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Translating Organizational Change into Entrepreneurial Identity—A Study of Energy Transition in a Large State-Owned Enterprise

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Abstract: This paper presents a proximal study of energy transition in a large state-owned enterprise. Organizational change is the prerequisite for energy transition in a company that has historically understood its own identity in the remunerative oil gas industry. The methodology of the research is a qualitative on-field study of the implementation of the transition strategy inside the company. For this purpose, the research uses primarily first-hand reports collected within the organization in the years 2018–2020. The paper explores the dynamic process of change to reveal the tensions, conflicting identities, and strategies of implementation needed to start the energy transition, shedding light on the formation of a new corporate identity that traces back to the entrepreneurial inception of the company. The role of communication between the different levels of the company was crucial. The management found in the corporate history a moderator of organizational change that led to a renewed entrepreneurial identity. This paper brings evidence that a re-interpretation of the corporate identity is a condition that eases the process of organizational change. The results of the study will provide the theory with a practical case in order to better understand the transitions of state-owned enterprises in their effort to promote organizational change and drive sustainable innovations.

Keywords: organizational change; energy transition; state-owned enterprise; entrepreneurial identity

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1. Introduction

A current gap in the literature concerns whether state-owned enterprises (SOEs) are committed to green innovation (Bordoff and O'Sullivan 2022; Marcel 2019; Green et al. 2021; Hsu et al. 2021; Matkovskaya et al. 2021; Hartmann et al. 2022; Jaffe et al. 2022). OECD (2020) found evidence suggesting that state-owned enterprises are more committed to sustainability than other firms, but whether this also includes innovation is unclear (Tonurist and Karo 2016; Bortolotti et al. 2019; Marcel 2019). This paper aims to investigate the mechanisms and drivers of innovation in state-owned enterprises (SOEs) in relation to environmental sustainability and energy transition. Given the presence of large SOEs in the energy sectors around the world, either in energy producers or energy-importing countries, this question is particularly relevant in solving the CO_2 emission and climate crisis.

There is a debate around the ability of SOEs to innovate, and whether SOEs can generate green innovation. A common opinion is that SOEs do not innovate at the same rate as private companies, and, when they do, they pursue low-quality innovation that complies more with political authorities. SOEs have a large number of serious agency problems and suffer from a lack of effective incentives and supervision mechanisms for managers (D'Souza and Nash 2017). The result is a poor performance in innovation, hampered by the ownership structure and the influence of political endorsement (Lo et al. 2022; Wang et al. 2022b). However, recent evidence supports the idea that SOEs can innovate and produce green innovation for energy transactions (OECD 2020). While most studies considered SOEs for their ownership structure, few considered SOEs as organizations or explored what drives green innovation inside this peculiar organization, halfway between (or simultaneously) a corporation and a state entity. This study tries to fill this gap and explores the internal dynamics of green transition in a large state-owned enterprise.

This paper argues that a large and traditional organization, such as a SOE in the oil and gas industry, must take a necessary and preliminary action to generate sustainable innovation through the process of organizational change. The action of change in an organization implies the transformation of one or more elements of the organization, e.g., its culture, technology, or infrastructure, and consists of the process of introducing new ideas (Lewis 2019). For this purpose, the present research looks at how SOEs embrace the process of change and explores the case of a large SOE in the oil and gas industry. This paper inquires about the preparation, negotiation, and implementation of the actions for change and their impact on the members of the organization that caused either acceptance or resistance, and how this was eventually solved.

The research question of this study explores how the organizational change induced by the transition has been conceptualized and translated differently by the components of a state-owned enterprise, i.e., analyzing how SOEs consider the idea of change to fit with the corporate culture among individuals and processes. The impact of the energy transition on the corporate identity is crucial. Even before planning a strategy for transition, a company needs to embark on an organizational change journey to move from a traditional and remunerative position in the oil and gas industry toward a more entrepreneurial identity that could generate innovation for the energy transition. Entrepreneurial identity creates a new self-definition for individuals and organizations (Ashforth et al. 2001) and drives the impact of the environment transition on the organizational structure (Ellis and Ybema 2010). Necessarily, the action of change must face the organizational readiness of the company to address, accept, and absorb changes (Mladenova 2022). Organizational readiness is the expression of a shared psychological state among the members of an organization about their commitment to implement changes (Alolabi et al. 2011).

This exploration of the process of organizational change reveals the motivation, interests, negotiations, and implementations of the energy transition, shedding light on the strategy, narratives, and translation of ideas into practices. The research explores the translation process that has oriented sustainable innovation in the context of a state-owned enterprise in the energy sector and considers the process of negotiation between levels within the enterprise, the emergence of tensions, and how internal processes work in generating innovation (Nicolini 2010).

The case presented consists of a proximal study of the transition of a SOE that provides services for gas logistics and infrastructure towards green energy solutions, e.g., substituting methane with hydrogen.

The company in this study has origins as far back as 1941 in the oil and gas industry; it has been, for large part of its history, a subsidiary of a large state-owned holding and now it is an independent organization, with the state as the principal shareholder. The company does not produce or sell gas but is an infrastructure operator that runs an extended network of pipelines, mainly for methane. The company historically operated in the energy industry, which has been, for a long time, a regulated business, i.e., a market controlled by a governmental body with oversight on prices, standards, and rules. More recently, in its search for a sustainable solution, it now aims to transport and store hydrogen in the place of natural gas, and thus it invests in technologies for the production and supply of hydrogen.

The study is based on internal reports and interviews with individuals in the organization, from employees on the field to the top management, held in the years 2019–2020. The observations of interactions between the management and the people in the organizations allow for an understanding of the complexity of the network of actors involved in the translation of ideas into practices in a large and stable state-owned enterprise, a particularly complex and yet relevant context to explore, where the network of power and interest is different than any other place (Czarniawska and Sevon 2005).

The implications of the study will provide a theory with a practical case to better understand the innovation process of state-owned enterprises in their effort to promote sustainable solutions that impact society and contribute to the empirical understanding of translation processes in organizations, expanding the context of research to state-owned enterprises and energy infrastructure companies.

