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Sociomateriality and Open Strategising in an Organisational Structural Change Context

Abstract

Through the lenses of strategising and sociomaterial perspective, the goal of the study is to understand how people and tools are combined to favour (or not) open strategising, in a context of organisational structural change. Based on a qualitative case study we evidence the importance of the organisational structural change context in the connection between sociomateriality and open strategising. We reveal, through the sociomateriality lens, that human and non-human actors enable open strategising to be performed in such context as well as favour the practitioners to be promoters of openness and influencers of the open strategy level during an organisational change context. Our findings unveil the implications of sociomateriality for practitioners in the organisational change context considering the open strategising and expand our understanding about the mechanisms of the dynamics of open strategy.

Keywords: sociomateriality, open strategising, strategy as social practice, organisational change, organisational context, case study.

Introduction

In the organisational context, the use of materiality favours the articulation of new understandings and allows practitioners of strategy to build meaning together (Stigliani and Ravasi, 2012). The visual artefacts, for example, have become increasingly central to practitioners of strategy, being recognised as indispensable for making sense of the work developed (Knight and Paroutis, 2019). The role of sociomateriality is “the interplay and entanglement of human and the material in strategy work” (Kohtamäki et al., 2022, p. 4).

The sociomateriality literature elicits that visibility is essential to communicate the strategic direction of the organisation, engaging a wider audience in strategic issues (Knight et al., 2018; Paroutis et al., 2015; Paroutis and Knight; 2019). The influence of the visual artefacts in the strategic process is an emerging topic of interest in strategy research from the perspective of strategy as social practice and open strategy, since it directs attention to the analysis of strategic micro activities in organisations and to the internal and external practitioners involved in the strategy-making process (Jarzabkowski et al., 2007; Whittington et al., 2011). Paroutis and Knight (2019, p. 4) indicate that “visibility holds the potential to further enrich our understanding of Open Strategy processes and practices in organisational life”.

Recent studies have approached sociomateriality and open strategy, confirming their intertwinement and suggesting that the examination of open strategy through the role of visuals is a great promise (Paroutis and Knight, 2019). Laine and Parkkari (2016) examined the dynamic entangling of human actions and materialities and their implication for strategy-making participation. They argue that participation in strategy could be considered as a dialectic process of exclusion and inclusion when seen through sociomateriality lens. Knight and Paroutis (2019) and Knight et al. (2018) in their turn, even if not directly relating to open strategy literature, showed that visuals enable more open communication and engagement of participants in strategy. Paroutis and Knight (2019) establish that visuals can have great influence in the success or failure of the open strategy process and firms have the potential to engage as well as provide transparency to internal and external audiences in particular aspects of their strategy making process and decision-making. Dobusch et al. (2019), for instance, confirmed that sociomateriality is an essential aspect of open strategising, especially when supported by digital technology. Einola et al. (2019) have also connected open strategy and sociomateriality claiming that crowdsourcing improved the involvement of people in the open strategising process. Moura and Bispo (2020) explained that the open strategy taking place and

the response to changes are composed of sociomateriality, that is, by human and non-human elements entangled in a complex and not always obvious way.

Concerning the connection between open strategising and context, Mack and Szulanski (2017) found that organisational structure, whether centralized or decentralized, affects the process and outcomes of open strategising. Adobor (2021) in his turn, argued how context is an important determinant of the outcomes of the open strategy formation process. Bellucci et al. (2022) have emphasised the role of home-country and national cultural contexts in the configuration and dynamics of open strategising.

However, despite both sociomateriality and open strategy literature recognise sociomateriality and context as important aspects concerning openness, we still know very little about the contribution and influence of how the social and the material work together (Orlikowski, 2007, 2010) to produce and change reality to, consequently, open strategising, especially in structural organisational change context. Hence, we interpret that there is a need to understand different organisational contexts from the perspective of strategy as social practice (Whittington, 2006) and that there is still room for research on the role of materiality participation in open strategising process (Orlikowski, 2007, 2010; Orlikowski and Scott, 2008; Laine and Parkkari, 2016; Hautz et al., 2017).

The study of sociomateriality that enables a better comprehension of aspects related to visuality and the combination with open strategy-making process is an advance in organisational research (Boxenbaum et al., 2018). Investigating the role of visual artefacts can enrich the understanding of open strategising (Paroutis and Knight, 2019) since it is a growing field of study that needs theoretical and empirical studies for its strengthening and consolidation (Tavakoli et al., 2017). Yet, if sociomateriality becomes “an enduring lens through which to understand social phenomena”, it needs to go “beyond its current preoccupation with the

intentions encoded in the materials themselves to examining activities as they are accomplished with objects in a multiplicity of contexts” (Jarzabkowski and Pinch, 2013).

Given this, we ask the research question: *how are people and tools combined to favour (or not) open strategising, in a context of organisational structural change?*

To answer this question, we conducted a qualitative case study on a Brazilian technology-based company that was experiencing structural changes. Looking through the lenses of strategy as social practice and sociomateriality perspectives, our findings evidenced a deep connection between the strategists (human and non-human practitioners) and the sociomateriality during open strategising processes present in the ongoing structural change. We state that the sociomateriality perspective helps us to understand the relation between materiality and strategy practitioners as promoters of open strategising, influencing the inclusion level of people and the information transparency in the flow of activities (praxis) through which the actions and interactions of multiple actors (practitioners and artefacts) and its situated practices occur. The relation between people and the tools then, was indispensable and contributed in a positive manner to enable people inclusion and information transparency in the open strategising process.

The contribution of this study is to enable the expansion of knowledge about strategy as social practice and sociomateriality lens in the process of *open strategising* in a context of structural change, highlighting how the interrelationship between human and non-human agencies favour and influence open strategising practices (Dobusch et al., 2019; Moura and Bispo, 2020) depending on this context. Additionally, our study contributes to a better understanding of the implications of materiality on the practitioners of open strategising in an organisational change context and expand considerations about the mechanisms of the dynamics of open strategising (Hautz et al., 2017).

