ISO 50001 compliance:

A double-edged sword in the pursuit of sustainable energy

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Résumé :

Les systèmes de gestion de l'énergie (EnMS) font l'objet d'une attention croissante de la part des organisations à travers tous les secteurs, en particulier la norme internationale ISO 50001 qui reconnaît, par le biais de la certification, les démarches mises en place par une organisation pour atteindre une meilleure performance énergétique. Cependant, au milieu du emballement médiatique autour de la mise en œuvre de cette norme et de l'obtention de cette reconnaissance mondiale, la littérature sur les potentiels défis et dérives pour les membres de l'organisation engagés dans ce processus, tels que la destruction de valeur, est restée inexplorée. Cette étude qualitative exploratoire vise à dévoiler les différentes formes de co-destruction de valeur qui pourraient résulter des défis cachés liés à la conformité à cette norme institutionnelle, dans une perspective multi-acteurs, en menant des entretiens avec différents acteurs organisationnels, afin d'offrir un meilleur aperçu des dérives qui pourraient émerger en cours de route et d'aider à établir les stratégies nécessaires pour éviter les conflits de valeur et résoudre les controverses lorsqu'elles surviennent. Le cadre des Economies de la Grandeur représente la base de l'analyse de ces interactions sociales et permet une lecture approfondie de la complexité des cadres institutionnels.

Mots-clés : ISO 50001, Systèmes de Management de l'Energie, Efficience Energétique, Co-destruction de valeur, Economies de la Grandeur.

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Abstract
Energy Management Systems (EnMS) are receiving growing attention from organizations across several sectors, especially the international standard ISO 50001 which recognizes an organization's efforts to achieve better energy performance through certification. However, amidst the hype around implementing this standard and obtaining this worldwide recognition, literature around the potential challenges and negative outcomes for organizational members engaging in this process, such as the destruction of value, remained unexplored. This exploratory qualitative study aims to uncover the different forms of value co-destruction that could result from the hidden challenges related to conforming to this institutional norm, through a multi-stakeholder perspective, by conducting interviews with different organizational actors, to offer a better insight to the difficulties that could come up along the way and help establish the necessary strategies to avoid value conflicts and resolve controversies when they do come up. The Economies of Worth framework represents the basis of the analysis of these social interactions and allows for a deep reading of the complexity of institutional settings.

Keywords
ISO 50001, Energy Management System, Energy Efficiency, Value co-destruction, Economies of Worth.

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1. INTRODUCTION :

The urgency of energy efficiency and the transition to sustainable energy sources has become increasingly apparent (ISO, 2022). These issues have taken a central role in addressing modern society's pressing challenges, particularly in the wake of the devastating impacts of climate change and its rapid progression (International Energy Agency, 2024). We find ourselves in an era rife with paradoxes: businesses seek perpetual growth and profits, yet they are also constrained by an increasingly hostile environment, necessitating structural changes not only in business models but also within the broader economic system (McKinsey, 2023).

The prevailing capitalist market system is reaching its inevitable limits, compelling us to explore new ways of functioning in our daily lives (National Geographic Society, 2022). In this current geological epoch known as the Anthropocene, there is unanimous recognition that humanity is perilously treading a dangerous path, transgressing planetary boundaries with alarming frequency. Consequently, there is an urgent need for a steadfast commitment to reducing carbon emissions. Among the paramount strategies available to policymakers, industrial energy efficiency stands out due to its substantial contribution to energy consumption (de Macedo et al., 2020).

Implementing an Energy Management System (EnMS) emerges as a promising approach in achieving this goal, enabling companies to methodically enhance their energy performance, ultimately reducing energy demand and associated costs (El Majaty et al., 2023). Our focus turns towards the ISO 50001 standard, one of the most widely used EnMS frameworks adopted by organizations internationally. This norm is acclaimed for providing a solid foundation for

EnMS implementation. However, despite the widespread recognition of its positive outcomes and value addition, a critical analysis of potential vulnerabilities associated with compliance to this standard has been conspicuously absent. This leads to our research question: how does ISO 50001 compliance impact the value, sustainability, and stakeholder dynamics within organizations, particularly in the context of energy efficiency and the broader goals of energy transition?

Our study seeks to delve into the dark side of the certification process and EnMS implementation, exploring the potential value destruction for organizations and their stakeholders. We aim to accomplish this by leveraging the Economies of Worth framework (Boltanski and Thévenot, 2006 [1991]), revealing conflicts and value controversies unfolding among various organizational actors (Leca and Gond, 2012; Gond et al., 2016). In doing so, we aim to provide valuable insights into the nuances and potential drawbacks of ISO 50001 compliance.

In order to answer this question, we conducted an exploratory qualitative research with an interpretivist epistemological stance. The empirical data was collected through semi-directive interviews with a diverse group of professionals from different fields to give us their feedback and observations of what they experienced on the field relative to the enforcement of the ISO 50001 norm.

Our article is structured as follows: the first part will present the literature around EnMS, the ISO 50001 standard, the concept of value co-destruction as well as the main ideas of the Economies of Worth framework. The second section explains the methodology we followed for our qualitative exploratory research, and the third section presents the main results. Finally, the fourth section consists of a discussion of the results and a presentation of the theoretical and managerial implications of this study.

2. LITERATURE REVIEW:

2.1. THE ENERGY MANAGEMENT SYSTEM ISO 50001

Amidst the energy crisis that unfolded in the wake of the economic rebound following the COVID-19 lockdowns in the summer of 2021, further compounded by the Russia-Ukraine conflict, there has been a remarkable surge in interest and concern surrounding energy management initiatives and policies (Cavassini and Papa, 2023). Governmental institutions and NGOs have come to acknowledge the pressing need for structural solutions in the realm of energy performance. This heightened awareness has been a driving force behind the increasing adoption of the ISO 50001 standard (PRO-SMEn, 2023) .

The ISO 50001 standard, introduced in 2011, serves as a vital tool for organizations of diverse types, aiming to enhance their energy performance and reduce their ecological footprint (ISO, 2018). It provides a comprehensive set of requirements and guidelines, enabling organizations to establish a well-structured energy performance improvement policy, delineate specific objectives aligned with their strategic goals, measure their outcomes, revise and adapt their strategies and actions, and most significantly, consistently refine the entire process.

Similar to other well-known management systems such as ISO 9001 for quality management and ISO 14001 for environmental management, ISO 50001 is designed based on the continuous improvement principle of the PDCA “Plan-Do-Act-Check” process, in order to facilitate its implementation alongside these standards (Yuriev & Boiral, 2018). Given its novelty and the recent growing interest in this standard, literature around ISO 50001 is less abundant than the one studying ISO 90001 and 14001, which explains why most authors compare and try to extend what has been found about these two older certifications to apply it on their reflection on the EnMS standard (Laskurain et al., 2017).