The paper unfolds as follows. Section 2 presents the background of the research. Section 3 discusses materials and methods. Section 4 presents the analysis of the case. Section 5 recollects the results of the exploration. Lastly, Section 6 summarizes the implications of this study.

2. Background of the Research

2.1. Energy Transition and Green Innovation

Energy transition towards sustainable and clean sources of energy is of critical importance for global welfare (Markard et al. 2004; Marques et al. 2020; Sala et al. 2023). Most studies on energy transition focus on the role of policies driving energy transition at country and international levels (Rana et al. 2020; Maris and Flouros 2021; Cheng et al. 2022) and on the global concerns over the negative impact of fossil fuels on the environment (Apergis and Payne 2011; Imasiku et al. 2019; Estévez et al. 2021). Other studies have explored the broader impacts on the green innovation (Castellacci and Lie 2017; Takalo et al. 2021) of finance (Zhou et al. 2022; Hou et al. 2022; Yang et al. 2022), foreign direct investment (Luo et al. 2021; Xu and Li 2021), and knowledge sharing (Bao et al. 2022; Liao and Li 2022).

The impact of the energy transition inside organizations is extremely relevant. The emission of carbon dioxide (CO_2) in the atmosphere has increased continuously since the beginning of the industrial era. The increase in CO_2 levels is the result of humans' economic activity and has led to global warming (IPCC 2021). Since humans' economic activities happen mostly in organizations around the world, organizations have a special responsibility and ability to contribute to solving the CO_2 and climate crisis of the world.

Among various types of organization, enterprises are in an unprecedented situation where they need to innovate, develop, and translate the idea of sustainability into innovations. In this respect, enterprises' innovations consist of implementing new sustainable CO_2-reducing and environmentally responsible practices in their organizations as fast as possible. Enterprises need to respond to this challenge, and, for private companies, their future survival may even depend on it.

At the level of enterprises, studies are concentrated on the impact of green innovations (Guinot et al. 2022). For example, green innovation enhances corporate reputation and sustainable development, and, from a strategic perspective, improves the competitive advantage of firms (Sellitto et al. 2020; Tu and Wu 2021; Awwad et al. 2022).

Thera are several factors that prompt green innovation in enterprises. External factors are environmental regulation and policies (Chen et al. 2022), green finance (Dong et al. 2022; Zhang et al. 2022), integration with the supply chain (Hong et al. 2019; Sun and Sun 2021), and the regime of open innovation (Yang and Roh 2019). Internal factors are the absorptive (Chen et al. 2014; Du and Wang 2022) and the control (Li et al. 2018; Ma et al. 2022; Wang et al. 2022a) capacities of the firm, strategy (Yahya et al. 2022), and the role of digitalization (Gao et al. 2023).

The impact of external and internal factors is pivotal to produce green innovation in organizations. However, little is said about how external change affects the internal identity of organizations. To fight climate change, and produce the desired change toward a sustainable use of the limited resources of our planet, it is crucial to understand how to fulfil change inside organizations as the enterprises that are the most responsible for environmental degradation.

2.2. The Impact of External Change on Internal Identity

The translation of ideas for sustainability into practical innovations requires a cultural change in every level of the enterprise, from the government shareholder to the top and middle managers to the on-field operators. The cultural change is passed through a new shared understanding of the social role of the enterprise and of its public mission.

This is reflected in the formation and diffusion of new values, languages, and forms of collaborations inside and outside the enterprise; for example, the management promoted an entrepreneurial culture to cope with a long-lasting process-driven culture inside the organization and engaged with innovative start-ups in a search for fresh innovation outside. Internal stakeholders continually engage with the process of matching change with institutionalization efforts (Mugenyi et al. 2022).

The business circumstances that cause enterprises to change are the liberalization of the energy market, the evolution of the energy mix and the role of renewables, as well as the possibility of new pricing rules. The impact of external changes reverberates on the identity that defines the very essence of enterprises (Corley and Gioia 2004), acting on the attributes that guide individuals' construction of meaning (Albert and Whetten 1985) and guide their actions and understanding of their role in the organization (Weick 1995; Weber and Glynn 2006). The identity attributes of enterprises are more necessary in the context of the strong growth or transformation of the organization to give legitimacy and coherence to its actions (Fisher et al. 2016).

Combining change and identity is a paradox, a contradiction that is realized by the simultaneous presence of logically valid elements that, on the surface, may seem mutually exclusive. From an outsider's perspective, organizational change can be read in an implicitly paradoxical way (Nasim and Sushil 2011): a constant tension between the elements of stability, the routines through which the organization operates in a structured way to maintain its own identity (Feldman 2000; Feldman and Rafaeli 2002; Becker 2008; Brown and Lewis 2011; Parmigiani and Howard-Grenville 2011), and elements of change that allow it to adapt to the evolving contexts in which it operates (Aldrich 1999; Feldman and Pentland 2003; Rerup and Feldman 2011; Argote 2012). If not properly recognized and managed, the tension between these elements generates anxiety and confusion, leading, in the worst case, to organizational paralysis. Instead, it is the very ambiguity among the elements that are not understood in opposition to each other, and together in combination with each other, that develops the organization as an element of sense-making among discordant elements. To construct meaning is, therefore, to define the identity of an organization. At the same time, tensions and paradoxes can represent a learning and development opportunity for the organization, fostering its pluralism and internal complexity and increasing the resources available to deal with external complexity (Weick 1995; Lüscher and Lewis 2008; Smith and Lewis 2011). The organization is therefore always in action to build, each time, a sense of its own identity at the overall level and at the level of the individual people who make up the organization and inhabit it.

To combine change and identity may seem like a paradox. Yet, the enterprise, as a phenomenon of governing complexity, cannot help but evolve to preserve its identity within a changing context. Identity is not necessarily static, but is imprinted in the practices and values of the enterprise; it is a mechanism of self-definition that is formed and reinforced by social interactions (Gioia 1998). Identity is the result of continually reshaping one's self-concept in relation to others and one's surroundings rather than the result of a sediment of distinctive activities.