Sociomateriality, Strategising and Open Strategising

The sociomateriality literature highlights the connection between the strategic practices and material ‘things’ that make up the strategic work, such as manuals, power-point slides, notes and boards to understand how the organisational members interact with the material artefacts available in their daily organisational activities (Balogun et al., 2014; Jarzabkowski and Kaplan, 2015; Orlikowski and Scott, 2008).

Sociomateriality comprises activities that merge materiality with social phenomena, such as institutions, norms and discourses, with socio-material practices being the space where the material and the social intertwine (Orlikowski, 2007; Balogun et al., 2014). From this perspective, all materiality is also social, as it is incorporated into social practices and interpreted and used in situated contexts. Yet, all social practices are only possible because of materiality (Orlikowski, 2007, 2010; Cooren, 2020; Orlikowski and Scott, 2008, 2021). According to Dameron et al. (2015) and Balogun et al. (2014) considering spoken discourse, when analysing the types of materials involved in strategic work such as (Schwarz, 2020), objects and artefacts, technologies, built spaces and human bodies, is important to interpret strategic practices (Burke and Wolf, 2021). Along similar lines, Werle and Seidl (2015) stressed the need to also consider the interaction between different types of materiality in strategic work since materiality can assume objective functions by anchoring and guiding the initial discussions and also influencing the comprehension of strategy in various ways. Therefore, the use of materiality depends not only on the properties of materials (Jarzabkowski and Kaplan, 2015) but on people’s interpretations of material artefacts and the interrelationship between them (Jarzabkowski et al., 2013; Werle and Seidl, 2015).

Sociomateriality is a valuable approach to understanding how the interaction between materiality and social phenomena can give rise to organisations and their practices (Orlikowski,

2007; Moura and Bispo, 2020), often appearing related to the creation of meaning and the use of visual artefacts in strategic practices (Dameron et al., 2015). The visual artefacts materialise, communicate, store, and transmit information, being elementary for the construction, maintenance, and transformation of social practices (Bell and Davison, 2013; Meyer et al., 2013).

Studies indicate a huge increase in the use of images, logos, graphics, infographics, drawings, photographs, videos, power-point slides and a variety of material and visual tools and expressions in organisational activities and practices (Meyer et al., 2013; Bell et al., 2014; Schwarz, 2020; Burke and Wolf, 2021), including open practices (Paroutis and Knight, 2019).

Recent studies also establish that visual artefacts have an impact on open strategising as they enable more open communication for internal and external audiences as well as widen the transparency of strategic information in the organisation. In this case, visual artefacts, leaders, and managers can show the relevance of their organisations' specific strategic initiatives to individuals who are not strategy experts (Knight and Paroutis, 2019; Paroutis and Knights, 2019). Hence, the use of visuality, in the context of strategy as social practice and open strategising, is justified in supporting the construction and sharing of ideas and knowledge related to strategy to a wider audience (Knight et al., 2018; Meyer et al., 2018; Knight and Paroutis, 2019), despite other forms of materiality – “visible or less visible flows” (Orlikowski, 2007, p. 1436).

From the perspective of strategy as social practice, strategy is understood as an action carried out by multiple actors of the organisation that develops through their interactions using techniques and tools in its elaboration and implementation. Strategic practices refer to routines of behaviour, such as the traditions, norms, and procedures of thinking, acting, and utilising artefacts (such as Gantt charts, whiteboards, or post-it notes) that form the work of the actors involved in the processes (Whittington, 2006). Strategic practices can be: (i) administrative,

related to the organisation and coordination of the strategy; (ii) discursive, providing linguistic, cognitive and symbolic resources; and (iii) episodic, promoting and organising the interaction between practitioners in strategising (Jarzabkowski et al., 2007).

Several strategists are considered potential executors of strategy, regardless of the organisational level at which they are. Therefore, strategic activity is complex, formed by the diverse voices, actions and narratives present in organisations; the more strategic studies address the theories of practice, the more evident it is that strategy is not an organisational attribute, but rather a reflection of the activity of individuals and, therefore, a social phenomenon (Whittington, 2006).

In the face of organisational, societal, cultural and technological changes, there is a recent trend towards a more inclusive strategising process, or open strategising, that widens the transparency of information and inclusion of different actors in the strategy-making process of organisations (Whittington et al., 2011; Hautz et al., 2017; Whittington, 2019). As for inclusion, the opening strategy consists of people involved in the strategic process, who participate in conversations aimed at shaping strategy. In terms of transparency, openness increases the visibility of strategic information during the formulation process and concerning the final strategy (Whittington et al., 2011). The opening strategy refers to the provision of strategic knowledge to more actors capable of engaging in strategic conversation, and it does not concern a democracy in decision-making (Adobor, 2020; Whittington et al., 2011).

The literature that deals with open strategy in organisations highlights that information technology is a central part of open strategising, suggesting a strong connection to sociomateriality (Dobusch et al., 2019). Therefore, open practices of inclusion of people and transparency of information (Diriker, Porter, and Tuertscher, 2020; Heinzen, and Lavarda, 2021), as well as their usage and interaction (Orlikowski, 2007, 2010), are made possible and shaped by information technology (Nketia, 2016; Baptista et al., 2017; Hautz et al., 2017;

Tavakoli et al., 2017; Bellucci et al., 2022) in which humans and non-humans are interconnected in strategic social practices (Orlokowski, 2007; Moura and Bispo, 2020).

Methods

We undertook a qualitative single case study as a suitable method to understand the reality of strategy practitioners or how people and tools are combined to favour (or not) open strategising, in a context of organisational structural change (Lavarda and Bellucci, 2022; Morande and Vacchio, 2022).

We selected a technology-based company that encourages and promotes technological innovation, stimulating openness and cooperation among its employees and partners (Hautz et al., 2017). We justify the selection of this organisation that provided the feasibility of this research, due to: (i) the organisation experiencing constant structural changes; (ii) the size of the organisation and the autonomy given to the teams to enable the practitioners' interpretation of different actions; and (iii) for acting with technologies and material artefacts of various types in their routines. These aspects characterised an open context making it a relevant case to be studied. The organisation under study was named *Business4*, to maintain the confidentiality of the data collected.

Case Context: The structural change

Business4 is considered a reference in Latin America in artificial intelligence (AI) for business. The company located in the South of Brazil has stood out as a technological pole, due to being specialised in software development, with high rates of investments in the technology, information and communication sector (Santa Catarina, 2017).

