Exploring the Outcomes of Open Strategy and an Open Organisational Climate: A Configurational Approach

Abstract

This paper investigates the contingencies that lead to outcomes from two levels of organisational openness. First is the strategy level of 'open strategy', where we focus on inclusiveness and transparency of strategy-making and the use of IT tools to facilitate such processes. Second is the operational level relating to an open organisational climate, where we focus on autonomy in operations, integration between different departments, and involvement in operational (non-strategy) decision-making. By collecting data from 49 cases of strategy-making in organisations, and using a Fuzzy-Set Qualitative Comparative Analysis (fsQCA) approach for data analysis, we have devised configurations of the above factors that lead to positive and negative outcomes. The paper discusses these configurations with prior literature and concludes by illustrating their theoretical and practical implications.

Keywords: *Open Strategy, Open Climate, Outcomes, Information Technology, fsQCA*.

1. Introduction

Openness, in its various forms and applications, is an important phenomenon in the study of organisations (Splitter, Dobusch, von Krogh, Whittington, & Walgenbach, 2023), with interest spanning areas such as innovation (e.g., Chesbrough, 2003), strategy (e.g., Whittington, Cailluet, & Yakis-Douglas, 2011), amongst others. Openness in strategy-making, commonly referred to as 'open strategy', is characterised by increased inclusion of peripheral actors in strategy, heightened transparency of strategic information and action (Splitter, Seidl, & Whittington, 2024; Whittington et al., 2011), and the use of digital and/or analogue technologies (Baptista, Wilson, Galliers, & Bynghall, 2017). This approach involves both internal and external stakeholders in strategy processes (Hautz, Seidl, & Whittington, 2017). Consequently, open strategy serves as a mechanism for organisations to formulate and implement strategy (Birkinshaw, 2017; Langenmayr, Seidl, & Splitter, 2024) and potentially facilitate organisational transformation (Haefliger, 2019; Morton, Wilson, & Cooke, 2020).

Subsets of the strategy literature have underscored the significance of organisational contingencies (e.g., Hambrick & Cannella, 2004; Wolf & Floyd, 2017). Among these, organisational climate – primarily concerned with the operational rather than strategic dimensions of organisations - has been identified as a crucial element influencing or complementing strategy (e.g., Galbreath, 2010). The relevance of an open climate is particularly salient, prompting a resurgence of research into its interplay with strategy. While open strategy refers to inclusion and transparency within various aspects of strategy-making, an open organisational climate pertains to broad-based openness involving involvement, autonomy, and integration across the work environment, addressing all facets of organisational operations apart from strategy (Schneider, Ehrhart, & Macey, 2013).

Our motivation for this study stems from the ambiguity surrounding the outcomes of openness, and more specifically, open strategy (Amrollahi & Rowlands, 2019). While existing research highlights various factors influencing the type, direction, and speed of open strategy dynamics, suggesting that open strategy "plays out in different contexts" (Hautz et al., 2017, p. 307), there is a lack of research exploring the organisational contingencies that may lead to positive or negative outcomes (Adobor, 2021; Wolf & Floyd, 2017). Furthermore, strategy-making, including open strategy, necessitates operationalisation and is therefore embedded in the operational context of an organisation (Wolf & Floyd, 2017), which is influenced by organisational climate. We argue that gaining a better understanding of the various contingencies in implementing open strategy, particularly in relation to the broader work environment (organisational climate), is crucial for understanding organisational outcomes. In response, we adopt a contingency perspective to investigate the conditions under which open strategy and an open organisational climate leads to specific outcomes. Although current research provides a comprehensive understanding of open strategy and open climate independently, the interplay between these within organisations remains unclear.

Outcomes in our work refer to the measurable results or impacts that arise from the implementation of strategy within an organisation. These outcomes can encompass various dimensions, including financial performance, market position, innovation capacity, and stakeholder satisfaction (Wolf & Floyd, 2017). In the context of open strategy, outcomes may include enhanced legitimacy (Luedicke, Husemann, Furnari, & Ladstaetter, 2017), coherence (Lusiani & Langley, 2019), reputation (Gegenhuber & Dobusch, 2017), or agility (Morton, 2023). Ultimately, outcomes can manifest in different forms: organisational outcomes that evaluate the effect of strategic initiatives on the organisation's strategic direction, interpersonal outcomes that focus on the well-being, behaviour, and collaboration of the organisation's

stakeholders, and cognitive outcomes that evaluate stakeholders' understanding of strategic issues (Healey, Hodgkinson, Whittington, & Johnson, 2015). However, these outcomes can also be negative. For open strategy unique challenges may arise, presenting significant risks such as including information leakage and strategic misalignment within organisations (Dobusch, Dobusch, & Müller-Seitz, 2019; Whittington et al., 2011).

With our rationale considered, and to guide exploration and theorisation of different outcomes of open strategy-making and an open organisational climate, we propose the following research question: *How do open strategy and an open organisational climate contribute to outcomes in organisations?* The measures we have selected in this study will enable us to identify the *extent of strategy and climate openness* in our research data. A set-theoretical approach and fuzzy set Qualitative Comparative Analysis (fsQCA) technique is utilised to arrive at a rich understanding of the complex factors involving open strategy and open climate, and how these lead to potentially varied outcomes.

Our adoption of a quantitative, aggregate-level analysis will expand the ontological perspective and theorisation of the phenomenon, moving beyond the predominantly qualitative approach focused on specific cases. Although a limited number of studies have highlighted the impact of open constructs on outcomes in organisations, as we review in the next section, there is little theoretical basis to form a priori prediction about the configurations of factors leading to outcomes. Considering this issue, we build on existing work to establish a tentative meta-theory and form assumptions about configurational multiplicity in relation to open strategy, open climate, and outcomes in organisations. An inductive approach is adopted to explore the configurations of constructs (Park, Fiss, & El Sawy, 2020).