In their critical review of the implementation of ISO 50001, Yuriev & Boiral (2018) highlighted how this standard follows the same steps as the other management standards, but its main

contribution is the introduction of the "energy baseline" and the "energy performance indicators" (EnPI) that the organization establishes in order to improve at its own rate, regardless of its current level of energy consumption (ISO, 2018). It has been proved that the definition of these EnPI really allows organizations to improve and track their energy performance evolution and evaluate the outcomes of upgrading or renovation actions (El Majaty et al., 2023). Nevertheless, despite the widespread consensus regarding the relevance and value of implementing an Energy Management System (EnMS) in general, and adhering to the ISO 50001 standard in particular, such a strategic approach is not without its share of challenges and concealed drawbacks (Yuriev and Boiral, 2018). Some examples of the main concerns that were raised by a few authors, we can mention the risk that the process would be influenced by the degree-purchasing syndrome, meaning that the certification instead of being a motivational factor to enhance the energy performance of the company, becomes an end in itself, which entails that the firm won't go through the process to correctly adapt the certification to its needs and specificities, and will just adopt the norm ceremonially with no guarantee that it will really be implemented. The redundancy between this standard and the ISO 14001 environmental standard as well as the technical constraints and workload management (Afnor, 2019) were also part of the challenges that were pointed out by auditors in the survey published by Afnor in 2018 in their transition guide (Afnor, 2018).

These potential threats to the company's well-being and its stakeholders' interests, lead us to instinctively think about value co-destruction, being the concept encapsulating the decrease of an individual's or a system's well-being, resulting from an interaction. Interactions are as likely to result in value co-creation as they are likely to result in value co-destruction, which we will further explain in the context of EnMS implementation and certification process.

2.2. VALUE CO-DESTRUCTION

Numerous authors have characterized the concept of value as "one of the most ill-defined concepts in management" (Ogunbodede, 2022, p.3), owing to its inherent complexity and multifaceted nature. The intricate interplay of context dependency and the subjectivity associated with the perception of value further compounds the challenges in studying and managing this concept (Corsaro, 2019). Before delving into the diverse perspectives on this concept, it is crucial to clarify the distinction between what is commonly denoted as "value" and "values." From an economic standpoint, "value" is regarded in terms of exchanges or the utility derived from a product or service, representing the outcome of an interaction or the integration of resources. On the other hand, "values" belong to the philosophical realm, where they are characterized as a collection of guiding principles of behavior and convictions that can influence our decisions and inclinations (Woodall, 2003). In our research, we will employ the economic perspective when referring to "value" and utilize the philosophical perspective to describe a "set of values." This distinction forms the foundation for a clearer understanding of the various aspects and implications of the concept of value.

The concept of value within the literature has undergone a significant evolution, transitioning from an exchange-centric perspective to an interaction-focused view, which has gained prominence, particularly in light of the growing significance of relationships and interactions within the corporate realm. The introduction of this newer perspective on value has expanded the horizons of researchers, offering a broader and more intricate understanding of value that extends beyond the confines of purely economic considerations. However, for an extended period, research predominantly fixated on the positive outcomes of interactions between economic actors, notably the phenomenon known as co-creation of value. It was only in recent decades that researchers began to explore the possibility of adverse outcomes or even the absence of outcomes following an interaction. These phenomena were subsequently identified as value co-destruction (Plé & Cáceres, 2010) and value no-creation (Makkonen and Olkkonen,

2017). Plé & Cáceres (2010, p. 431) pioneered the definition of value co-destruction as " an interaction process between service systems that results in a decline in at least one of the system's wellbeing (which given the nature of the service system can be individual or organizational)." However, literature addressing the "dark side" of value co-creation remained relatively limited in scope, primarily concentrating on the consumer's viewpoint, while often overlooking a more comprehensive, multi-stakeholder perspective.

The objective of this study is to delve into the previously uncharted dimensions of value co-destruction within the context of energy efficiency practices and certification processes. In the case of employees, instances of value co-destruction may manifest as heightened stress levels and a substantial increase in their workload (AFNOR, 2018). It can also manifest as feelings of insecurity and uncertainty regarding changes in job descriptions and daily practices. In some cases, it may even lead to a pervasive sense of discomfort and a decline in the quality of work-life, particularly when organizations implement more or less drastic measures to manage energy consumption. These situations warrant thorough exploration, as they carry dual implications. By eroding personal value for employees, such as their comfort or established routines, it has the potential to boomerang, resulting in value destruction for the organization in the form of reduced productivity and diminished motivation.

As highlighted earlier, value co-destruction can manifest in both tangible outcomes, such as financial losses or process deterioration, and intangible negative consequences, such as adverse emotional experiences or damage to a company's reputation. This consideration leads us to contemplate the various dimensions of value, which range from functional and economic aspects to emotional, social, and ecological dimensions. These dimensions are closely intertwined with the orders of worth that actors mobilize in their interactions, particularly when they grapple with conflicts or tensions arising from misaligned expectations. The concept of "orders of worth" forms the foundation of the Economies of Worth (EW) framework, built upon

the premise that multiple principles and institutional norms coexist (Boltanski and Thévenot, 2006 [1991]). In this complex landscape, actors play a pivotal role in navigating value controversies and reconciling clashes between conflicting values in specific contexts. This is particularly relevant in our case, where the introduction of a new institutional standard, such as the ISO 50001 EnMS standard, intersects with an organization's established guiding principles, giving rise to intricate value dynamics and potential conflicts.

2.3. THE ECONOMIES OF WORTH FRAMEWORK

The EW framework was established by Boltanski and Thévenot (2006 [1991]) and represents a major contribution to the French pragmatic "sociology of critique". Given the interesting insights this perspective gives into social change and individuals' actions when confronted to "controversies", the organizational literature borrowed this framework and used it to investigate actors' behaviors in organizations and in complex institutional settings. The EW framework is particularly noteworthy for its recognition of the intricate dynamics that can emerge among distinct normative orders, both within and between organizations (Cloutier et al., 2017). This characteristic renders it an intriguing and pragmatic framework, designed to elucidate how social actors engage in collective actions and navigate the negotiation of compromises and agreements that uphold justice and rectify unfair situations (Boltanski and Thévenot, 2006). Consequently, we believe that this framework aligns seamlessly with the objectives of our study, as we endeavor to dissect how members within organizations manage value co-destruction with the organization's stakeholders. This becomes especially pertinent when organizations undergo an institutional shift (Demers and Gond, 2020), as in our case, involving the implementation of an Energy Management System and adherence to a set of norms and standards introduced by ISO 50001 certification. This shift is lived differently by different actors, which according to Boltanski and Thévenot leads actors to engage in a critical assessment of the situation by first communicating their concerns, then suggesting an

alternative way that is viewed as a better more acceptable option which is defined by the authors as the "justification" step, and last they would proceed in evaluation through an assessment of outcomes in respect of the "appropriate" criteria (Cloutier et al. 2017).

"Orders of worth" or "common worlds" are defined as "higher common principles that reflect the degree of legitimacy of certain rules and values in society and define appropriate forms of conduct" (Patriotta et al., 2011, p. 1805) and there are six common worlds: the industrial world, the market world, the civic world, the inspired world, the world of fame and the green world.

In our work, we chose to focus on the different relationships that can take place between several orders of worth, during the process of evaluating the legitimacy of a phenomenon. The four types of relationships are compromise, conflict, alignment and composite setup (Whelan and Gond, 2017), which we will be briefly defining.