Business4, founded in 2002, develops solutions for the national market to optimise the economic performance of public or private companies, using AI. In 2012, it began offering solutions that transformed data into knowledge, through its platform, supporting the elaboration of strategies for sales, marketing, risk and compliance.

In 2019, *Business4* had 700 clients in 18 segments, including the consumer goods industry, information technology and financial institutions. The offices of *Business4* were designed in an open layout concept: there are no or few walls dividing the working environment. Some are reserved for planning and task control, which allows easy communication between the different hierarchical levels and the integration of employees.

However, at the end of 2019, the executives of *Business4* noticed difficulties in integration and understanding between them. This led them to outline a plan for 2020, inserting employees from various areas, to unify the company's vision concerning the platform and the applications available. The discussions about vision and difficulty of communication motivated a structural change of work in the engineering team, responsible for the development of the platform and applications. This change proposed a reorganisation of the work areas in a multidisciplinary way redirecting the efforts of existing teams based on the customer value journey of *Business4*.

In this movement of change, two members of the executive level mapped how the clients of *Business4* interacted with products to understand how the company could generate even more value. The customer value flow underpinned a new work structure that groups teams of employees into multidisciplinary cells based on product segments. In this new model, the cells serve and follow the initiatives related to the development of the platform and the applications.

From the point of view of the work cells, the structural reorganisation has brought more sense to the operational activities of employees who are directly involved in the development

of the platform and applications. Based on this, the executive body drew up new plans for the organisation, with changes in the product and positioning of the company in the market.

Data Collection

Data collection took place through (i) semi-structured interviews; (ii) direct observation; and (iii) documentary analysis. The data collection process was organised in a way that we could understand the history and the present state of the company and identify situations of strategic changes that justified the process analysis (Stake, 2003).

The interviews were conducted individually based on a semi-structured script with eight opening questions that served as a “topic guide” prepared on the basis of the theoretical review, considering materiality, inclusion and participation, transparency and structural change issues (Orlikowski and Scott, 2008; Leonard, 2011, 2012; Moura and Bispo, 2019), the questions were broken down into additional questions according to the disposition of the interviewees. We interviewed seven practitioners from different hierarchical levels of the company [(named by numbers (I01-I07))] using tools such as *Whereby* and Hangout by *Google*. Part of the interviews took place online due to the restrictions imposed by the COVID-19 pandemic. The interviews occurred between March to July 2020 and were recorded with the consent of the interviewees. The interviews lasted approximately one hour each (Table 1) and the data (107 pages for analysis) is saved and kept in archives according to the protection law of the data.

[Table 1 around here]

Complementarily, data collection through direct observation occurred face-to-face (during site recognition visits) where detailed field notes were taken, and through video conferences, from February to July 2020. We observed the constant interactions between team members and the use of artefacts and technologies during their daily routines (Knight and Paroutis, 2019).

The documents used for the analysis, in turn, complements the other sources of data, contributing to increase the reliability of the research as it reduces the influence of the researchers on the information produced in the field, these documents were: photos of the construction process of the new structure, slide shows, emails exchanged by the company's employees, the slack channel and the description of the activities of the teams. In addition, the institutional website was analysed, which gathers and presents to the internal and external public information about the company and the document regarding the organisation of the work cells, allowing verification of information generated during the change process.

Data Analysis

Data analysis followed three steps. First, we compiled the interview transcripts, observation field notes and documents to make sense of the data collected. Second, we used the pattern matching technique (Trochim, 1989) to analyse the data collected and interact with the constructed theoretical framework, in an abductive approach, moving between data and theory (Gioia et al., 2013) repeatedly. Thirdly, we developed initial descriptive codes (Saldaña, 2021) that confirmed the Constitutive Elements of the Research (CER) and Operational Elements of the Research (OER) that guided the empirical stage (Kerlinger, 1979), Table 2.

[Table 2 around here]

The CERs correspond to the theoretical concepts adopted on what is being investigated, while the OERs are how these concepts can be operationalised in practice. The results are presented from these constructs (CER and OER).

Findings

We present our findings considering CER1 – Sociomateriality as the inseparability between material and social, in which human and material agencies do not have intrinsic properties, but acquire their forms, attributes, capabilities and assume meanings as they become entangled (Orlikowski and Scott, 2008). We also consider CER2 – Open strategising as the level of transparency of information and inclusion of practitioners (Orlikowski, 2007; Whittington et al., 2011; Hautz et al., 2017) in activity flows (praxis) by which the actions and interactions of the multiple actors (human and non-human practitioners) and their situated practices occur (Whittington, 2006; Jarzabkowski et al., 2007), in a context of organisational structural change. As pointed in the case context, the discussions about vision and difficulty of communication motivated a structural change of work in the engineering team. This change proposed a reorganisation of the work areas redirecting the efforts of existing *Business4* teams.

Socio and Materiality Interaction in Open Strategising

In this section, we characterise the component aspects of socio-material practices in *Business4*, concerning organisational structural change and we present the material, technological and the visual artefacts interacting during the process of change, as well as the interaction between these elements in the practices of inclusion of people and transparency of strategic information, that is, in the open strategising inherent in the process. Hence, we present the actions, interactions and participation of people and materiality in the process of constructing the new work structure, revealing the open strategising. From a sociomaterial perspective, such construction cannot be done just by people, once it's always an effect of the multiple actors (human – non-human) that are entangled in the process (Orlikowski, 2010).

Data from interviews, direct observation and documentary analysis are presented simultaneously and pointed to a wide range of material and visual artefacts in interaction with the management of *Business4* as well as the interweaving of these artefacts in the open strategising practices for the process of structural change.

The new work structure began with discussions between internal practitioners of the executive level on the vision and the difficulty of communication between the different areas of the company, conducted by I01. These conversations started at the end of 2019 when the managers of *Business4* began to outline strategic planning for the following year (Parnell, Barrett, and Morrison, 2022). The information provided by the interviewee I01 showed this situation:

“There was already a feeling that the area of technology could not generate value, could not do interesting things (...). And a provocation from the executive level and other boards began to arise (...) that a change was needed, and they started making some suggestions”.