2. Theoretical Framework

Contingency theory (Woodward, 1958) focuses on a fit between the characteristics of organisations and environmental contingencies that lead to improved outcomes. This is beneficial when there is a lack of an established theoretical perspective to explain the relationship between contextual factors. At the heart of this theory is the principle that there is no ‘one-best-way' to organise or to make decisions. Instead, the most effective course of action is dependent upon a range of contextual factors, including the nature of task, the characteristics of organisation, and the workforce, among others (Wolf & Floyd, 2017). In essence, contingency theory rejects the notion of universal management principles and instead advocates for a situational approach to decision-making (Fiss, 2007). However, the application of contingency theory in our work is not due to a lack of alternative theoretical frameworks. Rather, it was chosen for its use in exploring and understanding the complex interplay between strategic decisions in an organisation and its multifaceted environment.

Additionally, the theory’s emphasis on the specificity of organisational contexts aligns closely with the unique characteristics of our focus on (open) organisational climate. Contingency theory is further justified by its notable implications in the strategy literature (Priem & Harrison, 1994), suggesting that researchers and practitioners should focus on the fit between strategies, structures, and the situations that organisations face. The outcome of a strategy or decision is contingent upon the internal and external conditions facing an organisation (Sousa & Voss, 2008). For instance, this perspective can explain why certain strategies succeed in some industries but fail in others, or why particular organisational changes yield positive outcomes in certain contexts but not in other ones.

Considering the above points, and a lack of an established theoretical background on the outcomes of open strategy, we considered this perspective as the overall theoretical framework guiding the study.

2.1 Open strategy

Open strategy is explicated through the two dimensions: inclusiveness and transparency (Whittington et al., 2011) as per the following definition:

> *"[Open strategy is] an openness in terms of inclusiveness, in other words the range of people involved in making strategy; and an openness in terms of transparency, both in the strategy formulation stage and, more commonly, in the communication of strategies once they are formulated"* (Von Krogh & Geilinger, 2019, p. 10)

Inclusiveness (or inclusion) of peripheral stakeholders can increase the number of inputs to strategy-making, particularly for ideation and knowledge sharing (Whittington et al., 2011). Specifically, inclusiveness can benefit how decisions are influenced by gathering ideas from those inside (e.g., employees) and outside (e.g., customers and clients) organisations, and in developing strategic ideas and processes together, which might inform strategic decisions. Stakeholders are connected by "mutual learning and shared experience" in as they participate in strategy-making (Mack & Szulanski, 2017, p. 392). Heightened inclusiveness in strategy-making has been found to improve the implementation of strategy through increased commitment and integration of strategic goals across organisations (Hansen et al., 2024; Morton, 2023). Additionally, participatory behaviours in strategy have the potential to enhance an organisational sense of community and belonging for key stakeholders, whether internal or external (Golding, Morton, & Zorina, 2024; Hutter, Nketia, & Füller, 2017; Langenmayr et al., 2024; Plotnikova, Pandza, & Sales-Cavalcante, 2021). This means that the impact of inclusiveness can lead to what are generally 'positive' outcomes in which diverse groups are motivated to participate in strategy-making (Amrollahi & Rowlands, 2019).

Transparency in strategy-making is central to making information and resources accessible to stakeholders inside and/or outside organisations (Baptista et al., 2017; Seidl, Von Krogh, & Whittington, 2019). This can increase awareness of, and alignment to, strategic decisions (Stadler et al., 2024; Morton, 2023) and offers stakeholders access to user feedback and ideas (Gegenhuber & Dobusch, 2017). Transparency also has the potential to generate trust among stakeholder groups and therefore transparency emerges as a key dimension and a potential prerequisite for effective strategy-making (Cai & Canales, 2022, Tavakoli, Schlagwein, & Schoder, 2017). However, although transparency can help to legitimise strategic decisions within organisations (Dobusch & Kapeller, 2018; Luedicke et al., 2017) and for external stakeholders such as investors and shareholders (Yakis-Douglas, Angwin, Ahn, & Meadows, 2017), it can have unfavourable outcomes too, including loss of control in strategic decision-making (Stoiber et al., 2024; Whittington et al., 2011), information overload and misinterpretation (Zimmermann & Kenter, 2023).

Extant open strategy literature also emphasises the importance of using IT tools as an enabler of open strategy-making. The strategic impact of IT-enabledness has long been recognised (e.g., Galliers, 1991; Powell & Dent-Micallef, 1997) and has continued with a focus on the use of ubiquitous IT (Leonardi & Barley, 2010; Orlikowski & Barley, 2001) in open strategy (Baptista et al., 2017; Morton, Amrollahi, and Wilson, 2022; Ortner, Hautz, Stadler, & Matzler, 2024), including various forms of social networking and social media platforms (Golding et al., 2024; Haefliger, Monteiro, Foray, & Von Krogh, 2011; Plotnikova et al., 2021). Previous studies highlight growing interest in exploring the conditions through which IT tools influence strategy and reflects a broad view of the evolving relationship between IT and open strategy, including their role in the digital work practices of strategists (Morton et al., 2020; Morton, Wilson, Galliers, & Marabelli, 2019; Tavakoli et al., 2017).

Indeed, this broad call to action has motivated interest in how organisations can apply IT in strategizing (Morton et al., 2022), such as online platforms and forums (Hutter et al., 2017; Plotnikova et al., 2021), web-based surveys (Morton et al., 2019), mailing lists (Tavakoli et al., 2017), and various social media (Baptista et al., 2017). Further, there is a nascent interest in how organisations and their managers can utilise various forms of IT strategically in their network capabilities and to connect stakeholders involved in the practice of strategizing in organisations (e.g., Hautz et al., 2017; Morton et al., 2019; Ortner et al., 2024). For example, existing studies have had a prominent focus on micro-level actions of managers and stakeholders in strategy-making, and in more intricate strategy activities over time. Such work has examined, broadly, how organisations use different functionalities of IT tools to enable strategy-making, such as through stakeholders submitting, commenting on, and evaluating strategic ideas (Hutter et al., 2017).