2.1.1. Common world conflicts

Orders of worth are brought to conflict when there is a clear clash between their core values and a complete disagreement on objects or subjects' evaluation. They are in fact characterized by tension, resistance and a denunciation attitude from organization actors. There are very recurrent cases of this type of relationship since orders of worth presumably tend toward incompatibility (Boltanski & Thévenot, 1991/2006). One very common example is the discordance and disagreement between the main values motivating in the green world that involve preserving the environment and prioritizing sustainable, ecological ways of producing and consuming natural resources and energy and the values that the market world promotes which are oriented toward competitiveness and short-term financial profits (Whelan and Gond, 2017).

2.1.2. Common world compromises

The notion of compromise is probably the one that got the most attention in literature (Nash, 2014), and it refers to the possibility of assembling different institutional logics encapsulated in

different orders of worth, without having one of them take over the others (Boltanski and Thévenot, 2006, pp. 275–332, quoted by Leca and Gond, 2012). In order to construct and sustain compromises, the actors involved resort sometimes to building composite objects that allow them to sustain the co-existence of the heterogeneous principles within this configuration, without resorting to conflicts (Daudigeos and Valiorgue, 2018).

Some tangible forms of compromise, as interpreted in some studies, are formal structures, management control systems, and routines (Grattarola, 2021). Perhaps another very familiar example of common world compromises is the CSR, meddling four orders of worth: the market, industrial, civic and shallow green common worlds. This means that common worlds can be rendered equivalent and formed into a new common world created on the basis of a combination of actors, arguments, norms and tests from the different common worlds constituting it.

2.1.3. Common world composite setups

Unlike common world compromises, composite setups are a combination that lacks harmony and is characterized by an obvious mismatch between the combined common worlds. This is neither a situation of conflict nor compromise, but is rather a strange awkward combination resulting from the naivety or the overestimation of one's capacity to take advantage of several orders of worth to reach personal goals (Boltanski & Thévenot, 1991/2006 quoted by Whelan and Gond, 2017). The individuals involved in a composite setup might even be uncertain of what is exactly being tested and how.

2.1.4. Common world alignments

Incompatibility is not always what characterizes common worlds as they can be brought into alignment when they agree in their own terms on the value judgement of the same phenomenon. This means that they mobilize their own internal logics and come to an unforced unanimity and a harmonious coexistence, which is a new configuration that was suggested by Whelan and Gond (2017) when exploring the strategies deployed by radical agents. One example could be

when a new production process based on a renewable source energy (Green World), turns out to be more cost efficient and more productive than the previous traditional process making the firm have a better competitive position on the market (Market World). However, although common world alignment seeks to establish harmony between two or more different orders of worth, its outcomes are not always so positive as it can destabilize the harmony inside the common worlds in question. Still, aligning common worlds remains important especially in a situation where radical agents are involved, as it allows them to restrict their opponent's ability to resort to conflicts or compromise in order to avoid change and maintain the existing order (Oldenhof et al., 2014; Whelan and Gond, 2017).

Demers and Gond, (2020) revealed very interesting insights from their study of "the moral micro-foundations of institutional complexity by taking the case of sustainability implementation as compromise-making at an oil sands company". They found that when it comes to sustainability issues, multiple worlds are summoned in compromise-making, contrary to what prior studies have suggested when presenting the market world as dominating the other orders of worth "through the corporate commodification of sustainability" (Demers and Gond, 2020). These findings could reveal to be useful for our own study given that the energy efficiency issue is a sub-topic to sustainability and we aim to explore how organizational members make compromises between their financial, economic goals and the constraints they are subject to whether they come from the ISO 50001 certification or the current context with the energy crisis and the growing prioritization of societal and environmental interests. The authors also showed how compromise could change from "compensation" between goals to "reconciliation" when a shift in sustainability strategy took place. Individuals facing situations of institutional complexity need to rely on their moral judgement for two main reasons, the first being that different institutional logics in most cases are guided by contradictory or incompatible moral foundations which of course induces tensions between the contradictory

values within an organization. A great example illustrated by Demers and Gond, (2020) is the case of managers seeking to reconcile their search for profit and their environmental and societal goals related to sustainability and ecological values, which puts them under tension.

Taking into consideration the general context of this new era we're living in which is characterized by an unstable climate and reoccurring energy crises and shortages, there is no denial that the Anthropocene epoch is challenging our existence on the planet, and it is our responsibility to redeem what has been damaged and altered and start changing the patterns (Valiorgue, 2020). This is where questioning our energy consumption trends come into play, and the need to make serious efforts in that area can make a huge difference when it comes to the current economic, social and environmental realities. We aim to reveal the dark side of the ISO 50001 certification, not to push organizational actors away from adopting it, but to make them aware of the value co-destruction possibilities affecting the firm itself, or its different stakeholders. We seek to provide them with knowledge that enables them to be better equipped with the required resources to properly put in place a solid system and take the most advantage of it. We firmly believe that there is a huge potential for improvement for management systems but also the whole administrative, institutional and corporate environment around it. Taking into consideration the multiplicity of the value dimensions that can be identified by these different actors, and also their different agendas and priorities when it comes to energy performance, the EW framework will enable us to have a critical multi-dimensional take on how the different interaction parties manage, react and interact with each other when value co-destruction occurs in the context of the implementation of an ISO 50001 energy management system and the certification process.

3. RESEARCH METHODOLOGY

Our exploratory qualitative research, conducted through in-depth personal interviews, seeks to provide a comprehensive and nuanced understanding of value co-destruction from a multi-

stakeholder perspective. Given the intricacy and multi-dimensionality of the value concept and the limited existing literature on value co-destruction, our aim is to offer a rich and in-depth portrayal of this phenomenon. We endeavor to gain deeper insights into the impressions and behaviors of various actors as they grapple with this complex and multi-faceted concept, exploring how they experience it and respond to it.

Qualitative data has the advantage of providing more holistic and rich substance needed to reveal complexity. The exploratory research approach allows us to have a holistic insight into the different forms value co-destruction can take in a multi-stakeholder context and the different ways they deal with it. As highlighted by Kashif and Zarkada (2015) in their research, an exploratory approach is particularly valuable when researchers aim to capture a phenomenon from multiple perspectives, especially when the subject is under-researched and lacks a coherent conceptual framework linking various constructs. In our case, there has been minimal research on value co-destruction from a multi-stakeholder perspective, as well as limited literature on the darker aspects of certification processes and their implications for organizations and stakeholders. Hence, the exploratory approach, utilizing semi-directed interviews with diverse organizational actors affected by the ISO 50001 EnMS implementation, was the most suitable methodology to provide initial insights and a foundational understanding of the subject. It is important to note that ISO certifications are typically associated with positive impacts and value addition, making this exploration of potential negative consequences even more critical.

3.2. DATA COLLECTION

Our primary data stems from ten semi-structured interviews conducted with professionals representing organizations across various industries, all affected by the implementation of the ISO 50001 standard. The objective is to develop a comprehensive overview of this topic while incorporating a range of perspectives and feedback. The interview respondents hold distinct

roles, responsibilities, and interactions with the ISO 50001 standard, thus contributing to the richness and diversity of the collected data.

Our selection of informants reflects our choice of having as much diversity as possible in the jobs they occupy. We ideally wanted to be able to interview energy experts, auditors, consultants specialized in the ISO 50001, managers, middle managers and employees from organizations that are certified ISO 50001, that are going through the process or that have previously implemented the standard and other organizational members that could be directly or indirectly in this standard. We managed to do 10 interviews that lasted from 30 minutes to an hour each, with professional from different organizations and fields and with different experience levels, the time constraint however, couldn't allow us to reach out for more people working as operational employees.