Elements of strength are not necessarily useful in defining identity. The Icarus paradox is used in reference to those enterprises that fail abruptly because of the same elements that had previously enabled them to succeed (Miller 1992; Amason and Mooney 2008). The paradox obviously alludes to the well-known myth of Daedalus and Icarus. Thanks to the wings built by his father Daedalus out of wax, Icarus and his father managed to escape from the labyrinth of Knossos in which they were imprisoned; caught up in the thrill of flight—the hubris—Icarus came too close to the sun, which melted the very wings that had enabled his escape, plunging into the sea.

Organizational ambidexterity is the ability to manage current business needs while simultaneously adapting to changes in the external environment (Raisch and Birkinshaw 2008). An ambidextrous firm succeeds in combining the exploration of new business and innovations with the exploitation of skills already possessed (March 1991; Gupta et al. 2006).

2.3. Green Innovation in State-Owned Enterprises

State-owned enterprises (SOEs) have a different approach to sustainability in comparison to private enterprises. SOEs operate in imperfect markets unable to meet critical societal needs and then provide public value creation (OECD 2018). When it comes to public value creation, SOEs have a strategic role in driving growth that is socially and environmentally sustainable. It follows that SOEs are most prevalent in strategic sectors such as energy, minerals, infrastructure, utilities, and network industries and services (PwC 2015). Enterprises fully or partially owned by the state (SOEs) perform significantly better than non-SOEs when it comes to ESG (Environmental, Social, and Governance) scores, and the ESG scores increase with the size of the share owned by the state (OECD 2020).

Many consider such organizations as being far from innovative because of their position under the wings of the state in a solid industry; however, recent studies see SOEs as innovative actors (Landoni 2020). Furthermore, SOEs are in the process of coping with climate change and orienting themselves toward sustainability because of external pressures more than internal imperatives. For a large state-owned enterprise, embracing the change is not an easy task. SOEs suffer from inertia and risk-averse behavior, particularly in a sensitive sector like energy, and even more so considering the corporate culture, background, and profitability of the enterprise.

SOEs score better on ESG because they work towards concrete actions and ambitious targets related to environmental, social, and governance factors. SOEs have a higher measurement and disclosure of non-financial information because they communicate through publicly available platforms, which makes them more likely to achieve higher ESG ratings because of enhanced reporting activities. This is in line with the previous literature, stating that high-sustainability companies exhibit greater communication transparency (Eccles et al. 2014), and it suggests a connection between a company's ESG score and its size (Dorfleitner et al. 2015). Furthermore, another study found state ownership to be an important factor influencing sustainability reporting (Castelo et al. 2014). A report conducted by PwC also found that state ownership was correlated with better reporting regarding sustainability targets (PwC 2015).

3. Materials and Methods

The research is based on a qualitative on-field study held in a large state-owned enterprise. This study selected the case of a large SOE that has experienced a deep corporate and organizational change in the past decades and that is moving toward a further transition of its business.

The organization conducted the study in collaboration with an Italian university, which received a research grant for the period 2018–2019, with the objective of monitoring the perception of the change undertaken by the organization in recent years. The research linked to the grant produced a report that detailed the organization's changes, which this paper is based on.

The report collected the voice of the people in the organization with respect to change and tracked the evolution of their perceptions and experiences longitudinally. This paper collected interviews to interpret the results of the report (Creswell 2014). Interviews took place between the spring of 2019 and the early summer of 2020. Data collection happened in phases: the first phase targeted the top management, i.e., the Chairman, the CEO, and all members of the Leadership Team; the second phase involved 14 executives, with different levels of corporate seniority and concerned with different functions; the third phase involved a mixed sample, consisting of 4 executives, 6 middle managers, and 3 office workers, again diversified in terms of seniority and function; the final phase debated the preliminary results with the top management.

The research used open-ended questions that typically started with "how" or "what"; for example, the informants answered questions like "how do you interpret the corporate identity of your organization?" and "what is the role of green innovation for energy transition?". This type of question allows the respondents to explain their understanding and experience (Sandberg and Targama 2007). The research approach was reflexive (Alvesson 2003) and assumed theoretical flexibility (Braun and Clarke 2019). The analysis process involved multiple rounds of reading for familiarization with the text and the identification of variations in understanding among the members of the organization. Different understandings and experiences emerged from the interviews, leading to particular patterns of shared meaning across the organization. The research categorized the different understandings into domains around a core concept (Braun and Clarke 2013; Braun et al. 2014). Ultimately, the research conceptualized domains and concepts into themes. Themes are "actively created by the researcher at the intersection of data, analytic process and subjectivity" (Braun and Clarke 2019, p. 594). The analysis linked the organizational change to the themes that have influenced the formation of an entrepreneurial identity. The research ensured the validity of the interpretative data by assuming a second-order and grounded-theory perspective. The process of analysis considered all interviews as being equally important (Sandberg 2005).

The interviews explored four macro-sections: (i) first, the background and role in the organization; (ii) second, the main change, cultural, and business challenges for the organization; (iii) third, the initiatives in recent years; and (iv) fourth, the level of understanding and diffusion of the new culture. A systematic analysis of the records and transcriptions led to the identification of recurring topics, expressions, metaphors, and analogies and their aggregation into a series of themes, reconstructing the meanings circulating within the organization and the reactions and interpretations of its members with respect to the object of study (organizational change, in the case of the present research). A narrative approach on the theme of transition to sustainability identified the characteristics of the narrators, the changes over time, and how changes were reframed (Augenstein and Palzkill 2016). The content analysis of organizational documents such as reports and internal (e.g., the corporate magazine) and external (website and social) communication materials supports the findings. Ultimately, the research used a thematic analysis to focus on the experiential orientation of interviewees. The themes of transition, culture, identity, and actions emerged independently and were part of the critical analysis of the process (Gibson and Brown 2009; Braun and Clarke 2013; Terry et al. 2017).

The analysis of organizational change presented below is related to the methodological perspective of collaborative management research (Shani et al. 2007), a research process based on collaboration between one or more members of the system under examination and external researchers in order to evaluate and improve system performance. Reflections on the sense of identity, the reasons for change, and the actions taken to bring it about constitute the material of interest for reconstructing the sense of the transformation taking place.