We found, through the interviews, a collaborative synergy among the members of the executive level to consolidate a common vision regarding the products offered and their functioning, which allowed to base the change more consistently (Parnell et al., 2022). We consider this as the first intentional step toward structural change. In this way, we highlight the action of the practitioner I01, who actively conducted these discussions and supported the execution of the strategy: “I did interviews with the executive body to understand what they thought the vision of the company was. I collected a lot of information from everyone, and I consolidated my understanding of it in a drawing”.

[Figure 1 around here]

[Figure 2 around here]

Pre organisational structural change phase

At this *initial stage*, generating ideas about the new structure, *the drawing table* (although not proper for this) was a determinant tool in the designing of the new structure, serving as a support to comprehend and map the customer value journey, which resulted in an outline of the structure diagram. Interviewees I01 and I06 presented documents (photographs of the meeting) and reported that artefacts such as the pen and the drawing board enabled strategy practitioners to generate and structure ideas (Werle and Seidl, 2015) that were shared with others, giving confidence to the process.

In these conversations, to unify a vision regarding the product, both realised the need to know the customer value flow. So, they mapped the customer value journey, in a *drawing* of a sales funnel that helped the practitioners to understand in detail the process of developing the platform and applications: “we went to the warehouse in the company, took a glass table and designed this structure and, thanks to this table we got this result” (I06).

Inclusion

In the presented circumstance, we identified the *practice of inclusion* in strategic information exchanges among members of the executive level for the formation of a unified vision of the company (Jarzabkowski et al., 2007; Whittington et al., 2011), through interactions of a formal strategic planning meeting and informal everyday conversations which were enabled by the materiality. When analysing how practitioners interacted during this strategic process, the synergy for the unification of a vision concerning the product happened collaboratively. In this context, we also identified that visual discourse (sketch of the drawing) and verbal discourse (conversations and discussions) aided them in understanding the questions about the conception of the new work structure (Knight and Paroutis, 2019). As instrumental non-objective materiality, the *drawing table* had a subtle and important influence on the process

of change, being the means for generating these sketches (Werle and Seidl, 2015) not just because the artefact itself but because of the atmosphere generated around the table (Cooren, 2020).

After these discussions, the interviewee I01 delved into theoretical and practical research to substantiate the reorganisation, obtaining information also from a person outside the company, who had implemented a similar structural change, and who openly shared his experience:

“what convinced me to try to propose this way was a conversation with the CEO of another software company. This helped me to be sure that it would be the path to take. [...] Because I could see this working, someone had already taken a step [...], it gave me more confidence”.

The interviews indicated the *inclusion* of an external agent whose role was to provide strategic information on other ways of structuring technology teams and assist, albeit indirectly, in the structural reorganisation of the engineering area of the *Business4*. His intervention, which happened through *informal conversations* and interactions with I01, contributed to the structural change of work in the company (Jarzabkowski et al., 2007).

Only I01 and I06 participated in the planning process of the structure design, being responsible for the definition of the new work structure of *Business4*. However, after the initial discussions, the executive opened this process, seeking contributions from the collaborating teams in refining the structure to try to decrease the natural resistance to change. Therefore, practitioners I01 and I04 adopted a *slide* presentation, shaped according to the expertise of the collaborators. Such approach promoted openness to discussions and questions, stimulated the generation of new ideas and allowed practitioners to explore beyond what was verbally discussed between them.

This *opening phase* was defined, in this research, as *refining the structure*, in which the leaders and the work cells participated by giving information and suggestions about the new

work structure. According to I03, this *collaborative practice* was fundamental to the acceptance of the company's employees.

At first, the opening took place among the technical leaders of the work cells. Interviewee I03 emphasised that the model was practically ready when it was presented: "they had already arrived with a half-ready idea. They worked on a proposal, put forward these proposals and were refining them with the rest of the people." This was confirmed by I01, who claimed to have at least 80% of the model already built when it was shared with the rest of the company's employees. Thus, we found that the idea involved leaders convincing their subordinates to adopt the new way of working.

I03 found that there was *openness to participation* in terms of validating the model and contributing to the presentation for his team: "there was a lot of previous work, starting with significant changes of talking with these people, explaining what we were doing, what the idea was, where we wanted to go and if the person felt comfortable in that position". The opening was also confirmed by interviewee I02: "everyone there had a space to opine on the new change (...), whether it made sense or not".

Soon after, the executive opened discussions for the other employees in the areas of specialisation of work cells. At this time, the model, already practically defined, created a sense of belonging regarding the change, as identified in the fragment of interviewee I03: "they were also listening to the people who were working daily to know if it would make sense to promote these changes or not. [...]".

We found that there was a process of negotiation and conversation among the employees during the refining of the structure. The excerpt extracted from the interviewee I03 reinforces this: "the change of the organisation, the way the company did it, [... wasn't anything that came from top-down, you know?]. The staff felt part of this construction. I think that was a big

differential” (I03). Similarly, I02 indicated that the ideas were maturing from the actors’ discussions and opinions.

This situation reinforces the *openness of the strategy* regarding *inclusion* since the process of refining the structure involved a range of people beyond the high echelon (Whittington et al., 2011), or outside the C-suite (Stadler et al., 2021). Interviewee I07 stated that including people in conversations regarding the strategic objectives and results of the *Business4* made them feel part of the company, as well as motivated them and contributed to develop their individual potential (Nketia, 2016).

In this regard, the *practices of inclusion of people* in two moments stand out. First, in the collection of ideas and joint discussion on the new work structure with the area leaders (formal meetings, informal daily conversations, and use of slide presentation) among the I01 and I04 actors and the cell leaders. Then, the inclusion took place in the reception of information and suggestions on the new work structure with all collaborating teams.

Interviewees I02, I05 and I07 followed a similar line in reporting but focusing in the *information transparency*. The three actors address that the provision of strategic information happened transparently for internal members of the organisation. In addition, I02 indicated that there was no omission or lack of information, while I07 pointed out that transparent communication allows the comprehension of the importance of the project for all.