2.2 Open organisational climate

Open organisational climate refers to the shared values and beliefs that influence the behaviour, procedures, and control systems within organisations related to 'openness' at the operational level (Schneider et al., 2013). Studies have considered that strategy-making in organisations revolves around culture (e.g., Kaplan, 2011) and have considered these contingency factors to be influential to overall organisational culture (Herbert, 1999). In addition, specific dimensions of organisational climate are cited in existing work as impacting the strategy-making process (Abraham, 2019) and strategic decision-making (Preston, Chen, & Leidner, 2008).

The two concepts of culture and climate have been used interchangeably in past work and bear similarities (e.g., Denison, 1996). In this study, however, we have referred to an organisational climate as it is easier to measure, better established, and more relevant to the concept of openness (Allen, 2003). Among the many factors mentioned in prior literature can be used to

assess organisational climate (Patterson et al., 2005), we have focused on those that are fundamental to fostering an inclusive and collaborative work environment where decision-making is decentralised. We refer to these factors as open climate. We explain these factors and their implications for strategy-making below.

The first factor is stakeholders' participation, communication, and involvement (Patterson et al., 2005) in everyday operational decisions that may influence strategy (e.g., through operationalisation) (Wolf & Floyd, 2017). In extant literature, this has been cited as involvement that characterises an environment and that might lead to better outcomes (Galbreath, 2010). Strategy is an institutionalised practice where certain behavioural dynamics beyond strategy practice can impact the outcome (Johnson, Prashantham, Floyd, & Bourque, 2010). Additionally, strategy-making has been conceptualised as a practice that requires a climate that values the inclusion of all stakeholders with "diverse histories, backgrounds, expertise, and interests" (Von Krogh & Geilinger, 2019, p. 45). Furthermore, organisational design and structure that permit the involvement of more stakeholders in strategic decision-making (Heracleous, Gößwein, & Beaudette, 2018) and contexts where "feedback and participation is structurally part of the organisation" (Baptista et al., 2017, p. 325) are mentioned as critical for success in open strategy.

It is important to note that 'operational involvement' is different from 'strategic inclusiveness' as the latter is specific regarding 'involvement' in strategy-making. Instead, the former entails involvement in day-to-day operations in an organisation. In other words, an organisation can have a high level of employee involvement (e.g., by involving them in designing the work environment) but can still develop their strategy without scope to include anyone other than, for example, select managerial-level employees (lower inclusion in strategy).

Autonomy is also a factor for an open organisational climate and is defined as characterising a climate in which employees are empowered and have a widened scope through which to enact work (Klein, 1991; Patterson et al., 2005). Increased autonomy and less control and formality are outlined as requirements for open strategy-making too (Dobusch, Kremser, Seidl, & Werle, 2017; Vaara, Rantakari, & Holstein, 2019). Sharing power with, and giving autonomy to, employees at operational levels has been identified as a moderator to forms of inclusiveness and transparency in strategy-making (Amrollahi & Rowlands, 2019). For instance, autonomy can give stakeholders an equal voice and freedom to speak when it comes to strategy-making (Baptista et al., 2017). Moreover, through providing a sense of ownership and delegating responsibilities to autonomous teams (Von Krogh & Geilinger, 2019), it is argued that employees can have increased motivation to participate. Further, empowering staff through boosting an inclusive climate can improve self-confidence (Adobor, 2019; Amrollahi & Rowlands, 2017), and the ability to set objectives (Mantere & Vaara, 2008; Vaara et al., 2019). These potential 'improved' outcomes, in turn, have the potential to enhance the developed strategies of organisations as a result. Like involvement, the complexity of relationships concerning autonomy, open strategy, and outcomes remain unknown from prior studies. Similar to the above point about the difference between involvement and inclusion, higher operational autonomy does not necessarily mean increased openness in strategy.

Lastly, integration is key to organisational climate and is the extent of trust, collaboration, and cooperation between different parts of the organisation (Patterson et al., 2005). Higher levels of integration have been found to create a shared understanding of strategy (Bencherki, Basque, & Rouleau, 2019), improve participation in strategy-making (Mack & Szulanski, 2017), and facilitate collaboration in sharing knowledge which is required for strategy to thrive (Dobusch et al., 2017). Integration also fosters proactiveness in giving feedback to others (Baptista et al., 2017), superior reception of constructive feedback (Aten & Thomas, 2016), and the inclusion

of a diverse range of stakeholder perspectives (Adobor, 2019). This considered, there is much potential for improved outcomes, but this requires study together with other factors of open strategy as discussed.

2.3 Strategy and outcomes in organisations

Strategy and its potential outcomes have been studied through a range of distinct perspectives. A 'classic' perspective on outcomes focuses on the impact of strategy-making, particularly from the point of view of strategic planning and performance (e.g., Boyd, 1991; Ketokivi & Castaner, 2004; Jarzabkowski & Wolf, 2010; Ramanujam, Venkatraman, & Camillus, 1986). Other streams of research have explored the conditions that aid improved outcomes of strategy-making (McLarney, 2001; Wolf & Floyd, 2017), including how practitioners and their practices lead to certain outcomes relevant to the achievement of strategic goals (e.g., Karanasios & Slavova, 2019; Morton et al., 2020). There, prior studies have emphasised various factors that relate to the internal and external environment of organisations which might impact strategy-making. The internal factors impacting strategy and related outcomes have been extended to inclusiveness of various stakeholders, strategy processes, and organisational climate.

Beyond the factors impacting outcomes, extant work has considered those factors that can, to some degree, measure the success of strategy. The use of these objective measures for success has been subject to critique given perceived difficulties in measuring the long-term effects of strategy-making activities and has dominantly focused on competitiveness and performance. This perspective may ignore the perception of stakeholder groups which should contribute to the success of strategy in organisations (Cleland & King, 1974). Therefore, other factors measuring stakeholders' interpretation have also been proposed. One of the most applied measures relates to the internal nature of organisations. Work has investigated different

elements of internal dynamics, including those revolving around adaptability and learning (e.g., Andersen, 2000; Andersen & Nielsen, 2009; Barney, 1991; Boyd, 1991).