4. Analysis

4.1. Transformation and Change in the Organization

This section traces the organizational transformation process that has begun in 2016. The result is the combined product of a cultural change and a profound identity recovery. The transformation started more out of internal needs than in response to a change in the external context; indeed, it can be argued that the transformation took place in the absence of an immediate market challenge. The elements of contextual change had already been present and in place for years. The pressures posed by the global financial crisis after 2008, the liberalization of European energy markets, the probable changes to the mechanisms for regulating gas tariffs, and the unknowns associated with the new energy mix in the transition from fossil fuels to renewables were all factors pushing the organization to find alternative ways to continue growing in the medium to long term, while maintaining the high profitability and stability that shareholders have historically demanded from the company's shares.

The company had a strongly hierarchical organizational culture, characterized by a great sense of responsibility and pride in providing a service that was as risky as it was essential for the community, and where technical competence took priority over managerial and communication skills. While the characteristics of this corporate culture were well suited to the gas transport activity, which remained the company's core business, at the same time they tended to exasperate its bureaucratization and isolation from the outside world and limit its capacity for internal confrontation and coordination. The picture presented revealed a possible inadequacy of the existing culture to face the challenges that awaited the company and realize the new strategies outlined by the management. It is precisely the ability to be able to forego the consolidation of the competitive position achieved and to be able to continually change the basis of one's advantage that is the fundamental property of a company that knows how to anticipate the direction of change.

The planned transformation has leveraged the 'pioneering spirit' that has characterized the origins of the company, but has sought to infuse it with new values and attitudes, particularly oriented towards further increasing the organization's entrepreneurial capacity in order to cope with the risks that the search for new opportunities may entail, including at the international level. Among the risks implicit in this type of organizational change, one cannot exclude the risk of the obedient acceptance of top-down inputs, without these being translated into real practices and behavior. This risk was even more concrete in a context historically characterized by a strong operational and hierarchical attitude, where orders are not discussed but executed.

Observing the process of change and its implementation allows us to interpret how the current organization is evolving into something new, but at the same time is still rooted in the historical values and identity of the organization.

4.2. Innovating the Culture, Re-Inventing the Identity

The transformation of the company was made necessary by a change in the external context, but its evolution was fueled by a series of internal actions.

The result was a redefinition of the corporate strategy. Concerns had emerged in the top management that changes needed time to permeate the more operational areas of the organization on the ground, at the level of the line where routine, day-by-day activities focus on gas transportation:

> "Maybe they (the operational areas) are the ones who see the rationale of making a change the least" . . . "theirs is an instant-by-instant business, with a very short view, because that's the way it is [. . .] none of them I think ever thought of saying: but in twenty years, are we still going to continue this kind of business in these terms?" (Interview with the top management 2020)

This concern is the consequence of the distance and the many intermediate steps between the top management and the operating lines. The comprehension of this distance prompted the launch of communication and involvement projects with a focus on the territory, particularly between the decision-making centers and the localized peripheries of the organization. To ensure effective communication between the most distant levels of the company, the management planned a real roadshow: a travelling event consisting of 28 meetings in various centers scattered throughout the territory involving around 800 people (company reports). The meetings had the function of bringing people closer to the strategies and projects of the Human Resources and Organization (HRO) unit, especially for those less in contact with the headquarters, as well as with the Digital Transformation and Technology (DT&T) unit. Employees were presented with initiatives related to the intergenerational transfer of know-how inside and outside the organization (school-to-work alternation projects, and the creation of competence centers and institutes); new career paths in light of the company's progressive internationalization; the new performance management system based on a new competency model, which values aspects such as collaboration, innovation, and entrepreneurship; and communication projects that foster understanding and sharing of the company's new culture. As a first reaction, the following was mentioned:

> "no one says anymore: but why do we have to do this? who said that? It has become an established thing that we cannot not-react to and that we have to evolve". ... "we are used to evaluating what we do, but little the how". (Employees interviews 2019)

Among the most impactful initiatives, one project led to the adoption of a matrix structure, characterized by business units with dual reporting, functional and business (company's Annual Financial Report 2018). This initiative made it possible to reduce hierarchical levels and organizational boxes, contributing to the dismantling of those barriers that limited the sharing of information and experience in the company—"functions did not talk to each other, it seemed that different units were part of different companies" (Interview with the top management 2020). The transition was not painless, especially in some business units. Business functions in that sensitive transition blamed a moment of fraying between the well-oiled vertical processes of the old organization and the new processes.

> "Everything was verticalized, it was easy to find the people in charge" [before] "the division of activities was well identified". [After the changes] "we often found ourselves having to fix things by learning from mistakes". (mid-managers interviews 2019)

The first emerging theme is transition. The three participating groups in the organizations—namely lines, middle managers, and top management—offered different interpretations of this theme. The emerging dichotomy is a conflict between the short- and long-view of organizational change (see Table 1).

Table 1. Transition.

Theme	Transition
Lines	Reaction and evolution
Middle managers	Learning process
Top managers	Perspective
Dichotomy	Short- vs. long-view

Author's elaboration.

The high turnover amplified the discomfort, especially at the managerial level. The presence of liaison figures or the help of external consultants "would have made life so much easier" (mid-managers interviews 2019). Among the activities to support managers, organizational coaching had a good impact, partly because of the side benefit of allowing them to meet with colleagues from different functions or business areas with whom they could establish a more direct relationship. Organizational coaching has covered the topic of relationships from an emotional point of view; it has changed the approach to relationships between people. This has promoted the quality of communication and ease in finding information.

Some perceived the turnover as an attempt to replace the "old guard", negatively affecting people with greater seniority "who had a well-defined career path" (mid-managers interviews 2019). This state of uncertainty led, in some cases, to refuge in old cognitive and behavioral patterns. Many new people entered the organization, and so while people and their skills and roles were known, at some point the following question was considered: "if the person also changes, you don't know who to turn to anymore, do you?" ... "my main perception, they wanted to clean the house. Brutally" (employee interviews 2019).

Although the new matrix structure is precisely meant to reduce hierarchies and foster autonomous decision-making, the internalized habit of "looking up" whenever there is a decision to be made has yet to be overcome, and leads, in many cases, to seeking confirmation from above in regard to the legitimacy of one's actions.