Even in the *pre-change* moment, for the participation of the employees to succeed in having relevant contributions, the outline of the structure was digitally redesigned on *Google Slides* to facilitate the interpretation and comprehension of those people who were not involved in the initial discussions about the new work structure. According to interviewee I01, the transition from one materiality to another happened to make the structure in a certain way tangible and, consequently, concretise this strategy, to, in his words: “give a feeling that the thing is solid, you know?”.

Transparency

The presentations in *slides* took part of the discussions about structural reorganisation as *transparency practices* for the other employees (Stigliani and Ravasi, 2012; Werle and Seidl, 2015) in two distinct moments: during the process of refining the structure itself, with the participation of the top management team and the work cells in which there were slide presentations and in the *kickoff 2020 event*, with the participation of most of the company's employees.

At the time of the launch of the new work structure, the presentations in slides contained advanced information regarding the time of refinement. In this context, even people who did not collaborate in the construction and refining of the new work structure attended the event, visibility (slides) facilitated the understanding of the process of structural change due to the immediate effect it provided on the perception and conception of what was exposed (explanations and discussions) about the new work structure (Knight et al., 2018; Paroutis and Knights, 2019).

In this reality, the process of refinement was open to the *inclusion of people* (interactions and conversations about structural reorganisation with members of different levels of the company). However, the reports of some interviewees pointed out that the practices were not completely open. The interviewee I05 clarified: “I think the construction of the model was not very participatory, [...] when it came to the teams it was more for presentation”. This practitioner, as well as I03, reported that there was no opportunity for the teams of collaborators to direct the change, however, the members could expose their opinions regarding the new form of work.

In addition, interviewee I04 clarified: “It is not a very democratic process, right. So, you allow a certain type of contribution.”

Thus, the contribution of people in the company is restricted by the level of the decision. According to the interviewee I03 work cells have the autonomy to decide on what concerns their scope, but little influence on decisions that directly affect the organisation. This fact is evident in the following account: “For example, if I have a strategic decision to make in some specific area within our cell, where another person in our team has more knowledge, he will make that decision together with us” (I03).

Therefore, while the high echelon of *Business4* was in charge of decision-making, the members of different levels of the company were involved in matters related to daily and routine strategies, a fact that highlights the dynamism and contingency of the opening of the strategy (Hautz et al., 2017).

Given the above, the decisions of greater weight for the organisation, such as promoting a structural change, were deliberated by the members of the executive level. However, the members of the work cells participated by contributing with suggestions during the process of refining the structure pointing out that strategy openness refers to the provision of strategic knowledge to more actors enabling them to engage in strategic conversation, though it is not a democratic decision-making process (Whittington et al., 2011).

To mitigate this in the *refining phase*, the managers of *Business4* encouraged more transparent communication of employees through the *Slack platform* (internal communication), with the opening of official channels for each of the new work cells in the form of a *feed* (exchange of information about activities in progress and intention to carry them out). There are also private channels for the teams of the same cell (informal content exchange). In this context, information technology was adopted to the exchange of ideas and interaction between practitioners, contributing to the rapid implementation of strategies and the alignment of employees with the new work structure (Nketia, 2016; Tavakoli et al., 2017). It should be noted that *Business4* had other digital forms for internal communication (*Zoom, Hangouts, Skype,*

WhatsApp, Trello and Miro) aiming to encourage the transparency of information, as well as enabling the interaction, integration and collaboration of practitioners.

It is important to emphasize that these digital platforms contribute to the opening of the strategy in both dimensions (Whittington et al., 2011). However, interviewee I04 pointed out that some people have difficulty explaining the new work model. With this, the *refining phase* presented several practices of information transparency, but *the implementation phase* does not. This led to a partial opening of the strategy in this dimension (Hautz et al., 2017).

With the new work structure, one of the new groups co-created a text document (*google docs*) with the description of its own identity as a cell. The intense dialogue among the members of that cell marked the process of building this document, with several debates taking place aiming at a consensus. Interviewee I03 reported that the documents are public and are stored in the company's google drive account, serving as a reference for presentations among cells, which can be understood as a practice of information transparency.

Another *practice of transparency* was the availability of knowledge about activities and responsibilities from *Google Docs* that internal practitioners were involved in, which served as the basis for the *slide shows* during the *KickOff* event, according to interviewee I01: “We did a *kickOff* event of the new structure with the participation of the whole company where we explained everything again and the teams all presented themselves to the whole company” (I01).

It is important to highlight that in addition to the *slide shows*, the event featured other elements that reinforced the communication regarding the change that was happening in the company such as buttons, pens and T-shirts that were distributed among all practitioners. Hence, we identified, the open strategising where both dimensions, inclusion and transparency were intertwined with the material and visual artefacts to make the strategising (practices for the structural change) happen, legitimising the changes in *Business4*.

After the first presentation of the new work structure, the work cells were tasked to make a presentation to the whole company with information that concerned the identity of their work cell, that is, the mission and objective, and the main responsibilities and routine activities of the group. To this end, the cell head met with the other members to discuss these topics together. The report of interviewee I03 highlighted the debates that underpinned the construction of this *document*: “We held some intense meetings with our team. [...] It was challenging to arrive at a consensus about our mission and responsibilities. There were heated discussions, with everyone”. (I03)

Hence, the description of this *document* happened in the visual interactions among the participants of that cell, integrating the visual with the verbal discourse (Meyer et al., 2013). These documents were available to the participants of the other work cells, who could freely consult the information described there. As secondary objective materialities, these documents contributed to the understanding of the process of structural change as a whole and served as the basis for composing part of the *slide presentations* used in the launch of the new work structure, in the event *KickOff 2020* (Werle and Seidl, 2015).

The evidence obtained from the observations (mainly the friendly relationships evidenced during the visits and the interviews, the open way they talk about the organisation in general), interviews and analysed documents indicate, therefore, that the visual modes used played a decisive role in the creation and sharing of knowledge about the new work structure, facilitating, with greater transparency, the employees’ understanding of the new organisational processes (Paroutis et al., 2015). Interviewees I01 and I06 described that the visual medium is essential for employees’ perceptions of value generation, besides communicational and discursive dimensions (Cooren, 2020).

