and shortcomings, facilitates the promotion of sustainability among managers and employees as well as the reflexivity of the entire organization regarding these issues. In general, the results of this study are consistent with the principles of moral fictionalism and the "as if" philosophy, which emphasize the proliferation of fictional measurements and representations that, although dissociated from reality, tend to be collectively accepted because of their perceived practical usefulness (e.g., Boiral et al., 2021; Eklund, 2017; Joyce, 2011; Keren & Breugelmans, 2020; Phillips, 1995; Vaihinger, 2014).

### **7.1. CONTRIBUTIONS TO THE LITERATURE**

This research makes four main contributions to the literature. First, it contributes to the critical research on disclosed data reliability and performance measurability that has severely criticized the lack of transparency, balance, and materiality of the information published (Boiral, 2013, 2016; Boiral & Henri, 2017; Cho et al., 2015; Hahn & Lülfs, 2014; Milne et al., 2006). The results of this study also corroborate research that denounces the overemphasis on quantitative data in the evaluation of organizations, particularly for sustainability performance (e.g., Arjaliès & Bansal, 2018; Beunza & Ferraro, 2019; Boiral & Henri, 2017; Järvinen et al., 2022). When data that is not very quantifiable and rarely significant is quantified, and when this

quantification appears to be precise and rigorous, this represents a kind of “rational myth” dissociated from efficiency concerns and used above all for communication purposes (Boiral, 2012; Boiral, Talbot, et al., 2020). This study also responds to the need to better take into account the point of view of the actors involved in the production and use of the disclosed sustainability information (e.g., Järvinen et al., 2022; O'Dwyer & Owen, 2005; Safari & Areeb, 2020; Solomon & Solomon, 2006). The interviews show that the information disclosed represents only the most visible and superficial part of a broader and more complex process of accountability that should be considered in its entirety rather than from its official, objectifiable representations, shaped by the search for social legitimacy.

Second, the research contributes to the emerging literature on critical approaches to the applicability of new public management principles—in this case for accountability—to improve the effectiveness of public organizations (e.g., Chiba et al., 2018; Park & Krause, 2021; Talbot & Boiral, 2021). In the case of Quebec public organizations, accountability for sustainability appears to be mostly symbolic and superficial in nature. This result echoes research on the audit society (Power, 1997) which has shown the negative effects linked to the spread of the logic of control and auditing throughout society and in fields originally remote from the accounting discipline, in particular sustainability management (e.g., Boiral, 2012; Boiral et al., 2019; O'Dwyer & Owen, 2005). Thus, the sustainability performance measurement practices of Quebec public organizations are shaped more by symbolic compliance with the procedural requirements of the SDA and the Commissioner's audits than by a concern for disclosing meaningful performance information. The study also responds to the need for empirical research on sustainability integration in public organizations and on the quality of the information they disclose (e.g., Adams et al., 2014; Mazzi et al., 2012). Our findings suggest that the problems of accountability and responsibility for sustainability performance observed

in public organizations are not necessarily different from those generally observed in private companies (e.g., Boiral, 2013; Silva, 2021; Steiner et al., 2018).

Third, this research contributes to the emerging literature on the application of the fictionalist approach and the “as if” philosophy to the management field (e.g., Phillips, 1995; Rhodes & Brown, 2005; Sarasvathy, 2021; Savage et al., 2018). Although the criticism of the fictitious and disassociated character of sustainability performance measurements is not new (Boiral et al., 2021; Milne et al., 2006), most of the research on this question does not show the practical usefulness of the information disclosed for internal sustainability management independently of organizations’ rather obvious and widely documented concern for their image and external legitimacy. Most of the critical research also opposes the more functionalist and instrumentalist approaches that postulate that this information is useful (Boiral & Henri, 2017; Gray, 2010; Milne & Gray, 2013). The fictionalist approach reconciles the critical and instrumentalist perspectives by showing that sustainability performance data are based on representations that are both fictitious—because they are unsubstantial and dissociated from real sustainability issues—and useful for sustainability managers, in particular as tools for negotiating with executives, for organizational reflexivity and for internal communication.

Fourth, this research contributes to the literature on the sociology of quantification. Specifically, the results of this study show various negative effects associated with the over-quantification tendency in management while at the same time identifying its practical utility and possible underlying benefits. From this perspective, the study bridges the gap between the literature on the sociology of quantification and that on fictionalism by proposing a broader, more realistic, and more nuanced framework for analyzing accountability practices regarding sustainability. It also contributes to the debates on governance by numbers and illustrates Foucault’s Panopticon metaphor, which is often used in organizational and accounting studies (e.g., Hamann, 2020; Hopper & Macintosh, 1998; Raffnsøe et al., 2019; Robson, 1992; Rose, 1991). At first glance,

our findings seem to confirm the relevance of this metaphor to shed light on the way in which governments implement accountability and monitoring practices aimed at exercising disciplinary power over public organizations from a distance through the internalization of seemingly non-coercive control standards. The managers of public organizations accept this mode of governance by numbers as though it were neutral and rational, because it gives a certain freedom to the organizations. On the surface, this acceptance appears to show an internalization of the control norms put in place by the government. However, contrary to Foucault's Panopticon metaphor, the surveillance exercised by this mode of control (i.e., the publication of targets and performance indicators, audits by the Sustainable Development Commissioner) proves to be superficial and clearly insufficient to significantly influence behavior, as it tends to encourage the proliferation of figures that are apparently rigorous and in line with institutional requirements, but that are actually vague, elusive, and dissociated from salient issues.