> "While there is a call for more resourcefulness, more entrepreneurship and innovativeness, there is a widespread perception among colleagues: paradoxically, we are verticalizing ourselves in decision-making processes." (mid-managers interviews 2019)

Interestingly, however, many of the individuals in the company still viewed the transition to the new configuration positively. The feelings expressed are those of a company transitioning from a phase of change to one of settling in, a company becoming more modern: "it is a company that has an average age of 50 years, ours", an impact appreciated especially by the younger generation: "it is much better today's company than the past one, especially for the slightly younger guys" (mid-managers interviews 2019).

Any cultural change provokes a great deal of anxiety and resistance to change; these reactions stem from the perceived loss of references that is typical of the phase of deconstructing and undermining the existing. The organizational culture and power structure may be contributing to the resistance to change; it is not possible to make a change if the reasons motivating it are deemed incompatible with acquired internal power positions. The factors that conversely empower change processes are the drives that move competitive, demographic, ethical, and economic levers (Jones 2013). Competitive thrusts have to do with the need to innovate in order to survive in competitive markets; demographic thrusts have to do with natural generational turnover and the consequences in terms of the integration of different skills; ethical thrusts have to do with the behaviors of the company deemed in line with the visions of its members; and, finally, economic thrusts have to do with contextual, global, and political changes as well as strictly economic ones.

While all of these four thrusts come into operation at the same time, the one that touches on the company's expertise is perhaps the one that the company has focused on most. Know-how is one of the company's main assets: "there is an immediate recognition of a know-how, an expertise, an ability to do that are really powerful" (top management interviews 2020). This awareness, combined with that of being a high-seniority, highly-specialized organization with skills that are difficult to buy on the labor market—"in our country we are the only ones who have made such an infrastructure" (top management interviews 2020)—has made many within the company feel it is necessary to enhance the company's experience and transmit its technical skills. The establishment of a corporate university, a corporate institute, and a foundation, and the creation of competence centers and mentoring paths, all aim to maintain and develop the know-how accumulated over decades of activity. Training is also mentioned as a key activity in relation to the new capabilities that are needed for new business development, especially foreign business: "we must have good specialists who can accept the fact that their capacity and expertise must be expanded and multifaceted" (top management interviews 2020). An important component in terms of training has been identified by many as the ability to fill multiple roles within the organization. Job rotation programs have enabled young recruits to gain cross-functional knowledge of the organization within a few years. The movement of resources within the organization, however, created significant difficulties in the initial stages due to managers' unwillingness to deprive themselves of the highest quality resources.

> "I see a bit of a difference in people who have had mobility and those who have not" ... "it really helps young people who want to grow, but it puts a lot of pressure on middle management". (Top management interviews 2020)

Table 2 summarizes the different interpretation of the company culture in the lines, middle, and top management, which are, respectively, of a hierarchical, process-oriented, and entrepreneurial culture. The resulting dichotomy opposes business-as-usual and innovation.

Table 2. Culture.

Theme	Culture
Lines	Hierarchical
Middle managers	Process-oriented
Top managers	Entrepreneurial
Dichotomy	Business-as-usual vs. innovation

Author's elaboration.

New programs are, at times, perceived by individual function managers as predators of scarce resources within the organization: "there are some people who are particularly stressed partly because the levels of expertise on some specific issues reside in a limited number of resources" (top management interviews 2020). Greater coordination among managers is mentioned as the possible key to a more balanced distribution of resources. The Lean Simplify program, aimed at increasing process efficiency by reducing procedures, is the one that has certainly garnered the most appreciation. Here again, however, the organization seems to be at an intermediate stage on the road to full implementation, not helped by the fact that it operates predominantly in a public sphere inherently characterized by an abundance of regulations. Alongside the excess of procedures, it seems that what slows down the organization is the length of some of the processes.

> "No change is possible if the procedure is a cage as for evolution. One is locked in, literally, that is, if we have a system that punishes if you act contrary to procedure, it is obvious that no change will ever be made. And if it does come, it definitely comes in a completely dilated time frame compared to expectations". . . . "The 'Lean Simplify' program has to go on the content, because if we keep writing the same things in fewer pages, we're going to lengthen the lines on the page. I don't think that's what we're at, I'm just saying that there are some things that are the ones that really lengthen the time for us: you have to look at whether you really have to do them all or maybe some of them can be deferred to later". (Top management interviews 2020)

Finally, some members of the organization appreciated the practice of agile working through smart working initiatives. During the recent crisis caused by the COVID-19 pandemic, as many as 2300 people out of the 3000 on duty were able to work from home, nationwide. According to the personnel, the introduction of remote forms of work was one of "the kind of initiatives that help withstand the pressure [. . .]. There is an important need to support people". (Top management interviews 2020)

The large number of programs and projects activated required effort that resulted in overload, especially for some figures within the organization. In this sense, some within the company have expressed concern over the loss of effectiveness caused by the increasing number of different initiatives. "There are times when frankly between an interview, a course, coaching, really 50 percent of the time goes away like that. There is a little bit of abuse on this front" (mid-managers interviews 2019). Regarding the side effect of thwarting all the good things planned in the beginning in an attempt to find the right initiative:

> "There is a clear perception that each [initiative] taken individually is very important and very valuable; but then you risk fragmenting everyone's efforts on too many things and this leads to a decrease in the benefit, in the perception of the benefit, by the end user [. . .] in the end there is such a saturation that you launch the new initiative and one doesn't even look at it anymore". (mid-managers interviews 2019)

The emerging theme of identity underlines the contrast between the exploitation of the know-how of the lines with the exploration of opportunities for change in the top management, with the middle managers that suffer from the fragmentation of initiative in order to balance both sides (see Table 3).

Table 3. Identity.

Theme	Identity
Lines Middle managers Top managers	Expertise Fragmentation Evolution
Dichotomy	Exploitation vs. exploration

Author's elaboration.

The natural exhaustion of some activities and the settling of others softened the perceptions about the latest phases of the ongoing change. Cultural change is a complex process and requires constancy in stimuli and redundancy in actions.