Post organisational structural change phase

At the *post-change moment*, when the cells were already organised according to the new model, I01 sought to understand whether this change had been well executed and whether it was meeting the expectation of the executive level. Therefore, interviewee I01 explained that he did an anonymous internal survey with the company's employees using a form with multiple-choice questions about the construction and implementation of this new work structure. We noted that the technological artefacts (in this case the *Google Forms platform*) contributed to the interaction and inclusion of *Business4's* members. According to I06, this was the greatest moment of participation and involvement of the cells during the whole process of change, because the collaborators were able to expose their feelings regarding the new change and propose a possible reconstruction of the model. This reality indicated that there is a strategic opening through inclusion practices for the contributions of the members of *Business4* at all levels of the company.

The open strategising identified in the process of changing the work structure of *Business4* was summarised in Table 3.

[Table 3 around here]

Throughout the change process in which inclusion and transparency practices were inherent, the internet has occupied an important role as a source of research and support vehicle for other materialities. Interviewee I05 exemplified this by pointing out that “*email marketing* contributed to spread what the model would be, and there is also a presentation with schemes. People have the option to open and access the presentation.” It means that people and materiality are doing together the insertion of the information needed about the structural change, in other words the social and the material work together to produce and change reality.

Discussion and Contributions

Open strategy is understood as a strategy trend that widens the transparency of information and inclusion of different actors in the strategy-making process of organisations (Whittington et al., 2011; Hautz et al., 2017). However, the relationship between human and non-human elements that are involved in such openness still require deep consideration in the open strategising process and practices as well as how the interconnection plays out in organisational structural change contexts. This study aimed to acquire such a comprehension and makes three major contributions both to sociomateriality and open strategy literatures.

First, our study brings evidence about the importance of the organisational context going through a structural change in the connection of social, materiality and open strategising. While prior studies in Strategy as Social Practice and Open Strategy approach the national and home-country contexts (Adobor, 2021; Stadler et al., 2021; Bellucci et al., 2022) and organisational context (Mack and Szulanski, 2017) in the open strategising, they do not recognize the changes that companies can go through concerning their strategic process. We recognize such event and contribute to the advancement of the literature by showing that the practices of inclusion of people and information transparency in the organisational structural change were essential for the success of the process, allowed by the relation between human and non-human actors (Orlikowski 2007, 2010).

As we presented materiality and open strategising in an organisational structural change, our findings advance existing understanding of the how materiality unfolds in different organisational contexts. For, example, while Laine and Parkkari (2016) examine such connection in the early phase of an organisation's development, we found that socio-materiality interaction is also crucial when the company is already established but going through a change as a specific strategising episode (Whittington, 2006). Our context choice is in line with the

research performed by Einola et al. (2019) when it comes to the stage of the organisation as they also examined open strategising episodes, but it differs in terms of the type of organisation and sector. While the authors studied open strategising and sociomateriality in the public sector, we evidenced how important the connection is for the private sector, exploring a technology-based company with open spaces, open conversations and deep interactions among the practitioners. This finding corroborates Cooren (2020, p. 2), when he emphasises that materiality is a property of all (organisational) phenomena and that, studying these phenomena, may “lead us to especially focus on processes of materialisation, that is, ways by which various beings (e.g., a procedure, a mission statement, an organisational chart, a strategic plan, a CEO, a spokesperson, an organisation, an idea, etc.) come to appear and make themselves present throughout space and time.”

The recent research on materiality (Cooren, 2020) and open strategising (Doeleman, 2020; Mount et al., 2020) has as focus the technological materials that interact in companies looking for being more inclusive and transparent, such as crowdsourcing (Einola et al., 2019), *power point slides* (Kinght et al, 2018) or other technologies (Paroutis and Knight, 2019). In addition to that, and consistent with the view of Laine and Parkkari (2016), we acknowledge, through the sociomateriality lens, that open strategising can also be constructed through the interaction with other materialities such as *drawing table* and organisational documents. We suggest that these materials play an important role in the process as they allow the structural change to take place.

In the research on visibility in organisations and management – which is a form of materiality according to Orlikowski, 2007 - , studies of Bell and Davison (2013) and Meyer et al. (2013) highlighted the potential of visual dimension in practice-oriented research, which is what visual artefacts do as non-human actors (Orlikowski, 2007). According to the practical approach, visual elements are material resources socially created and employed in

organisations, constituting social practices (Meyer et al., 2013). The *drawing table*, for instance, is an illustration of that too as it served as a support to understand and map the customer value journey, which resulted in an outline of the structure diagram as well as used as intermediary of discussions about structural reorganisation (Stigliani and Ravasi, 2012).

Second, our results pointed that socio and materiality enables open strategising to be performed in an organisational context change and favours practitioners (human and non-human) to be promoters of such openness. We unveil the relationship between human and non-human elements in the open strategising process through the continuous and interwoven interaction of such elements from specific demands. We highlighted the open practices that enable the usage of socio-materiality, such as synergy for a change in the work structure; the development of ideas about the new work structure; the external agent's concession of the idea; the capturing of ideas and discussions with the leaders; the receipt of suggestions from the teams and collaborators; the identification and analysis of the new work structure; the provision of information relating to a change in the workforce; the creation of channels of communication for the exchange of information; the availability of information on the activities and responsibilities of the team workers; the launch of the new work structure at the event *KickOff*; and a feedback survey on the impacts of the structural changes in the work routine. By revealing all these practices and interactions of open strategising connected by socio-materiality we make a progress in the existing literature as papers mostly analysed specific practices of inclusion and transparency in connection with sociomateriality (e.g. Einola et al., 2019 approached only crowdsourcing). We also see materiality as an open strategic way to mitigate comprehension and integration problems in the company which has not yet been seen in the literature, for example, the clarifications about the people and materiality responsible for operationalising the new work structure, beyond entanglement between sociomateriality and organisation (Cooren, 2020).

By bringing the awareness that the phenomenon of open strategising can be explained by the sociomateriality lens for which the usage of material artefacts is essential in organisational structural change, we can affirm also that materiality favours practitioners to be promoters of open strategy and not only being passive in the process (Orlikowski, 2017, 2010). This happens because it is through the material and visual artefacts that the inclusion of people and information transparency could be performed by them within the organisation in the specific episode of change. Opposed to most of recent open strategy and materiality studies (Einola et al., 2019), we recognise the work and the importance of the practitioners (human and non-human) in the open strategising process rather than only focusing on the materiality they used or the open practices they performed. We found, for instance, that the executive level and the other internal members of the company chose material artefacts and visual modes (socio-material interaction), most often enabled by information technology, to exchange ideas and information, share and communicate strategic issues to a wider audience, create and share meaning about structural reorganisation among practitioners, thereby, enabling open strategising. The material artefacts composed the strategic discussions, directing the action of the practitioners regarding the new organisational structure and the new way of working.