Wolf and Floyd (2017) identified two broad categories of proximate planning (integration, coordination, and communication) and distal outcomes (strategic change, and adaptation) for strategic planning. Other studies have emphasised broad categories to examine outcomes in organisations (e.g., Healey et al., 2015), which includes organisational outcomes (the impact of a strategy initiative on the organisation's strategic direction), interpersonal outcomes (people-related outcomes), and cognitive outcomes (participants' understanding of strategic issues). This categorisation is comprehensive and acts as a classification to cover various outcomes which can be applied to research. We detail later that a combination of these measures has been utilised to cover various outcomes in our study.

When discussing the specific impact of open strategy on outcomes, this has also been explored to an extent in existing work (Dobusch & Kapeller, 2018; Luedicke et al., 2017). These have emphasised that the outcomes of open strategy revolve around the generating, selecting, and implementing of strategic ideas, and weaving these into strategic action and norms (Hautz et al., 2017). Such insights conclude that open strategy formulation enhances employees' involvement, creativity, and leads to increased innovation (Chesbrough & Appleyard, 2007; Stieger, Matzler, Chatterjee, & Ladstaetter-Fussenegger, 2012; Whittington et al., 2011).

2.4 Research model

To utilise contingency theory in this study, we considered the guidelines for abductive reasoning where the observation of an anomaly or "a novel or unexpected phenomenon that cannot be explained or is poorly understood using existing knowledge" (Sætre & Van de Ven, 2021, p. 684) is suggested as the first step of acquiring knowledge. We relied on our observations on the impact of open strategy and the need for an open climate beyond strategy-

making (from our previous work) to improve the overall outcomes of strategy. We considered these observations as an anomaly that triggered the study. As suggested by Sætre and Van de Ven (2021), we then tried to converge these anomalies and generate new ideas or hunches that can potentially explain them.

It has been stressed that work focused on strategy-making often fails to adequately explicate the macro-level outcomes such as performance and improvements in outcomes (e.g., Seidl & Whittington, 2014). Whilst there have been initial calls for more work on outcomes, including in democratic and 'open' forms of strategy-making (e.g., Amrollahi & Rowlands, 2019) this work is (at best) nascent.

Finally, considering the aim of the research is to focus on open strategy and open climate in organisations, we have considered the open climate factors (identified in section 2.2) as the other potential contingency factors. This can be justified by referring to studies that consider open climate as relevant to the operational level (not part of strategy) but that have potential impact on strategy-making outcomes (Bencherki et al., 2019; Seidl et al., 2019). *Table 1* summarises the strategy and operational level factors, their definitions, and impact on outcomes which we will use in this study. *Table 2* summarises the outcome-level factors and their definitions.

Table 1: Description of factors at strategy and operational levels which impact outcomes in organisations

Factor	Level of impact	Definition	Impact on outcomes
Inclusiveness	Strategy	Receiving strategy ideas from people outside of the management team (Whittington et al., 2011).	The potential to increase the number of inputs in strategy-making, with a particular focus on ideation and knowledge sharing (Whittington et al., 2011), increased commitment and integration of strategic goals across organisations (Hutter et al., 2017; Morton, 2023)
Transparency		Providing people outside the management team with access to strategy input, process, and outputs (Whittington et al., 2011).	Increasing awareness and alignment to strategic directions and decisions (Hautz et al., 2017), giving stakeholders access to user feedback and ideas (Gegenhuber & Dobusch, 2017).

Factor	Level of impact	Definition	Impact on outcomes
IT-enabledness	Operational	Using IT tools to facilitate participation as an essential element of the strategy process (Tavakoli et al., 2017).	Improved collaboration and connectedness of people (Hautz et al., 2017; Tavakoli et al., 2017)
Involvement		Stakeholders' participation, communication, and involvement (Patterson et al., 2005) in organisational operational decisions, beyond involvement in the strategy process.	An inclusive climate (Von Krogh & Geilinger, 2019), creating a structure that permits inclusion in strategy-making (Heracleous et al., 2018).
Autonomy		A climate in which employees are empowered and have a widened scope through which to enact work (Klein, 1991; Patterson et al., 2005) in organisational operations and operational decisions.	A climate that encourages less control and formality (Dobusch et al., 2017; Vaara et al., 2019), toward a culture of power sharing (Amrollahi & Rowlands, 2019).
Integration		The extent of trust, collaboration, and cooperation between different parts of the organisation (Patterson et al., 2005).	A climate that promotes a shared understanding of strategy (Bencherki et al., 2019) and facilitates collaboration and knowledge sharing (Dobusch et al., 2017).

This table presents the main factors that will be included in our research, their level of impact, definition and how they can impact strategy according to the literature.

Table 2: Description of factors at the level of outcomes in organisations

Factor	Level of impact	Definition
Organisational	Outcomes in organisations	The impact of a strategy initiative on the organisation's strategic direction (Healey et al., 2015).
Interpersonal		Outcomes related to people, their wellness, behaviour, and collaboration (Healey et al., 2015).
Cognitive		Stakeholders' understanding of strategic issues (Healey et al., 2015).

This table presents the three major factors used in this study to measure study outcomes and their definitions.

3. Method and Data

Much of the existing work on openness, including in relation to open strategy, has been dependent upon qualitative, case study-based methods. While such approaches can help researchers better identify the prominent and intricate micro-level practices and behavioural phenomena inherent in strategy-making, it often does so to the detriment of understanding phenomena at the aggregate-level, such as the outcomes of strategy (Kouamé & Langley, 2018). To generalise key findings beyond specific cases, it is crucial to understand the overarching dynamics of open strategy. To this end, this study leverages a set-theoretic approach to bridge this gap.