4.3. The Actions of Change

In the company's history, vocations for excellence (gold plating), discipline, and hierarchy have enabled the optimal management of infrastructure and gas, a sensitive commodity, and consistent profitability within a regulated market. These attitudes, while successful and widely accepted by internal members of the organization as inherent in the organization's identity and strengths, could nevertheless prove detrimental in unregulated, more dynamic, and variable contexts, limiting the organization's flexibility and ability to innovate. The widespread impression is that "we claim to do things with 100% success, which is an impossible thing" (mid-managers interviews 2019).

Inertia means organizations tend to (not) react to changes in their environment when it is already too late. Absurdly, it is precisely the organization's good health that makes it less responsive to changes in its environment, especially in cases where these occur gradually. "Paradoxically, if there is a crisis to deal with, you find strength" (mid-managers interviews 2019).

On the one hand, operating in a regulated monopoly has allowed the company to consolidate, but, on the other hand, has isolated members of the organization from the external environment. Internal stability thus runs the risk that change will be perceived as something unnecessary, especially in peripheral operating areas, where routine is more internalized by staff and there is no concrete need for change. At an early stage, several members, especially those with some career seniority within the company, emphasized that the organization had not been inert over time, and indeed had already gone through many transformations in its history; the same people felt that the emphasis on change was not necessarily justified. One long-time employee, for example, reiterated the magnitude of the changes accomplished over time:

> "I have always worked in this organization and I have to tell you that really, I have experienced a lot of changes. Even on my skin. But really extremely significant changes. In terms of business more significant than what we are experiencing today, there is no doubt about that, because this has been a company where logistics activities were a means, because the real business was buying, buying and selling gas, and it was transformed into a company where logistics activities were the end. The business with the gradual exit from the holding group. So, I experienced this change in the sense that in the year 2000, from scratch, we invented the job. That is, there was the blank sheet in 2000, and I assure you that this is a change". One colleague shared the same view: "I am convinced, for goodness' sake some experience behind me I have, that there is not a big difference between the changes we experienced 20 years ago and those we are experiencing now". (Employees interviews 2019)

The underlying logic expressed by these speeches is that the changes of today are in essence the same as those of yesterday, and, having dealt with them successfully in the past, there is no reason why they should be approached differently in the present. Interestingly, this interpretation underestimates the cultural change that is the real goal of recent actions and makes comparisons only with business changes. The peculiarity of cultural change is its difficult assessment; it does not appear with concrete signs but digs deep, setting the conditions for radical transformation.

On the one hand, there is an old organization confident that it can cope with new business; on the other hand, there is a new vision, which argues that the same kind of culture holds back the organization from being competitive in unregulated markets. A series of tensions derived from this "new-old" dichotomy is related to the factors that redefine the company's identity, starting with its core business. The old business is still part of the company's core. In fact, the core business continues to be gas transportation, a regulated activity from which the company derives the vast majority of its revenue. The walls of the headquarters are plastered with photos of pipes, and it is on this symbol that the company's identity is based, i.e., on the "iron" from which the pipes are made.

Not surprisingly, many of the change initiatives initially put in place by the organization seemed to have, in fact, touched the functions and new activities, while the headquarters were perceived as "the stuff not to be touched, the core business, the core know-how, the thing that if we ever lost it, divine tragedy. We would no longer exist" (mid-managers interviews 2019). However, during the change process, the headquarters were invested in the change and were required to be more operationally efficient, coupled with a role in helping to define the development strategies. This first paradox has thus been resolved in the synthesis between an organization that does not abandon its core business and the same organization that increasingly enhances it by making it the basis for further growth, through actions of process innovation and a shift toward a focus on cost–benefit analysis that respects corporate resources and technical safety at the same time.

A relevant factor for organizational change has been the understanding that there are strategic resources that affect the whole organization and not just a single unit or function. At the communication level, this turned into the decision to reduce the over-representation of new businesses but to make explicit the symbiotic relationship that exists between the "old" and "new" activities. The aim was to avoid dualisms within the organization, a true challenge regarding the attachment to the company that threatened to reduce effectiveness and synergy. In regard to getting everyone on board, the following was mentioned.

> "An effort to make the old guard to see itself as the roots of the new, and to make people see how the new can only exist by maintaining what we have developed over so many years". (Top management interviews 2020)

The dualism within the organization also emerges in the way work is approached. First, there is great pride in the company for the specialized skills acquired over decades of operational experience. Many have expressed impatience with outsourcing processes and concern that these skills are being lost:

> "This thing of giving things out has always bothered me a little bit" ... "then we had to redo everything ourselves" ... "I think the experience factor is coming a little bit to the back burner. You take it a little bit for granted, as if it's easily acquired or replaced by a resource that maybe you take from the market and put it here". (Employees interviews 2019)

Again, there is a tension between a technical-specialist approach, which prioritizes quality, and which, after all, has led to the generation of the know-how that the company intends to exploit, and a more entrepreneurial one in the sense of fostering continuous internal business development. Tension also extends to the issue of safety. Although it is part of the declared core values of the organization, initially a fear emerged from the operatives that there was no real awareness at the headquarters of the riskiness of gas:

> "Those who are in the periphery, in the territory, and handle gas, know very well how dangerous gas is. At headquarters sometimes not". (Employees interviews 2019)

Conversely, on the other hand, there were those who feared the company might "use issues like safety as weapons not to change" (top management interviews 2020). In the development of organizational change, however, even this paradox found its synthesis in reaffirming the centrality of safety as one of the four stated values of the corporate culture, while asking everyone to take an active part in finding innovative solutions to reduce operating costs.

The combination of these tensions seemed to be a reflection of a political balance between those managers who were looking to the future, beyond the reassuring confines of the regulated business, and those who were concerned with the worst-case scenario, in regard to maintaining and, if possible, increasing profits. In all this, the role of the shareholder base that has always rewarded the company's low risk profile should not be underestimated—"the shareholder really likes the 'regulated business', a pipeline is forever" (top management interviews 2020)—thus helping to maintain a conservative approach within the organization, appropriate for managing and developing the national grid, but not for tackling new business.