The way we proceeded to get in touch with the people we interviewed, is by contacting the first few individuals and the asking them to suggest other people that are also involved in this issue and that we could talk to on their behalf, which helped us speed up the process. The detailed information about each interviewee is indicated in **Table 2**.

Table 1. Presentation of the interviewees

Interviewee	Profession	Organization	Location	Duration
Interviewee 1	Europe Energy Expert	Multinational company that specializes in digital automation and energy management	Video-call	47 minutes
Interviewee 2	Integrated Management System Manager	Multinational company that specializes in digital automation and energy management	Video-call	45 minutes
Interviewee 3	Energy Project Manager	Technical research center specialized in energy and ecological transition and decarbonization.	Workplace	40 minutes
Interviewee 4	Environment Security Energy Engineer	Standardization organization	Phone	45 minutes

Interviewee 5	Energy Business Manager	Technical research center specialized in energy and ecological transition and decarbonization.	Workplace	30 minutes
Interviewee 6	Industrial Process Market Manager	Technical research center specialized in energy and ecological transition and decarbonization.	Workplace	35 minutes
Interviewee 7	Digital Solutions Manager	Creator of automated and energy management solutions	Video-call	50 minutes
Interviewee 8	Project Manager	Electric Power supplier	Video-call	1 hour
Interviewee 9	Commercial director	Technical research center specialized in energy and ecological transition and decarbonization	Workplace	35 minutes
Interviewee 10	Energy-Climate Manager	Multinational transportation company	Video-call	1 hour

Semi-structured interviews allow for a certain degree of freedom for the participants to express themselves, and at the same time the researcher gets to guide the discussion towards the points of interest. We asked open ended questions previously prepared as an interview guide, kept a flexible approach with no specific order to respect, the questions we asked varied depending on the interviewee's responses as we tried to dive deeper into some elements we found interesting in their discourse, while also keeping a neutral stance to avoid skewing the data. Each interviewee got to present themselves, their professional experience and their degree of implication relatively to the ISO 50001 standard in their job. Then we moved on to discuss the themes we defined in our interview guide attached in Appendix 1. We were most of the time able to ask all the questions and made sure to do follow ups when needed and also reformulating the responses in order to make sure we got a full understanding of what the interviewee wanted to deliver in their response. We made sure to clarify the terms we used when referring to some concepts such as "value destruction" by giving some examples of what it could be like in their professional context. Secondary data consisted of online webinars and online recordings of conferences organized by different organizations such as Ademe, Afnor, ATEE… that touched

on the subject of ISO 50001. Most of them consist of round tables where several firms (mostly industrial companies) share their feedback on implementing the standard, the processes they went through and the challenges they met meanwhile.

3.3. DATA ANALYSIS

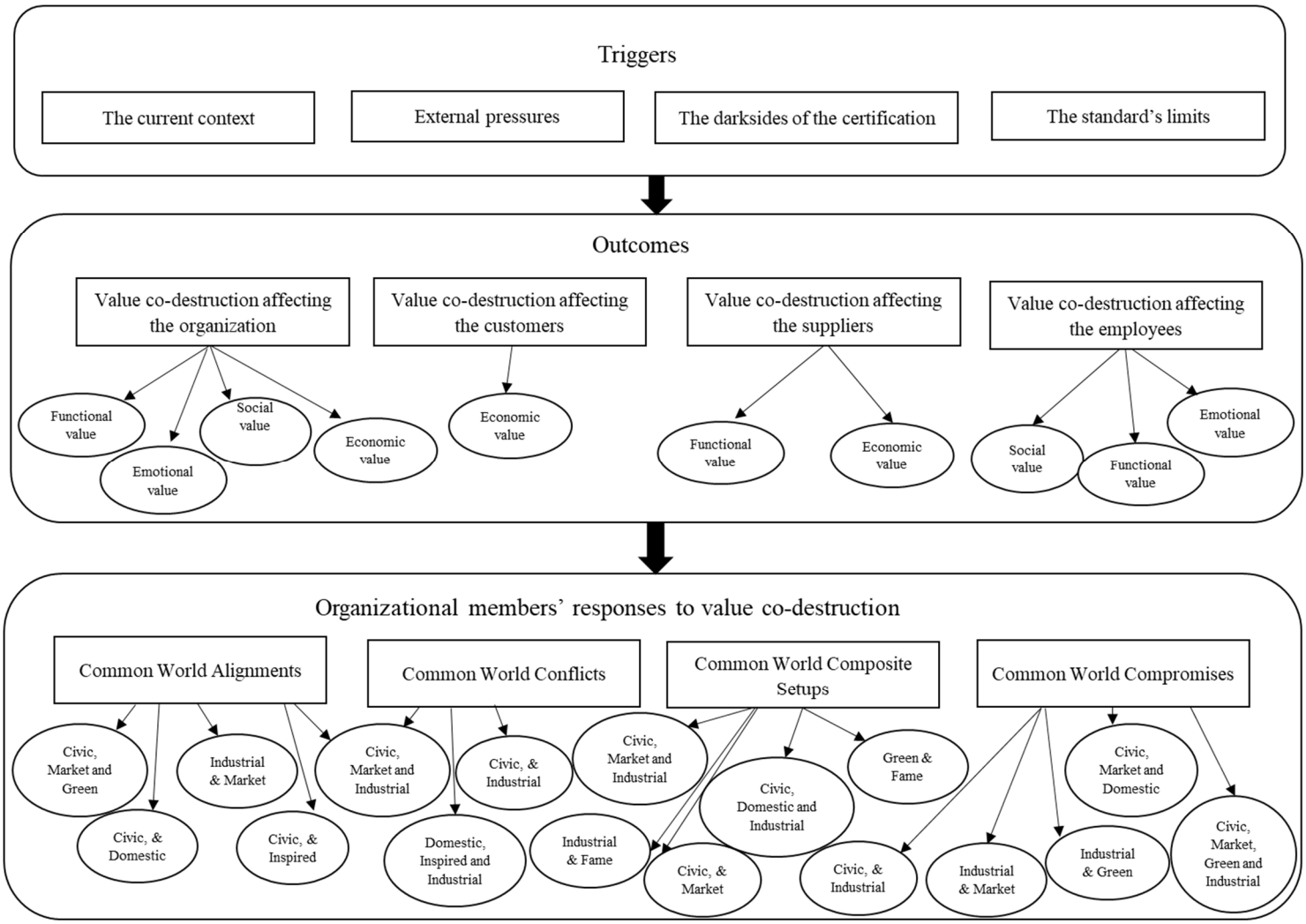
Data analysis is a very crucial step in our work. After conducting the semi-directive interviews, we transcribed each one of them as soon as possible. “Trint” which is an online AI transcription software, was used in order to accelerate the process for some interviews. We read through all the transcriptions made by the software to verify and correct the misspellings especially when it comes to the vocabulary used in a familiar context. This allowed us to listen closely to the interviews and start getting acquainted to the content that we are going to analyze afterwards. we also manually transcribed one Afnor webinar, and we took notes for the rest of the webinars and the conferences’ video recordings. We obtained 133 pages of transcripts, that we translated afterwards from French to English using the online translator “Deepl”. This was a mandatory step in order to be able to code the data accordingly. We read all the transcripts a second time while going back and forth between the original French version and the English version to bring corrections and make sure no meanings were altered during the translation process. This also allowed us to have more insight and dive deeper into the content and get familiar with the data before starting to code. For coding, we used the online software “Taguette” which helps organize the items in a visible organized throughout the coding process, but it doesn’t provide any help or suggestions with codes. The coding process was divided into different steps, as we followed an analytical process, in which we organized the data into first-order codes and second-order codes which are our main concepts and then into aggregated, theoretical dimensions (Gioia, Corley, & Hamilton, 2012). Having adopted an abductive approach, we went back and forth between the data and the theory to adjust our codes especially for the second order codes and the aggregates, while for the first order codes, we kept and inductive stance as