Previous studies indicate that the use of visual resources and discursive practices by strategy actors facilitate the construction of strategy meaning (Knight et al., 2018). Thus, our point of view is that artefacts enable the perception of practitioners, boosting strategising and open strategising from instant or intuitive intellectual representation, achieving a better understanding capacity of practitioners (Meyer et al., 2013; Bell et al., 2014). Hence, our research reveals how practitioners (as human actors) of all hierarchical levels of the organisation relate to materiality (as no-human actors) to exchange ideas and information, share and communicate strategic issues and create and share meaning about events of change. In this

sense, we reveal that open strategising happens daily in the organisations. These findings lead us to label our research in the strong view of Dameron et al. (2015) as we pointed that the social and the material are entangled and inseparable in the strategy and decision-making process (Orlikowski, 2007, 2010).

Third, by stating this, through sociomateriality lens, practitioners (human and non-human) influenced the level of inclusion of people and information transparency during the organisational context change, our study also elaborates upon earlier studies that have featured the mechanisms of the dynamic of open strategy such as dilemmas, types of organisations and impression management (Hautz et al., 2017; Mack and Szulanski, 2017; Yakis-Douglas et al., 2017), respectively. We extend these findings by pointing that materiality can also be considered a mechanism of how open or closed the strategy may be in the organisation in terms of inclusion of people and information transparency, depending on how the material and visual artefacts interact in a context of organisational change. For instance, by one hand, the *drawing table* was a relevant actor/tool to design the new structure but, were not actually inclusive as it could be accessed only among the executive level of the company. On the other hand, to gather contributions from a wider audience about the strategic issues, the *slides presentation* acted as better inclusive actor/artefact. It is possible to affirm that the *slides presentations* enabled greater transparency of information to both internal and external stakeholders. However, when the inclusion and transparency come strictly to internal members, the *Slack platform*, *Google docs* and *Google forms* acted and enabled better open strategising.

Thus, the inclusion practices of people were stimulated through the materiality (non-human) and by the internal and external practitioners (human) who could generate ideas and exchange knowledge in the new work structure. In this case, the executive-level members and other practitioners interacted with visual and material artefacts to facilitate the inclusion of internal members of the organisation (Stigliani and Ravasi, 2012; Knight and Paroutis, 2019;

Paroutis and Knights, 2019). Such practices have enabled the wider participation of internal members in *Business4*, reaching all hierarchical levels of the company, such as cell leaders and developers. In the information transparency practices (Diriker et al., 2020), we identified that the executive level members and other practitioners interacted with visual and material artefacts to increase the visibility and communication of strategic information, allowing the exchange of clear and direct information about the structural reorganisation among all those involved in the process.

Additionally, we point out that, beyond materiality, the strategic opening of *Business4* during the organisational structural change was contingent on certain organisational factors such as the type of decision-making and the phases of the strategic process, varying moments of greater or lesser inclusion of people and information transparency (Hautz et al. 2017; Mack and Szulanski, 2017). For instance, we found that inclusion and transparency were greater throughout the formulation and refining processes but lower in the implementation the new work structure of the company which leads us to a partial opening of the strategy (Hautz et al., 2017). Thus, our study indicates that openness is dynamic which allows movements along and between the two dimensions of open strategy towards and away from great openness depending on the internal and external contingencies (Hautz et al., 2017; Bellucci et al., 2022).

Finally, we could address that the process of opening up the strategy is a movement of construction of the reality and, from a sociomateriality perspective, the participation of things (e.g., artefacts) are not so direct and unproblematic. Instead, it is a complex issue once the material does not act by itself, it is always a mediation between the material and the human participants (Orlikowski, 2010). That being said, we propose theoretically a clearer view of how human and non-human interaction (in a system of mediation) can enable the opening (or closure) of strategic decision, e.g., the structural change.

We understand that there are no theoretical models able to fully account for this complex phenomenon (open strategising and socio-materiality) due to the subtlety of the aspects that make up the relationship between human and non-human, however, the sociotechnical mediation presented by Latour (1994) could answer how human and non-human interaction (in a system of mediation) can enable the opening or closure of strategising, in line with Orlikowski (2010) proposes.

Limitations and Future Directions

Regarding the limitations of the study, we mention the state of emergency installed in the country due to the COVID-19 pandemic. During the phase of semi-structured interviews, State Decree No. 525, of March 23, 2020 (Government of SC State, 2020), as well as its amendments, were in effect in the State, restricting the possibility of face-to-face meetings for the completion of interviews and direct observation.

Another limitation of this study is the fact that the company under investigation was going through a moment of adequacy, not only due to the COVID-19 pandemic but also to the new work structure. Due to excessive work, the number of practitioners and observations meetings available to be interviewed was reduced, a factor that may have minimised and limited the understanding of open strategising in the daily life of the organisation.

To broaden the comprehension of socio-materiality aspects for the opening strategising, future studies could focus on the influence of the use of specific digital tools (Burke and Wolf, 2021; Heinzen and Lavarda, 2021; Volberda et al., 2021), such as slide shows or the Slack communication platform, for instance, among others, on the practices of inclusion of people and information transparency. Since information technology is a central part of open strategising, studies can deepen this issue, investigating how specific platforms enable and favour interaction strategy between practitioners.

An important aspect that was not addressed in this study is the negative effect that the central dilemmas of open strategising cause on the strategic practices of the organisation. Because of this, we suggest studying the dysfunctions caused by the inclusion of a wider audience in strategic conversations and the greater visibility of this information, pointing out the negative reflexes and impacts in the strategic process openness (Splitter et al., 2021).