3.1 Method

We employ fuzzy-set Qualitative Comparative Analysis (fsQCA), a set-theoretic method using Boolean and fuzzy algebra, to examine causal complexity in strategy-making (Ragin, 2008; Senyo, Osabutey, & Kan, 2020). FsQCA enables case comparison as configurations of factors

and facilitates the study of complex causal relationships (Miller, 2018). This method uses logical minimisation to determine the necessary and sufficient conditions that predict the presence and absence of specific outcomes. Necessary conditions are factors that must be present for an outcome to happen, whilst the presence of factors relating to sufficient conditions ensures the occurrence of the said outcome. This method is particularly relevant for inductive and exploratory research questions such as the one presented in this study (Park et al., 2020). The fsQCA approach is growing in popularity in management and IS scholarship (Fiss, 2007; Nishant & Ravishankar, 2020; Zimmermann, Raab, & Zanotelli, 2013), and has been increasingly used by scholars to generate, refine, and integrate existing theories (Liu, Mezei, Kostakos, & Li, 2017). FsQCA facilitates an asymmetric approach for data analysis (Greckhamer, Furnari, Fiss, & Aguilera, 2018), which is a coherent fit for our study given the focus on distinct outcomes. Additionally, in the context of our study, given the scarcity of prior research examining the complex interplay of open strategy and open organisational climate, fsQCA is conducive to generating productive and unproductive recopies of open strategy and open climate in the form of taxonomies. Hence, this enables potential theory building at the intersection of open strategy and open climate.

We used established guidelines for conducting fsQCA analysis (e.g., Mattke, Maier, Weitzel, Gerow, & Thatcher, 2022). As the first step, we developed a configurational model based on the theoretical concepts explained in the previous section. Our second step was collecting and validating data. We used a survey design to collect the data for our study (see details in section 3.2). Because we used one survey to gather the information on our cases, we adopted different methods to examine potential common method variance. Before administering the survey, we followed the guidelines to ensure complete anonymity and confidentiality and by randomising the items in our questionnaire (e.g., Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). After collecting data, we used Harman's (1967) single factor test and performed an exploratory factor

analysis in which all items were required to load on one single factor. The results revealed that one single factor only explains around 48.8% of the variance (less than 50%). As such, common method variance is not a concern in our work.

Where measures we use appear to bear similar, especially inclusiveness and involvement, we took steps (as shown earlier in our paper) to clearly outline and define each of the distinct constructs in turn to overcome ambiguity (Suddaby, 2010). The third step was data calibration (which is explained in detail in section 3.4.1). The fourth step based on the available guidelines was to analyse the necessary conditions for high and low levels of outcomes that are explained in section 4 together with our analysis of sufficient configurations (step 5). In section 5 we discuss and theoretically validate our findings (steps 6 and 7).

3.2 Cases

To obtain information on our cases, we developed a survey with questions focusing on strategy in a range of organisational contexts. The survey asked questions about the areas of open strategy and open organisational climate. We administered the survey online from June to September 2019. *Table 3* provides a summary of the respondent sample.

Table 3: Description of the sample

Characteristics	Range	Percentage
Work Experience (Strategy Experience)	Less than 5 years	13% (42%)
	5–10 years	21% (34%)
	10–20 years	36% (17%)
	20–30 years	15% (6%)
	More than 30 years	15% (1%)
Geographical Location	Asia and Oceania	50%
	Africa	11%
	America	26%
	Europe	12%
	Not answered	1%

Industry	Education	11%
	Construction, Manufacturing and Mining	11%
	Government and Public Services	33%
	Information and Communication Technology	10%
	Service and Sales	31%
	Agriculture	1%
	Not answered	3%
Respondent's position	Upper management	20%
	Middle management	16%
	Consultant	36%
	Staff in strategy department	20%
	Staff in other departments	6%
	Not answered	2%

This table presents the descriptive statistics of participants in our study with their demographic information including their experience, location, industry, and position.

We sent the survey to 340 managers and strategy practitioners with profiles in a well-established strategic management network, comprising practitioners in over 150 countries. We received 104 responses, from which 49 were assessed to be fully complete. This makes for a 14.4% effective response rate, which is an accepted rate given the international scope and specialist nature of our survey. Furthermore, this sample size is suitable when considering the efficacy of fsQCA for smaller samples (Greckhamer et al., 2018). To assess the potential non-response bias in our data, we compared our fully complete responses with partial responses. Our analysis showed that there is no significant difference between these two groups based on organisational size, work experience, experience in strategy-making, and the number of strategy projects respondents had been involved in.

3.3 Measures

3.3.1 Outcome

As noted above, prior research has utilised different perspectives to measure outcomes. For measurement in this study, we used three dimensions developed by Healey and colleagues (2015): (i) *organisational outcomes*, (ii) *interpersonal outcomes*, and (iii) *cognitive outcomes*.

These dimensions are relevant to our study as they cover various perspectives about outcomes (as noted in section 2.1). Themes related to these dimensions have been conceptualised in prior studies of open strategy (e.g., Amrollahi & Rowlands, 2019; Hutter et al., 2017); however, there are aspects such as achieving strategic goals, and seeking improvements in financial performance of an organisation (Boyd, 1991) which have attracted less attention in open strategy research to date. The questions used to measure outcomes are detailed in *Appendix 1*. All of the questions are relevant to the context of our work as they refer to creating an open climate in organisations. A 7-item Likert scale format ranging from *strongly disagree* to *strongly agree* was used to pose questions to tap into conceptions of outcomes.

3.3.2 Causal conditions

We consider open strategy as an ongoing reality and an approach for developing future strategic pathways for an organisation that differs along a continuum in organisations ranging from *not open at all* to *fully open* (Dobusch et al., 2017). We propose that all organisations and their strategy-making efforts will fall somewhere within this spectrum, regardless of whether organisations consider their approach to strategy as an exemplar of open strategy or not. IT-enabled strategy-making has also been considered as a continuum ranging from the adoption of non-digital (analogue) tools for strategy-making to the use of advanced, powerful social media and co-creation platforms (e.g., Tavakoli et al., 2017; Morton et al., 2022).

To measure causal conditions, and considering our research question and the study's theoretical background, extant research shows three core characteristics for open strategy (Tavakoli et al., 2017; Whittington et al., 2011). These are: (i) *inclusiveness*: the extent to which organisations include peripheral actors from outside of established top management teams, (ii) *transparency*: the extent to which organisations provide actors outside of established top management teams with access to information and resources relating to strategy, and (iii) *IT-enabledness*: the

extent to which organisations use IT tools to facilitate participation as an essential element of the strategy process.