we let the codes emerge in a non-prejudicial manner i.e with no a priori coding patterns. The relevance of this process rests in its ability to strengthen the qualitative rigor by showcasing the progress from raw empirical data to conceptual theoretical constructs. The first step was to code all the transcripts into first order-codes using "Taguette" software, we employed a qualitative content analysis by selecting and highlighting text. The first order codes were then transferred into a separate database where we went through all of them to check for redundancies or crossovers between codes, delete the non-relevant ones and merge the codes that could be merged. The corresponding original highlighted parts of the transcripts were consistently checked all along the entire process to make sure of the coherence as well as the adherence to the meaning in that specific context. The second step consisted of gathering similar first order-codes into second-order codes which are more conceptual and theoretically determined and finally these themes were assembled into aggregates. It is important to point out that some second-order codes (concepts) were further divided into dimensions for a more thorough understanding. An example of the data analysis framework is illustrated in **Appendix 2**.

4. FINDINGS

Our research findings have culminated in the development of a conceptual model that illustrates the causal relationships among organizational, institutional, and contextual factors, ultimately leading to value co-destruction (Figure 1). This model delineates the resulting outcomes and their impact on various value dimensions for both the organization and its stakeholders. Additionally, it sheds light on the diverse actions and reactions of organizational actors in response to these conflicts, represented through different configurations within common worlds. We will proceed to define the different concepts.

Figure 1. Conceptual model



4.1. TRIGGERS

Through our analysis, we have identified key triggering factors that instigate value co-destruction between the organization and its stakeholders. These triggers encompass the broader current context, characterized by the energy crisis and the pursuit of decarbonization within industry and economic activities. They also encompass external pressures stemming from institutions and diverse stakeholders, including customers, shareholders, and internal influences such as top management. Moreover, public authorities and regulatory requirements contribute to these triggers. While some triggers are general and external to the ISO 50001 standard, we have discerned factors related to the certification process itself and others linked to the design

and wording of the ISO 50001 standard. We have categorized these into two groups: the dark side of certification and the limitations of the standard.

Table 2. Illustration of the different sets of triggers

Triggers	Specific elements	Interviewees
Current context	Complexity of the energy issue	"Generally speaking, energy is a complex subject, both technical and regulatory, and all this is reflected in ISO." (Interviewee 7)
	Close link between energy efficiency and decarbonization	"If you also look at thermal uses, generally speaking, thermal uses are fuels, so it's CO2. So ISO 50001 is a bit of a mixed bag." (Interviewee 3)
	Energy crisis Dominance of the capitalistic mentality	"But on the other hand, we've noticed it in the space of a year, but that's more contextual, it's not just ISO, you've got a big contextual part of the energy crisis" (Interviewee 10) "And then, most of the time, we have managers who are asking for and setting targets for reducing their bills alone." (Interviewee 7)
External pressures	Companies' accountability	"After that, it's all the more important now that there is more or less strong energy pressure and that there is a general trend towards energy sobriety. But before, it wasn't really an issue." (Interviewee 3)
	Institutional pressure	
	Customer pressure	"it's like I said, if you have pressure from a third party like DREAL, well, that encourages performance." (Interviewee 3)
	Regulations	"The second is commercial, that is to say that companies have more and more clients asking them to be 50001 certified, to show that they are implementing sustainability and sustainable system approaches." (Interviewee 2)
		"Yes, regulatory. It's a bit of an imposition. So today, the criteria for companies eligible for this energy audit are, as I said, €50 million in turnover and €43 million in the balance sheet, or more than 250 employees." (Interviewee 8)
Darksides of the certification	Financial costs of the certification	"It's the cost of certification, the cost of maintaining certification in fact the effort to maintain it, the time you have to spend on it; the subscription... Well, the subscription. Since you're paying for auditors' days, in fact, eh?" 3
	Inability to predict the economies to be made	

	Time consuming process Unnecessary complexity Darkside of formalization	"And that can actually be a pitfall, it's the ability to demonstrate that the investment you make will have a return on investment of X points or X years." 1 "So it takes time for everyone. It takes management time, it takes time. It's hard to put a figure on how much time, but it's worth it" 1 "But there's a problem here, and in any case, it's the same: we find ourselves doing things we shouldn't normally be doing. Even just with an ISO 50001, I don't think it should be this complicated." 10 "So yes, there are aspects that are sometimes a bit annoying to formalize… That is to say, to the nearest decimal point, they were going to check that the formalism of the document was like that. Well, it was just a bit crazy." 2
Standard's limits	Procedures complexity Lack of relevance of some standard requirements Technical challenges Clash between the standard and regulatory constraints	"So my opinion on the standard as such, not the approach but the standard, is that it's too open to interpretation, it's sometimes too complex to read for people who aren't in the field and so, from that point of view, it's not easy to put in place." 7 "what the 50001 sometimes does to ask us things that are not necessarily relevant with already everything we've been doing for a long time in the case of this efficiency." 10 "So, one of the main challenges, in fact, is this technical aspect that is quite important." 2 "Basically, though, I'm rather critical of the relationship between these systems and what the public authorities are asking companies to do. You see, I'm rather critical about that." 9

4.2. OUTCOMES

The triggers we presented above, manifest in various forms of value co-destruction, each impacting a different aspect of the interaction—whether it is the customers, employees, suppliers, or the organization itself. Furthermore, we have noted that each party involved perceives and values different dimensions of value, and the relevance and importance of these dimensions vary among stakeholders.

In our conceptual model, we can see for example that the value co-destruction affecting the organization, manifests itself in four different dimensions: functional, economic, social and emotional, while for customers, they only experience value co-destruction in its economic dimension making them the least affected in this context. One possible negative outcome we heard from one respondent, is when supplier companies become certified and commit to energy efficiency, given that they would have additional expenses, they might raise their prices to compensate that, thus affecting customers. “Because, ultimately, if you buy energy-efficient machines, you can expect them to be more expensive. As a result, they require more investment, which ultimately affects the company's profitability.” (Interviewee 5).