> "We are very good at managing contracts in (our country). We are able to manage the full cycle of a project, unpacking it, [... but] we are not structured for the private sector, we use the same procedures as the public sector, [... and] if we want to manage the private markets with the head of the public sector, forget it because we are to going anywhere" ... "The company is not used to taking risks because our stock profile is a low-risk profile that rewards guaranteed profitability-it is a safe haven asset. You have to be careful about changing the risk profile because you risk losing investors along the way. It is a trade-off that is not easy to manage. It's not that we are not able to take the risks: we deliberately don't take the risks". (Top management interviews 2020)

The action of change implies a consideration of the attitude toward risk, as change implies an element of risk. The lines have an orientation toward disciplines, which promote discipline and avoid risk; middle managers have an orientation toward results, which favor success over risk; lastly, the top management take pride in the entrepreneurial action of the company, seeking opportunity and managing risk (see Table 4).

Table 4. Actions.

Theme	Actions
Lines	Discipline-oriented
Middle managers	Success-oriented
Top managers	Opportunity-oriented
Dichotomy	Risk-avoiding vs. risk-taking

Author's elaboration.

In this case, the dichotomic tension was resolved by constant discussion and the decision to keep part of the middle management in their original role, especially in regard to the technical areas. The goal of the various actions taken was to be able to foster the development of a positive synthesis between prudence and innovation. There has been, in other words, an integration of the existing vertical technocratic organizational culture with a more horizontal, collaborative, and cooperative one; high safety standards have allowed, and still allow the company to continue to operate with maximum efficiency in the transportation of gas in a regulated market, while informal communication and extended possibilities for participation and initiative have facilitated the exploration of new markets and new business.

5. Discussion

At the beginning of the change journey, the organization was perceived as a "two-faced Janus", a two-sided organization where change took place at different levels: the headquarters, where things were changing, and the periphery, where inertia seemed to be the rule. An almost infinite series of dialectical oppositions derive from this dichotomy: old/new, operations/staff, regulated/unregulated, home-country/foreign-markets, technical/non-technical, visible/invisible, etc., as if there were two distinct, potentially irreconcilable organizations that were gradually going to split. In reality, the two souls of the company repelled and attracted each other at the same time, in a symbiotic relationship that saw them in a condition of mutual dependence. The thematic analysis returned more significant dichotomies: shot-/long-view, business-as-usual/innovation, exploitation/exploration. Organizational change moved on the line between risk-avoiding and risk-taking actions. On the one hand, the solidity of the traditional activities guaranteed over time the revenues that today allow management to explore new possibilities for the future, even in regard to taking risks; on the other hand, the new managers created a network of connections, leading the company to the places and businesses that in the future will complement or replace the current ones. This represents a tension that was in some ways moved to a synthesis, in which the identity is that of an organization capable of enhancing its history and innovating.

At the beginning of the transition, it was clear how the long-term vision on energy transition beyond gas transportation in the national regulated market was well understood by people. However, it was likewise clear how, especially in the operational areas, there was a lack of a short-to-medium-term vision that would allow people to touch on the organizational change. This phase seems to have passed thanks to the fact that many projects have moved beyond the embryonic stage, and the fact that management is resolutely aiming to maintain the effectiveness of this regulated business while not neglecting the value of energy transition. Like pieces of a puzzle, investments in strategic partnerships, mergers, and acquisitions are beginning to create a picture that sees the company as a leading player in energy transition and in the future of the green economy of Europe.

The path traced has put the organization back into motion by gradually turning paradoxes into company resources. The paradox then ends only with action, with being there, thus abandoning the process dimension, i.e., "with cutting the Gordian knot". In the face of the difficulty of identifying a clear business development direction, given the uncertainties on this front, the choice to focus on the internal dimension of the organization has been an engine of positive change. Certainly, this "restarting" of the company has not yet produced results on the new business front that are able to compete with the traditional business, but the strategic and managerial conditions do not require it in the immediate term. The organization has reconnected with its identity, and now can face the future developments of the energy transition.

The originality of the path, however, lies in the centrality-attributed organizational change. The energy transition caused the organizational transformation, but that was only the start. The real process was the adjustment to the tensions that opposed the levels of the organizations in opposing dichotomies. Dichotomies need to find common ground. The role of the management is to reaffirm the company's history. The perception of change is misunderstood in the defense of the core activities and in the misrepresentation of the company skills, including the ability to change. The transformation process has triggered a reinterpretation of the corporate history capable of enhancing its strengths and grafting new values and operating behavior onto the business. A prerequisite for change was the understanding of the corporate history and how the top management reflected this on the entrepreneurial identity of the new company. The company's objective is not to defend rentier positions acquired by virtue of a competitive advantage, but to continuously innovate in line with the changes in the context that it wishes to guide rather than accommodate it. Exploiting the history of the company while exploring innovation is a skill that depends heavily on the most specialized figures in the organization. Senior managers have been crucial both in managing the core business and in trying to exploit its know-how in other fields. The intra-organizational communication connected the levels—top/middle/ managers, headquarters, and line operations—and served as a reinterpretation of the company's history, thus making the transition easy, not as a reaction to the external change but as a rediscovery of the company's entrepreneurial identity (Figure 1).