The next step required us to operationalise these dimensions. To understand the key factors in measuring *transparency* and *inclusiveness*, we first viewed various groups of stakeholders identified in extant work who participate in strategy-making and considered them as anchoring bases for measuring the degree of strategy openness. We draw on a framework that categorises stakeholders into twelve groups (Amrollahi & Rowlands, 2018). However, to make this framework more relevant to our study and data collection, we re-categorised them into seven groups, as listed in *Table 4*.

Table 4: Developed items to measure transparency, inclusiveness, and IT-enabledness

Measurements	Score	Category	Adopted definition	Reference
Transparency and Inclusiveness	1	Top managers	These are usually central to the process of strategy-making in 'conventional' approaches. They represent the group of stakeholders who demonstrate the lowest level of open strategy.	(Amrollahi & Rowlands, 2018; Langenmayr et al., 2024)
	2	Middle managers	This includes functional and operational managers in various organisational departments. Participation of these stakeholders will assist managers who are mainly involved in their functional operations and overview of the organisation	(Floyd & Lane, 2000)
	3	Selected employees	These might also be referred to with terms such as key personnel, groups of staff, and experts or specialists. They are representative groups of staff (rather than all members of staff)	(Dobusch et al., 2019)
	4	Employees	This outlines that employee involvement is a further step toward open strategy, which is expected to end in incremental awareness about an organisation's strategic direction and improved adoption	(Chesbrough & Appleyard, 2007; Teece, 2016)
	5	Consultants	These are the various strategy consultants who are central to guiding and facilitating open strategy processes in organisations	(Morton et al., 2019; Plotnikova et al., 2021)
	6	External parties	This represents various external groups that might be included in strategy-making as the process becomes more open in organisations	(Amrollahi & Rowlands, 2018; Golding et al., 2024)
	7	Customers	These are included in higher levels of open strategy as it transcends organisational boundaries. This group may also include members of the society and communities relevant to public and third-sector organisations.	(Morton et al., 2023)
IT-enabledness	1	Analogue tools	This might include face-to-face meetings and workshops in which papers and documents are utilised, e.g., paper-based strategy artefacts	(Baptista et al., 2017; Morton et al., 2019)
	2	IT-enabled workshop tools	This focuses on meetings and workshops in which IT tools are used to present ideas and to facilitate both collaboration and discussion, e.g., PowerPoint and voting platforms	(Morton et al., 2019)
	3	Communication tools	These represent the various tools and online channels which inform other stakeholders about strategy, e.g., mailing lists and blogs	(Tavakoli et al., 2017)
	4	Ideation tools	These are the various tools which enable stakeholders to submit their ideas, e.g., online surveys and web-based questionnaires, competition platforms and crowdsourcing platforms	(Amrollahi & Rowlands, 2017; Hutter et al., 2017;

			Stieger et al., 2012)
5	Commenting and evaluation tools	These tools and online channels allow stakeholders to evaluate and comment on the ideas of others and (potentially) edit them	(Hutter et al., 2017; Plotnikova et al., 2021)
6	Social networks for strategy formulation	This includes tools and online channels which are used to connect key stakeholders and ensure direct interaction and collaboration between them, such as on social media platforms and through blogging tools	(Baptista et al., 2017; Whittington et al., 2011)
7	Online strategy tools	These tools are important to facilitate the ability to develop formal strategies and to enable stakeholders to develop strategic plans together	(Amrollahi & Rowlands, 2017)

This table presents the measures for various levels of inclusion, transparency, and the usage of IT in strategy-making.

As a second step, we referred to extant work on open strategy which distinguishes between strategy content (input and output) and process (Whittington et al., 2011). We also considered strategy implementation and revision (Amrollahi & Rowlands, 2018; Tavakoli et al., 2017) as key strategy development steps. These four aspects (i.e., input, process, output, and implementation/revision) were then used as another set of anchor points for determining the extent of strategy openness. Further, at this point, we intersected the seven groups of stakeholders with the four aspects of the process mentioned above to establish varying degrees of open strategy manifested through inclusiveness and transparency.

Existing literature also provides support for the applicability of the four aspects mentioned above for the third dimension of open strategy, *IT-enabledness*. To find another set of appropriate anchor points to measure the degree for IT-enabledness, we examined the literature for different technologies in use for the purpose of strategy development. We explored work which provides a taxonomy for various types of IT tools used in open strategy (Morton et al., 2019). Based on this, we selected five categories specifically relevant to the use of IT tools. We further considered a hierarchy of tools used in other studies as the value of our measures for IT-enabledness. However, as this research intends to focus on the extent of strategy openness, we also considered two other categories of analogue (non-IT) tools in our framework. The seven chosen items are listed in *Table 4*.

Referring to the actual actors and tools helped the study to capture the level of strategy openness in the cases rather than participants' subjective opinions. However, for other factors we had to capture the level of open climate and outcomes differently. As explored in our theoretical background, an open climate and involvement of employees in different organisational decisions empower them with a wide scope of work, promoting trust and collaboration. This can impact the outputs of strategy in general and open strategy in particular. To identify relevant measures, we referred to the scales developed in existing work and especially in a survey of organisational climate (Patterson et al., 2005). The three dimensions of involvement, autonomy, and integration were selected considering their relevance to the concept of open strategy (as explained in section 2.4). This survey provides well-established measures that are conducive to open strategy-making. *Appendix 1* details the items used to measure cultural dimensions.

3.4 Data analysis

3.4.1 Calibration

Calibration is the first step in analysing data using fsQCA, as it enables consistent comparison of cases using valid benchmarks. Defining set memberships for cases is the key decision in calibration. In the definition of set memberships, it is necessary to assign three thresholds: full membership, crossover point, and full non-membership. In this study, we calculate fuzzy-set scores representing membership in the outcome and causal conditions. To be consistent, and following practices in previous research (e.g., Fiss, 2011; Greckhamer et al., 2018; Misangyi & Acharya, 2014), we used the indirect approach for calibration where statistical measures such as percentiles or standard deviations are used to determine the membership thresholds. This approach in using distributional frequencies for calibration is a suitable choice when a theory does not exist to justify the choice of cut-off thresholds due to the paucity of prior research (Douglas, Shepherd, & Prentice, 2020). Therefore, considering the aggregate nature

of the measures in our data (coming from two to four items) and the lack of required theoretical knowledge to set a direct threshold, we use percentile scores for aggregate value of our constructs. This approach has been used extensively in similar studies using a similar type of data (e.g., Lou, Ye, Mao, & Zhang, 2022; Schneider & Rohlfing, 2016). We use 50% percentile value as the crossover point, 90% for full membership, and 10% for non-membership.