Employees on the other hand, experience different forms of value co-destruction that can result from interactions with external stakeholders as well as internally in interactions between employees on different levels of hierarchy or between employees and the organization as an entity. On a functional level, employees find their missions negatively affected and the efficiency and fluidity of their tasks hindered, and 84 this can be mainly observed through the increase of workload for employees in general and for the appointed Energy Manager and his team in particular. Employees can also feel subject to constraints along with the implementation of the EnMS, whether they are in the Human Resources department where they have to take on the responsibility of training other employees and passing the top management’s vision on the issue along with their other responsibilities, or maintenance staff who are considered as the first and majorly concerned employees since they are the ones supervising and helping all the other services with the use of the equipment, so they have to be the ambassadors of the approach. When it comes to the emotional dimension of value, they represent the most affected party. Given that the system cannot function without their implication, the success of the certification process depends on employees’ efforts and they are also the first to be affected by the changes brought to the organization. This naturally means that they are subject to a lot of pressure being

in the position of the executer and at the same time being subject to changes they haven't anticipated or taken part in the decision process surrounding them. Frustration is very common in this context, especially when employees are continuously nudged to adopt responsible behaviors when it comes to energy and make conscious decisions allowing to save energy and reduce superfluous consumption, but on the other hand, they notice that there are practices or behaviors that do not align with approach to energy, that are being overlooked or unaddressed for reasons unknown to the employees. This results in a sort of cognitive dissonance explaining the frustration "That causes frustration and crystallizes a bit of tension in the field. Because, in fact, we ask them to do things, we ask them to do eco-gestures, we ask them to keep an eye on things." (Interviewee 10).

Other than the customers, employees and organization as an entity, the respondents also mentioned the different situations where suppliers experience value co-destruction on an economic and functional level, given that they become subject to new constraints and stricter selection criteria related to their energy consumption and the efficiency of their products and services "No, but I would say that it is a little more restrictive for certain players. I'm thinking in particular of the company's stakeholders. These stakeholders could be the company's suppliers." (Interviewee 8).

Now that we have seen the different manifestations of value co-destruction and its various dimensions for each organizational actor, the most important part of our research is to find out how these concerned parties manage these conflicts and decrease in wellbeing, and how in a world consisting of different orders of worth, they navigate these different common worlds and what relationships and configurations they establish when mobilizing them.

4.3. ORGANIZATIONAL MEMBERS' RESPONSES TO VALUE CO-DESTRUCTION

The way we are going to break down the actions and reactions to the value co-destruction of each value dimension, is by categorizing them into the four established relationships between

orders of worth which are common world conflict, alignment, compromise and composite setup. We mobilize the Orders of Worth theory in our research to give us a better understanding of how social actors navigate conflicts and value "controversies" in the context of energy efficiency certification and how they deal with value co-destruction. We found that the coping strategies are very diverse and that several orders of worth are mobilized given that several value dimensions are at hand, and we will also see that several actions and reactions are not solution oriented and may contribute to escalating some situations or cause further value co-destruction.

4.3.1. Common world conflicts

As indicated in the conceptual model in Figure. 1, different orders of worth came into conflict as a reaction to organizational actors experiencing value co-destruction, we will proceed to illustrate a few of these configurations. A very recurrent reaction to value co-destruction resulting from external pressures, opposing the Civic and Industrial values and the Market principles, is the "degree-purchasing syndrome". When the organization is driven by external pressures, the certification process tends to be shaped by this bias, as the adoption of the ISO 50001 standard becomes more of a symbolic adoption and the search for the certification stamp becomes an end in itself. Instead of opting for the certification to serve the social and environmental aspects as well as the efficiency goal, some organizations only see the market-related reasons like competitiveness and company image, which leads them to only take action when there is a supervision from auditors or a regulatory power, without a real mobilization behind "Limits, yes. As far as I'm concerned, the limits go back to what we were saying earlier about certificates of convenience. At some point, it doesn't necessarily allow you to see those who are really playing the game. You can pretend for a while" (Interviewee 6).

Another example illustrating the conflict between the Domestic, Inspired and Industrial worlds encapsulated in the way employees react to the co-destruction of functional value, is when

changes occur inside an organization in the context of implementing an energy management system. We saw that employees' habits and usual operations can also change noticeably to which employees can react in different ways ranging from manifesting a fear of change and a fear of losing familiar elements to actually behaving in a way that is change resistant like refusing to cooperate or engage in the activities set up by the company or trying to discretely hinder its implementation. Given that the Domestic world values stability, predictability and comfort, resistance to change aligns with its principles since it reflects a desire to maintain the familiar and established ways of doing things, which conflicts with the principles of the Inspired world that is all about creativity, innovation and transformation resulting in a clash between the desire for change and the resistance to depart from the status quo "people are always a little bit afraid of change… then they are necessarily afraid of losing elements that are specific to their system." (Interviewee 2). And here, the Industrial world is also involved since the change and innovation we are looking for are aimed at achieving better energy efficiency and bringing change to operational processes.

4.3.2. Common world alignments

Aligning different orders of worth is no easy task given that these orders of worth are ruled by different principles. But our respondents' experiences on the field showed that in many cases, organizational actors were able to establish a positive synergy between different worlds making them co-exist in harmony. Management involvement embodies the coordination and cooperative efforts needed for the common good of the organization. It emphasizes a shared understanding and coordinated action within the organization, that makes it an appropriate behavior to deal with value co-destruction and also prevent it from occurring when implementing an EnMS. It is a decisive factor when it comes to the certification process, and professionals mentioned several times the importance of leadership in bringing everyone together, resolving conflicts and aligning everyone's goals and priorities to progress together.

“The important element is the commitment of management. I think that if you don't have that, you don't even have to go any further. So management commitment, when I say commitment, I mean a proven and factual commitment, with the desire to put in place, to allocate resources with the right skills and the necessary resources and to include this in all processes of the company so that we are in a continuous improvement process. For me, it's the crux of the matter... But what we need is for us to be committed, for management to push.” (Interviewee2). Thus, this aligns the Civic order, the Market order and the Industrial order. When employees lack motivation, or are overwhelmed by the feeling of uncertainty, loss or perplexity about the new approach, management has to be convincing, well informed and able to communicate the organization’s strategy, vision and goals in a clear way but most importantly prove its full involvement and participation in the process. A company’s management needs to be a driving force and the EnMS has to be adopted as a true company project, otherwise the whole system will not be resilient facing all sorts of pressure. Another example we can mention is aligning the company’s values with the societal elements which emphasizes shared understanding and cooperation between the organization and its external environment. It demonstrates the organization's commitment to contributing positively to society, thus mobilizing the Civic World, and aligning it with the Green World by emphasizing environmental responsibility and sustainability and also the Market World given that an organization by aligning its values with societal expectations, can enhance its reputation, brand image and market position. In this context, ISO 50001 is considered as a subtopic to CSR and sustainable development, thus reinforcing these values, but also when a company implements the standard with a motivation stemming from those values and principles, it avoids a few contradictory situations and perhaps disconnection with the societal environment. ISO 50001 can also be seen as a tool that serves these values, which makes it more coherent for a company to align its values and objectives with societal issues and include the certification in its strategy.

4.3.3. Common world compromises

Common world compromises are described as some sort of fragile agreement, aiming to avoid conflicts and confrontation, thus they try to build bridges between common worlds and suspend clashes but without really settling them. They are characterized by ambiguity and one of the typical examples of common world compromises is CSR (Green World, Civic World, Market World). The data we collected allowed us to identify some actions and practices that fit into this category when it comes to dealing with value co-destruction. When trying to find a compromise between the Market World and the Industrial World in the context of ISO 50001 implementation, many organizations try to bring operational changes without affecting the company's profitability. "And so it can lead to changes in operation, meaning that for the operators, … On the other hand, it can be profitable from an energy point of view, so I think the company benefits." (Interviewee 1). This is often challenging and difficult to achieve, and managers put a lot pf pressure and set high expectations when it comes to reducing their bills, as it is their first priority, and energy efficiency is only a tool to get here "And then, most of the time, we have managers who are asking for and setting targets for reducing their bills alone." (Interviewee 7).