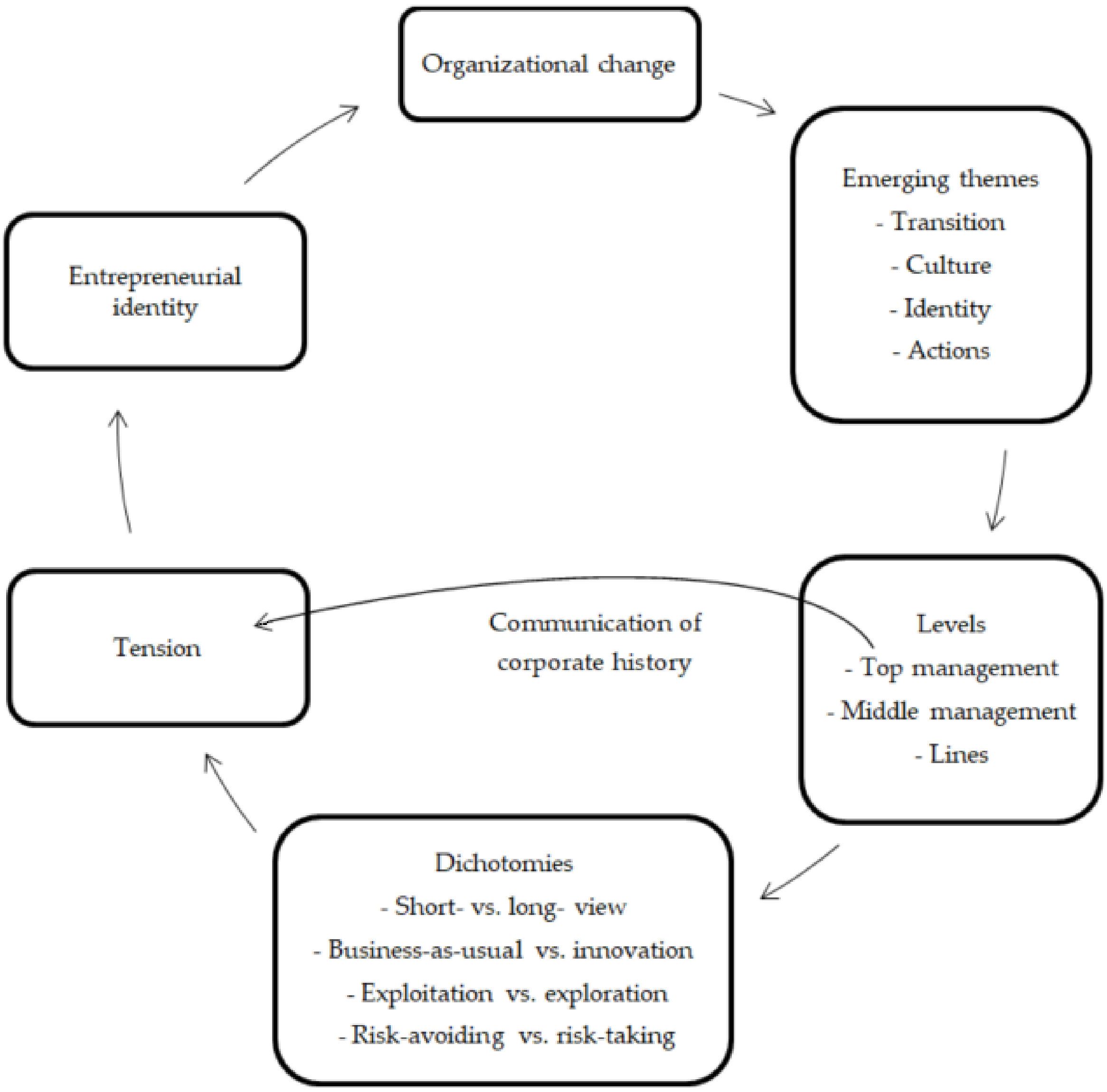

Figure 1. The process of organizational change and the role of the corporate history. *Source*: author's elaboration.

6. Conclusions

The exploration of the case of energy transition in a large state-owned enterprise has shown the multiple tensions arising from the multiple corporate cultures that exist within an organization. The line operations tend to resist change, while the management is willing to explore new opportunities. The first ones values the cumulated skills and know-how and wants to preserve them, while the second ones wants to match the internal capabilities of the firms with the changing environment. The distance between the two parties may seem irreconcilable; however, the corporate history of the company has provided a useful connection with its entrepreneurial origin that has refreshed the identity of the organization, letting its original trait of innovation emerge.

The tensions, paradoxes included, have moved the company to explore its origins and find in its entrepreneurial inception the basis to rejuvenate its identity and forge the company's change in the context of the energy transition. The originality of the present study consists in its dynamic view of the organizational change happening among the levels and the individuals inside the organization. While most of the research looks at the macro components of energy transition (for example, policy and finance) or micro (for example, innovations and reputations), certain factors, both internal and external, are considered in this study at the firm level. However, an issue that is important but underestimated is the reaction of organizations to the energy transition. A large state-owned enterprise in the oil and gas industry has to first work on its identity, its internal structure, and its readiness to change before initiating the energy transition. Nevertheless, this first step may be crucial and therefore deserves more study, and this research is a first attempt in that direction.

This study contributes to the understanding of the internal dynamics of change in large SOEs. The interviews revealed the importance of individual perceptions and experiences of change and identity formation. The re-interpretation of the corporate identity represents a condition that eases the process of organizational change. Within this perspective, the individual interpretation of the corporate identity in managing organizational change suggests the relevant role of the use of the corporate history in redeeming the entrepreneurial nature of the organization, which is essential in driving change, either through innovation or energy transition. The communication regarding the entrepreneurial history of the organization serves as a specific action, useful to create convergent interpretations regarding the courses of action taken. Corporate history and entrepreneurial identity impact the individuals' attitude toward innovation and transition.

A few implications and contributions have emerged from this study. The contribution of this paper to the theory consists of an appreciation of the role of corporate history as the mediator that bridges the tension between elements in the process of organizational change. Tensions in the organization are the result of dichotomies that express the paradoxes of organizational change (Nasim and Sushil 2011); corporate history served as the re-interpretation of the corporate identity, forming the essence and meaning of the enterprise (Albert and Whetten 1985; Corley and Gioia 2004). The ultimate paradox is that the top management administrated a historically guided change to maintain the corporate identity in a changing context. While one can derive this implication to be valid for any organization confronting change, the case of the present study is of great relevance. SOEs in the oil and gas sector have a long corporate history and the urge to completely redefine their business in a deep reshaping of their identity. Yet, it is precisely the historical corporate identity that serves the aim of transforming societies with innovation (Tonurist and Karo 2016; Bortolotti et al. 2019), which can thus guide the energy transition and commitment to green innovation (Green et al. 2021; Jaffe et al. 2022).

A managerial implication considers the role of the senior management in providing good communication within the company to spread the fundamental identity of the organization in a time of change, which thus turns from a threatening transformation into a rediscovery of the company's history. One practical implication is the rethinking of the role of the communication inside and outside the organization so to involve the core and the periphery in a mutual understanding of each other, and in the shaping of a coherent and shared identity. A theoretical implication is how the tension between corporate history/transformation can turn into a balance between core competences and change, even in large and traditionally stable state-owned enterprises.

The limitations of the present study include its explorative nature and its single-case analysis of change in a large SOE. Future research can build on the insights of this study to further understand how to produce sustainable innovation in large enterprises.

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