## **7.2. MANAGERIAL IMPLICATIONS AND AVENUES FOR FUTURE RESEARCH**

Our findings have important implications for sustainability governance in public administrations. While accountability and the fictions that governments mobilize to achieve it are not useless (despite the contradictions observed), the effectiveness of this governance model could be greatly improved. First, governments should be much more cautious about the promises of the new public management and the mechanistic adoption of accountability practices to control sustainability practices in public administration. This transfer seems to be driven by a kind of hubris of quantification that is characterized by an overconfidence in the power of numbers and performance indicators to demonstrate the exemplarity of public organizations, but that in fact results in the proliferation of meaningless information about sustainability. The fictions that arise from these representations, decoupled from material reality, may be useful for communication purposes and to give a rational appearance to the

multifaceted concept of sustainability, but they clearly do not allow for performance monitoring. It is reasonable to assume that if performance indicators were more realistic, material, and substantive, they would generate greater support within organizations. Given the difficulty of developing such indicators and the lack of resources in public organizations to do so adequately, the criteria for measuring performance should not be left entirely to the discretion of organizations. A return to a more traditional approach based on regulations that define the standards to be respected and the objectives to be reached in a more precise, centralized, and coercive way seems more appropriate. Such an application would seem to be more consistent with the exemplarity principle put forward by the government than the decentralized governance mode based on general accountability principles currently in force. This traditional “command and control” approach is not incompatible with maintaining, in certain cases, the much more discretionary and moralistic logic used in Quebec public administration. For example, the government could set specific targets and indicators for all public organizations on cross-cutting sustainability issues such as sustainable transportation, GHG reduction, telecommuting, or the promotion of responsible procurement. In contrast, it could give organizations more leeway for reporting on more specific issues that concern particular government organizations. This hybrid mode of governance should, however, be given much closer guidance to ensure that organizations have a good understanding of the objectives to be achieved and the quality of the information disclosed.

Second, the effectiveness of public organizations’ performance monitoring should be seriously reviewed. Our results do not directly question the need for and legitimacy of the Sustainable Development Commissioner, whose independence and audits of public organizations seem necessary, but rather the way in which the Commissioner carries out this task: instead of prioritizing procedural compliance with the SDA, audits should be focused on substantive results and achievements. Moreover, annual audit reports should be more widely publicized,

recognized, and used to raise awareness among stakeholders—notably journalists, environmental and social associations, and the general public. While this may damage the government's image and supposed exemplarity, it would certainly put more pressure on public organizations. The managers of the organizations in question would then possibly be held accountable for the identified shortcomings, which is clearly not currently the case.

Although these recommendations are quite broad in scope, they are based on the specific context of Quebec public organizations. Our findings and their managerial implications cannot be generalized to all public administrations. Future research could analyze the similarities and differences in the sustainability governance systems implemented by different administrations worldwide. Such research could highlight the most effective practices and show the benefits as well as the limitations of the governance-by-numbers system adopted in Quebec and elsewhere. It is reasonable to assume that the effectiveness of this governance system depends, among other things, on leaders' determination to make significant sustainability commitments and on the establishment of sufficiently reliable metrics to report on them in a convincing manner. The inadequacy of these conditions probably explains, to a large extent, the failure of the SDA to substantially integrate these issues into public administration practices.

The overemphasis on quantification and the appearance of rationality at the expense of the real substance and meaning of sustainability indicators would also benefit from further study. It is reasonable to assume that the development of ratings published by non-financial rating agencies (Boiral, Brotherton, et al., 2020; Boiral et al., 2021; Escrig-Olmedo et al., 2010; Escrig-Olmedo et al., 2014) accentuates the pressure for quantification and encourages the proliferation of meaningless and unsubstantial figures intended to meet the organization's expectations on the surface in order to be well ranked in their ratings. However, despite the excesses, pitfalls, and fictitious representations that come with sustainability quantification, it would be simplistic to consider this type of pressure as useless, illegitimate, or detrimental to sustainability



management. As the fictionalist perspective suggests, statements based on fictions dissociated from real phenomena can be useful, in particular to communicate about phenomena that are difficult to objectify, to promote certain values, or to develop explanatory models (Kobow, 2014; Vaihinger, 2014). The role of these useful fictions in the consideration of or disregard for sustainability issues is still little studied and represents a particularly promising field of research.

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