Another reaction when faced with value co-destruction or action taken to prevent value codestruction from happening is justification. Justification falls under common world compromise, particularly focusing on the economic dimension. It involves providing rationale for decisions (Market World) while considering the impact on resources and operational efficiency (Industrial World). Justification entails brining tangible proof to stakeholders justifying the relevance of the company's decisions, and justification can be done by showing, informing or demonstrating.

Organizations try different approaches and different compromises when implementing an EnMS in order to find the right balance between energy efficiency and business performance,

depending on their resources and the pressures they are subject to. They would either try to save energy by changing their industrial processes, which involves making changes to industrial processes to enhance energy efficiency (Civic and Green Worlds) while considering the potential impacts on operational costs and performance (Market World). Or without changing their operations which involves achieving energy efficiency (Civic and Green Worlds) while ensuring that industrial productivity and processes remain unaffected (Industrial World) “we try to ensure that any energy efficiency improvements we make do not affect the processes.” (Interviewee 1). These compromises seek to strike a balance between reducing energy consumption and maintaining economic viability, taking into account both the organization's financial interests and its environmental responsibilities. In order to avoid disrupting the employees’ daily tasks, several organizations do their best to work on their energy consumption outside of the processes’ scope, by controlling the lighting and machines running outside of working hours.

4.3.4. Common world composite setups

As we have seen previously with the definition of common world composite setups, this combination of orders of worth results in awkward, “ugly” combinations, which are seen as strange, troubling and disparate. These are quite confusing and difficult to spot in real life situations as they can be mistaken for common world conflicts or compromises, but we managed to identify a few from the collected data.

Avoidance can be seen as a common world composite setup. It involves a combination of orders of worth, where the desire to avoid certain conflicts (e.g., with auditors, regulations) to seek emotional comfort, minimize stress (Domestic World) and avoid potential operational disruptions (Industrial World), clashes with the need for open communication and cooperation (Civic World). One very illustrative example, is when organizations decide to communicate on energy savings by referring only to kilowatt-hours saved rather than euros, for a very specific

reason which is to avoid having employees asking for financial compensation when learning about the financial gains the company had made. We can think that it's only fair for employees, who did most of the job so that the organization makes these savings, to be compensated in return, especially that this exact argument is used to convince employees to adhere to the system implementation as we have seen earlier. But in a capitalistic system like the one the economy evolves in, it is far from being the case and we can consider this as a form of soft manipulation, where the company avoids mentioning certain details to serve its own interest "I could be cynical, but if we say the company is saving €100,000 thanks to you by saving energy, the staff representative will say that since we've saved the company €100,000, maybe they could give us half of that. Because in the end, we're the ones who did it right? So companies prefer to talk in kilowatt-hours rather than euros." (Interviewee 6).

5. DISCUSSION

This research has valuable implications and contributions in three areas: the ISO 50001 standard, value co-destruction and finally the Economies of Worth framework.

5.1. IMPLICATIONS FOR LITERATURE ON THE ISO 50001 STANDARD

This research departed from one central observation: the fast growing interest for the ISO 50001 standard and the exceptional number of financial aids and institutional support to encourage organizations to get this certification. Given that the ISO certifications are known for being voluntary approaches, we thought that these incentives that are becoming almost coercive in some instances, might have a perverted effect on the certification's initial outcomes, and might also induce an exacerbation of its already existing "darksides" that are yet to be explored.

Interviewing professionals mostly directly involved with the standard, revealed to us the complexity of the norm and the whole process and environment around it. Opinions were still fairly mitigated about the positive and negative aspects of the certification process, revealing a few paradoxes. Critics towards the certification and the standard's limits were sometimes

contradictory leaving some ambiguity as to how to mitigate these weaknesses. For example, professionals criticized the fact that the certification was too restrictive for the organization, leaving not much room for maneuver when it comes to its specific constraints and requirements on the industrial processes. However, while it was described as too rigid and restrictive, it was also criticized for being too open for interpretation, leaving a lot of room for subjectivity resulting in disconnections between organizations and auditors. This is a clear representation of the complexity of the issue, thus some actors called for the intervention of institutions to settle these tensions, by training auditors for example, to be able to recognize the relevance of organizations' different perspectives of the standard given their own specificities. As long as their end goal is achieving the energy efficiency while respecting the requirements, auditors should be less rigid about formalities.

From here, we could already perceive the value controversies starting to become more palpable, as organizations guided by the Market and Industrial principles are confronted with the regulatory environment that prioritizes the Civic and Green values. The value co-destruction resulting from these conflictual situations did not only affect the organization itself, but also its stakeholders mainly the employees, suppliers and customers. We saw that when their separate values don't align, tensions can be sparked and interaction parties might experience unfair situations and a feeling of injustice, especially for employees and suppliers who find themselves under the pressure to comply. Overall, despite the dominantly positive image ISO standards have, they are not flawless. We tried to shed the light on the sensitive points related to the ISO 50001 EnMS, given that until now, there isn't any empirical work on the subject despite how important it is for practitioners and managers in order to be aware of these challenges and to be able to prevent the potential value co-destruction for the organization and its stakeholders when implementing this EnMS.

5.2. IMPLICATIONS FOR THE LITERATURE ON VALUE CO-DESTRUCTION

Our findings contribute to the literature on value co-destruction by on both theoretical and empirical levels. Some of the reasons leading to value co-destruction correspond to the findings in Järvi and colleagues' research (2018) such as the inability to change, absence of clear expectations and mistakes, but while they focused solely on the provider's point of view in their study, we attempted to responded to their call for research exploring the subject from other angles by taking a multi-stakeholder perspective. Our analysis of the value co-destruction outcomes, showed four mainly affected parties: the organization, customers, suppliers and employees. Ballantyne et al. (2011) in their research on the stakeholder perspective on value propositions used the six markets model to show that value can be exchanged on different markets, including the internal markets (existing employees), customer markets, supplier and alliance markets, referral markets (a firm's referral system and its advocates), recruitment markets (potential employees) and influence markets (the institutional stakeholder context in which the focal firm operates), and not exclusively on customer market like most research shows. But the authors pointed out the lack of literature on value co-destruction from this perspective, which we used as a guiding line in our analysis.

We used the value dimensions introduced in the work of Butler and colleagues (2016) when they studied value in behavior in the context of energy efficiency. However, while they focused solely on individuals' behaviors, we found it equally relevant for our data as we explore organizational actors' behaviors whether they were entities or individuals. This multi-dimensional interpretation of value also allowed us to see that the destruction of one dimension can lead to the destruction of another (Ogunbodede, 2022) as we saw for example for employees, the misunderstandings, disconnection and inability to communicate easily with auditors (social value destruction) resulted in feelings of injustice, frustration and even anger (emotional value destruction). This work ultimately allowed us to bring more empirical data to value co-destruction literature, but also a significant theoretical contribution by showing that

co-destruction of value can impact different dimensions (functional, economic, social, emotional, ecological) and it can occur between the organization and various stakeholders other than customers, not exclusively in the consumer-supplier dyadic relationship.