3.4.2 Methodological decisions and analysis

Our analysis included two steps. First, we conducted necessity analysis and, second, we performed truth table analysis to identify the sufficient causal configurations that lead to positive or negative outcomes using the fsQCA software and a QCA package in R. We used *consistency* and *coverage* to assess the validity of the solutions; these metrics range between 0 and 1. Consistency shows the degree to which cases with high membership in a specific solution set demonstrate similar behaviours. Coverage shows the proportion of case outcomes explained by a solution set. For our necessity analysis, we used the consistency threshold of 0.9 (Greckhamer et al., 2018). Also, in line with best practices, we used a threshold of 0.75 for consistency scores and a threshold of two for the frequency of cases in a configuration.

4. Findings

As shown previously in *Table 3*, our study sample covers a wide range of demographic characteristics. Around 76% of the respondents were top managers, consultants, or a member of staff in strategy departments and the same portion of them had more than 10 years of experience in strategy departments. *Table 5* shows the truth table developed as an initial step of data analysis.

Table 5: Truth table

Transparency	Inclusion	IT-enabledness	Autonomy	Integrity	Involvement	Outcome	N	Inclusion	PRI	Cases
1	1	1	1	1	1	1	6	0.941	0.869	3,5,10,19,27,37
0	1	0	1	1	1	1	4	0.831	0.495	36,43,45,46
1	1	0	1	1	1	1	4	0.904	0.801	15,21,23,48
1	1	1	1	0	1	1	4	0.877	0.600	14,29,31,47
0	0	0	0	0	0	0	3	0.636	0.106	20,22,30
0	0	0	0	0	1	0	3	0.632	0.036	17,32,35
1	1	1	0	0	0	1	3	0.818	0.536	7,9,41
0	0	0	1	1	0	0	2	0.745	0.030	4,39
0	0	1	1	1	0	1	2	0.836	0.379	12,16
1	1	0	0	0	0	1	2	0.894	0.701	13,38

This table presents the truth table and the frequency and measures for each case.

We first performed necessity analysis and, based on the results, concluded that none of the conditions qualify as a necessary condition because the consistency level for all of them is below 0.9. Considering this fact, we turned to sufficiency analysis. *Table 6* shows the possible configurations which lead to positive outcomes. In this table, and the one following it, the conventional notations of fsQCA (Ragin, 2008; Fiss, 2007; Greckhamer et al., 2018) have been used. The solutions presented in both *Table 6* and *Table 7* have a consistency value of more than 0.75 threshold as suggested by Ragin (2008). The consistency value of the reported configurations is also acceptable considering the above threshold.

Table 6: Configurations leading to positive outcomes

Configuration Number	**1-a**	**1-b**	**1-c**	**2**
Inclusiveness	●	●	●	⊗
Transparency	●	●		⊗
IT-enabledness	●		⊗	●
Autonomy	●	⊗	●	●
Integration		⊗	●	●
Involvement	●	⊗	●	⊗
Row coverage	0.408	0.261	0.320	0.183

Unique coverage	0.094	0.102	0.068	0.043
Consistency	0.917	0.836	0.810	0.836
Solution coverage		0.639		
Solution consistency		0.791		

Explanation of Symbols:
●: The presence of a condition ⊗: The absence of a condition
Large circles: Core conditions Small circles: Peripheral conditions

First of all, the consistent presence of inclusiveness as a core condition across the first three configurations (1-a, 1-b, 1-c) highlights its critical role in determining the outcomes and indicates a strong causality between this condition and outcomes. The presence of this core condition is our justification for naming a condition (see section 6.1). Organisations in configuration 1-a are committed to the principles of open strategy; while inclusive strategy-making is a central reason for creating improved outcomes in this category, they also leverage IT and transparency for strategy-making and have an organisational climate where autonomy and staff involvement is practiced in their operations. This pattern includes the dimensions of transparency and inclusiveness, which is suggested as a prerequisite for 'successful' open strategy (Tavakoli et al., 2017).

The second configuration (1-b) asserts that even with the absence of an open organisational climate, positive outcomes can be developed when the principles of open strategy are present and considered in strategy formulation. Further investigation of the cases in which this pattern is recognised reveals organisations from different locations (Asia, Africa, and North America), industries (software, government, and health), and sizes (10 to 1000 people and more), as members of this pattern. Looking at the findings concerning this pattern may help to answer a broad notion which has been asked in the prior literature: is open strategy effective as an approach? (Hautz et al., 2017; Mack & Szulanski, 2017; Morton et al., 2020; Splitter et al., 2024). The results here suggest that open strategy-making can lead to positive outcomes in

various contexts, even when an open climate cannot be found in relation to organisational operations.

The particularly notable point about configuration 1-c is the absence of IT-enabledness. In essence, it is implied that an inclusive approach for strategy-making in an open organisational climate is possible even without leveraging contemporary information technologies. Beyond the central role of inclusiveness as a core condition, the presence of all three conditions related to an open climate is considerable here as well. In this configuration, the studied climate factors accompany strategy inclusiveness to generate positive outcomes in strategy-making. These factors are repeatedly mentioned in existing literature as factors leading to notions which might define various successes of strategy in organisations (Barney, 1991; Galbreath, 2010).