We understand that strategic openness makes sense when practitioners responsible for the strategy promote and welcome contributions from people inside and/or outside the organisation, and use alternative practices (Doeleman, van Dun, and Wilderom, 2021) and resources acting together to make this information more accessible. This work sought to present, in a transparent way, the empirical potential of the study of socio-materiality in the implementation of practices, creating the reality of open strategising. Researchers must continue this research to deepen these themes in the organisational environment considering the difficulty of keep sociomateriality as lens to shed light in the phenomena and avoid employing it as materiality stuff (Orlikowski, 2010), as well as the voluntaristic human agency that has been assumed, which is the opposite of what sociomateriality theories propose.

Finally, another possibility of future research is to study other line or perspective to foster or mediate the ways the changes were addressed, for instance, the holacracy as self-managed teams (Bernstein et al., 2016) or study the uses, abuses and under-uses of the concept of performative role in the context of change (Gond et al., 2016) which could be an additional explanation to enrich the socio-material dynamics in the study of open strategising practices and processes (Doeleman, van Dun, and Wilderom, 2021).

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Table 1. *Schedule of interviews*

Respondent	Performance	Function	Middle	Time
I01	Vice President A	Conduct the work cells in the construction and improvement of the platform	Offline	1h
I04	Vice President A	Manage work cells within the scope of company strategies	Hangout	42m
I06	Vice President A	Conduct the technological development of the enterprise	Hangout	43m
I07	Level C	Lead the areas of the company in achieving the overall strategy	Hangout	36m
I05	HR Business Partner A	Articulate the interests of the areas, supporting managers in this process	Whereby	39m
I02	Working cells A	Develop and improve the platform	Hangout	39m
I03	Leadership A	Coordinate the activities and delivery of a work cell	Hangout	1h

Table 2. *Constitutive Elements of the Research (CER) / Operational Elements of the Research (OER)*

CER	CER Description	CER concept	OER
CER1	Sociomateriality	It is the inseparability between material and social, in which human and material agencies do not have intrinsic properties, but acquire their forms, attributes, capabilities and assume meanings as they become entangled (Orlikowski & Scott, 2008).	OER1.1: artefacts: technologies and materials that represent strategic work due to the situated social practices in which they are involved (Jarzabkowski et al., 2013). OER1.2: visual mode: it is the specific way of creating, transferring and expressing meanings through the use of visual artefacts, or integrating visual and verbal (Meyer et al., 2013).
CER2	Strategising, Open Strategising	Level of transparency of information and inclusion of practitioners (Whittington et al., 2011; Hautz et al., 2017) in activity flows (<i>praxis</i>) by which the actions and interactions of the multiple actors (materiality and people) and their situated practices occur (Whittington, 2006; Jarzabkowski et al., 2007).	OER2.1: practices of inclusion of organisational actors: the routines of behaviour (Whittington, 2006; Jarzabkowski et al., 2007) that broaden the involvement of actors (human and non-human) who participate in situations aimed at shaping the strategy (Whittington et al., 2011). OER2.2: information transparency practices: are the routines of behaviour (Whittington, 2006; Jarzabkowski et al., 2007) that increase the visibility of strategic information during the formulation and implementation of the final strategy (Whittington et al., 2011).

Table 3. *Open strategising in the process of structural change of Business4*

Pre-Organisational Structural Change	
Inclusion	Transparency
<p>Practices (what): synergy for a structural change of work Praxis (how): formal face-to-face meetings and daily informal conversations Practitioners (who): executive level, meetings, slides show, informal conversations</p>	<p>Practices (what): presentation of the plans for structural change of work to the Administrative Council Praxis (how): formal face-to-face meeting (slide presentations) Practitioners (who): level C and <i>Board</i>, slides show</p>
<p>Practices (what): generation of ideas about the new work structure Praxis (how): integration through informal face-to-face meetings (structure design) Practitioners (who): Vice Presidents A and B, Slide show, drawing table</p>	<p>Practices (what): communication and provision of information regarding structural change plans for the internal public Praxis (how): formal face-to-face meetings and informal daily conversations (slide presentations) Practitioners (who): leadership, (slide presentations and working cells</p>
<p>Practices (what): concession of the idea arising from an external agent Praxis (how): informal conversations and interactions on a visit to the company in which the external agent works Practitioners (who): Vice Presidents A and B, informal conversations</p>	<p>Practices (what): creation of communication channels for the exchange of information on the day to day of the new teams' collaborators Praxis (how): via <i>online</i>, <i>Slack Platform</i>. Practitioners (who): all cells, <i>Slack Platform</i></p>
<p>Practices (what): gathering ideas and joint discussion on the new work structure with area leaders Praxis (how): formal face-to-face meetings and informal daily conversations (slide presentations) Practitioners (who): leaders, meetings, informal conversation</p>	<p>Practices (what): provision of information on the activities and responsibilities of the collaborating teams Praxis (how): via <i>online</i>, <i>GoogleDocs</i> Practitioners (who): all cells, <i>GoogleDocs</i></p>
<p>Practices (what): receiving information and suggestions about the new structure of work with all collaborating teams Praxis (how): formal face-to-face meetings and informal daily conversations (slide presentations) Practitioner (who): Vice President A, Slide Show and all cells</p>	<p>Practices (what): launch of the new work structure at the event <i>KickOff</i> Praxis (how): formal face-to-face events and Zoom virtual conferences (slide presentations) Practitioners (who): level C, leaders, slide show, Zoom meeting and all cells</p>
<p>Practices (what): analysis and definition of the new work structure from the contributions of the collaborating teams Praxis (how): formal face-to-face meetings and informal daily conversations (slide presentations) Practitioner (who): leaders, meetings and informal conversation</p>	
Post-Organisational Structural Change	
<p>Practices (what): research <i>feedback</i> on the impacts of structural change on work routines Praxis (how): via <i>online</i>, <i>GoogleForms</i> Practitioner (who) Vice President A, <i>GoogleForms</i> and all cells</p>	<p>Practices (what): Forecast to write and publish articles reporting the change from a technical and management point of view Praxis (how): via <i>online</i>, <i>Google Forms</i> Practitioners (who): Vice President A, <i>Google Forms</i></p>

Figure 1. *Power point presentation example*



Note. Pictures from google images

Figure 2. *Drawing table example*



Note. Pictures from google images