5.3. IMPLICATIONS FOR THE ECONOMIES OF WORTH LITERATURE

We chose the Economies of Worth framework as the theoretical foundation of our analysis of how organizational actors manage value co-destruction and the conflicts it induces. Given the complexity and multi-dimensionality of the concept of value, we were convinced that a framework based on the plurality and coexistence of multiple worlds with separate principles and modes of action, would provide an interesting perspective to analyze how actors navigate this plurality. We used the four types of common world relations that were introduced in Whelan and Gond's work (2017), as a reading key of the different configurations organizational actors constructed when dealing with situations deemed as unfair, which is in our case value co-destruction. We found that organizational actors would seek to reach agreements and compromises by mobilizing different orders if worth but they don't always choose the appropriate actions to do so, which is what we saw with common world conflicts. For example, among the reactions to value co-destruction, an interaction party might attempt to restore the lost resources or selfishly repair the damage for themselves, provoking further value co-destruction for the other actors (Lumivalo et al., 2017). This is one of the many forms of common world conflicts. The three remaining relations are common world alignment, common world compromises and common world composite setups. These four relations, to our knowledge, haven't been previously used as an analysis grid, especially that common world alignment has been first introduced in Whelan and Gond's work.

This research aims to answer the call for more empirical research on the justification work engaged in order to reach compromises in multi-stakeholder approach (Oldenhof et al., 2014),

but we go beyond that configuration by exploring other modalities such as alignment, composite setups and conflicts.

Our work also allowed us to better comprehend the nuances between the different common world relations as there could be some confusion around them. We saw how compromises were strategies deployed to avoid conflicts but that did not allow for a full alignment between orders of worth. An example would be trying to bring operational changes in order to save energy without affecting the company's profitability, which is deployed in order to avoid having conflicts occurring between the Industrial and Market worlds if the operational changes were to affect the profitability of the company' activity. At the same time, we can see that this is not common world alignment since the operational changes did not make the activity more profitable, thus it did not optimize both energy and financial performances, it only allowed energy savings with a neutral financial impact. This gives us a clearer illustration of the difference between a compromise and an alignment.

In the end, our objective was to bring more clarity and insightful observations into the literature around common worlds and the different links between them, and although what we have presented was context specific, we do believe that it could be helpful in other contexts and situations, given that these configurations will always be potentially mobilized in different situations. Their occurrence would still depend on the organizational actors and their perspectives.

6. CONTRIBUTIONS AND FUTURE RESEARCH

Our study aligns with the growing interest in energy management initiatives and policies, driven by the energy crisis and global conflicts (ISO, 2018; Yuriev and Boiral, 2018). ISO 50001, introduced in 2011, has gained recognition as a tool to enhance energy performance and ecological sustainability (ISO, 2018). However, as highlighted by Yuriev and Boiral (2018), the implementation of an Energy Management System (EnMS) and adherence to ISO 50001

can pose challenges and concealed drawbacks. We explore the concept of value co-destruction within the certification process, recognizing that it can manifest as increased stress levels, workload, insecurity, and discomfort for employees (AFNOR, 2018) and potentially lead to reduced productivity and motivation, constituting value destruction for the organization. Leveraging the Economies of Worth framework (Boltanski and Thévenot, 2006 [1991]; Cloutier et al., 2017), we have analyzed how organizational actors navigate value controversies and confront value co-destruction within this context. This analysis has revealed the mobilization of different orders of worth as responses to conflictual situations. Building on our empirical observations, we have identified four primary organizational actors affected by the ISO 50001 certification process and explored the dimensions of value codestruction for each party involved (AFNOR, 2018; Plé & Cáceres, 2010). Our analysis using the EW framework has unveiled the mobilization of various orders of worth in response to conflictual situations, shedding light on how actors manage value controversies. We have discovered mixed opinions among organizational actors regarding the ISO 50001 standard. While recognizing its benefits, they also highlight challenges related to rigidity, lack of incentives for innovation, and subjective interpretation (ISO, 2018). These findings echo the literature's limited exploration of the negative aspects of certification. Notably, employees emerge as the most affected group, aligning with the literature's emphasis on their experiences of value co-destruction (AFNOR, 2018; Plé & Cáceres, 2010). Consequently, organizations should invest more effort and attention in supporting their employees to prevent frustrations and provide training and discussions to address encountered difficulties. Moreover, raising awareness and improving communication regarding the standard is essential. Furthermore, our findings reveal discrepancies between public policies and the ISO 50001 philosophy (ISO, 2018), resulting in dissonance and contradictions. Organizations subject to these regulations bear the consequences. To mitigate such issues, it is imperative to establish mediation and discussions

between industry stakeholders and public authorities. This collaborative approach ensures that the core objective of energy efficiency is not lost amidst regulatory challenges.

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Appendix 1

Interview guide

(Presentation and a short reminder of the subject of the research and the objective of the interview. Clarification regarding the confidentiality and anonymity of the respondents. Request for authorization to record the interview.)

Introduction:
Can you introduce yourself and your professional experience in the field of energy performance management?

Organizational values:
What are the main motivations of organizations wishing to obtain ISO 50001 certification?

Have you noticed that the implementation of ISO 50001 is accompanied by a change in values or principles within the organization?

Challenges and impact of certification:
Generally, organizations that are ISO 50001 certified have already obtained ISO 140001 or ISO 9001 certification. Have you noticed any redundancy between these standards, especially for the environmental management system which already includes the energy component?

What are the main challenges that an organization encounters when implementing this standard?

Does this have an impact on value creation practices within the organization and during its interactions with its stakeholders? Have you also noted practices that "destroy" value for the organization or its stakeholders?

What types of conflicts can we see appear in the different phases of the certification process between the different internal or external actors? and how is the resolution of these conflicts done each time?

Are there actors who can be considered "winners" and others "losers" following the certification process?

Have you witnessed a situation where an organization failed to set up the energy management system or where the process was very complicated? If yes, for what reason?

Constraints around the standard:
What are the main requirements for you to ensure a good certification process?

What do you think of the law which exempts ISO 50001 certified companies from the mandatory energy audit and the PRO SMEn bonus awarded to companies obtaining certification? Are they effective institutional incentives? Can they impact the motivations behind setting up an EnMS?

If you could take stock of the most important limits of this standard following your experience so far, what would they be?

Appendix 2: Data analysis framework

First order codes	Second order codes (Concepts)	Aggregates
Institutional standard for energy management system	External pressures	Triggers
Institutional financial aids		
Darkside of the energy audit		
External auditing to ensure compliance		
Companies' accountability		
Large groups are more motivated to get the financial aids for the certification		
Exceptional incentives to opt for energy efficiency		
External pressures from stakeholders		
The involvement of public power		
Institutions		
Accreditation organization		
Institutional pressures		
Customer pressure		
Regulations		
Economic pressure		
Energy efficiency	Current Context	
Corporate Social Responsibility		
Complexity of the energy issue		
Businesses can not be ecological		
Energy requirements are still not strong between organizational actors		
Inequality between countries in terms of competitivity		
Dominance of the capitalistic mentality		
Before the energy crisis		
After the energy crisis		
Context change		
Close link between energy efficiency and decarbonization		
Energy crisis		