The final configuration leading to the positive outcomes (configuration 2) is a path in which IT-enabledness has been found as a core condition. Beyond the role of IT-enabledness as a core condition, climate factors of autonomy and integration are present here as peripheral factors. This configuration suggests that using IT-enabled strategy-making (IT used for communication, formulation, implementation, and evaluation of strategy) (Stieger et al., 2012) leads to positive outcomes even in the absence of the open strategy principles. As explained, the role of IT tools in strategy is widely acknowledged (e.g., Baptista et al., 2017; Morton et al., 2019). However, the presence of autonomy and integration, which are present in existing work as well (Amrollahi & Rowlands, 2019), is a key finding in our work. In essence, when staff are empowered and good relationships exist among different parts of an organisation, they can achieve better outcomes using IT. Overall, inclusiveness of strategy-making and IT-enabledness are found to be the core conditions leading to better outcomes. Also, as illustrated in *Table 7*, three configurations are recognised as leading to negative outcomes, and these are introduced next.

Table 7: Configurations leading to negated outcomes

Configuration Number	3-a	3-b	3-c
Inclusiveness	⊗	⊗	●
Transparency	⊗	⊗	⊗
IT-enabledness	⊗		⊗
Autonomy	⊗	●	●
Integration	⊗	●	●
Involvement		⊗	●
Row coverage	0.385	0.244	0.216
Unique coverage	0.226	0.040	0.082
Consistency	0.966	0.914	0.834
Solution coverage		0.552	
Solution consistency		0.877	

Explanation of Symbols:

●: The presence of a condition ⊗: The absence of a condition

Large circles: Core conditions Small circles: Peripheral conditions

This table presents the four configurations leading to negative strategy outcomes, the presence of conditions and the absence of each condition is also presented.

In the first configuration leading to negated outcomes (3-a), almost all aspects of open strategy, IT-enabledness, and open climate conditions are absent. A closer look at the cases in this category shows that most of them are in the Middle East and North Africa, and all of them are in mid-sized or large organisations (with more than 50 employees). The impact of organisational size can be extended to previous studies on the size and agility of the organisations in adopting innovation that may be relevant (e.g., Barge-Gil, 2010; Reed, 2021). Also, studies on national culture shows lower levels of individualism and long-term orientation (Hofstede, 2019) that may contribute to the lack of those factors and negate outcomes as a result. However, it should be noted that the study of organisational size and national culture is out of the scope of this research, but we encourage future research to focus on these factors.

In configuration 3-b notable principles of open strategy are absent. This configuration shows that an open climate in organisational operations can be isolated from the strategy process and

confirm our initial assumption that organisations with an open climate can use a proprietary approach for strategy-making. In addition, the study finds that the presence of autonomy and integration alone in organisational operations does not result in positive outcomes. The presence of autonomy in this configuration, and in the following configuration, confirms the results of previous studies showing that autonomous actions have little to no influence on outcomes (Andersen, 2000; Elbanna, 2016), at least in the absence of open strategy. Finally, in configuration 3-c, many conditions (including cultural dimensions and inclusiveness) are present. However, the absence of transparency as a core condition has led to a negated outcome. This configuration, in addition to others leading to negated outcomes, shows the crucial role of transparency as a core condition, the absence of which may contribute to undesirable outcomes. We expand upon and discuss the above findings and configurations more extensively in relation to prior literature in the next section.

5. Discussion

This research reveals how open strategy and open climate impact outcomes in organisations. A key contribution of our study is that we uncover inclusive strategy-making is a fundamental component of open strategy, in that its presence consistently leads to positive outcomes. The inclusion of stakeholders is widely recognised as valuable for gathering knowledge, expertise, and innovative ideas from across organisations (e.g., Whittington et al., 2011; Morton, 2023). However, previous research has not thoroughly explored the additional factors that need to be configured alongside inclusion to achieve these positive outcomes.

The set-theoretic approach used in our study also enabled us to consider the conditions leading to negative outcomes. The findings in this section highlight the important role of transparency in open strategy. Transparency was consistently identified as a key factor that its absence leads to negative outcomes, while its role in positive outcomes was varied. This complexity extends to inclusiveness, another principle of open strategy.

The open strategy literature has detailed various IT tools which facilitate open strategy (e.g., Morton et al., 2019; Ortner et al., 2024). These technologies enable a wider range of internal and external stakeholders to participate in the strategy-making process through real-time, digital conversations, the exchange of knowledge and ideas, and allow for the efficient coordination of strategy development. However, the impact of using these tools on strategy outcomes has not been directly studied. Whilst some work has lacked focus on these tools (e.g., Stadler et al., 2024; Holstein & Rantakari, 2023), others have considered them as a constituent part of open strategy without which open strategy can be difficult (or impossible) to achieve (e.g., Tavakoli et al., 2017).

Our study does not support either of these extremes. Instead, our findings suggest that opening up the strategy making process can still achieve positive outcomes even without IT, by relying on non-IT tools. At the same time, we show that IT-enabled strategy-making can drive success independently of other core principles of open strategy, such as inclusiveness and transparency. While existing literature highlights the moderating effects of IT literacy and system efficiency on the success of IT-enabledness (e.g., Amrollahi & Rowlands, 2019), our study makes a unique contribution by exploring the configuration of IT and some climate factors in creating positive outcomes even in the absence of traditional open strategy dimensions.

An additional contribution of our work is the identification of the impact of organisational climates on strategy outcomes. Our findings reveal that while the operational conditions investigated are not essential for achieving 'better' strategies, they have a peripheral impact on other factors under study. For example, the integration factor (referring to the closeness of various organisational units) can act as a substitute for transparency at the strategic level. However, our study did not support that operational autonomy as a necessary factor to

accompany transparency. Lastly, our results highlight a parallel between stakeholder inclusion in organisational operations and inclusiveness in open strategy-making. This suggests that organisations practising inclusive strategy-making often empower staff with an equal voice in operational decisions, which, in turn, contributes to improved strategy outcomes.

5.1 Theoretical Implications

As explained above, our analysis led to the identification of three major configurations that lead to either high or low outcomes. Our findings challenge prior literature that downplays transparency's importance compared to inclusiveness (e.g., Whittington et al., 2011). Instead, we position transparency as a central condition, influencing strategic outcomes beyond its previously perceived peripheral role, such as generating media attention or attracting investment (Gegenhuber & Dobusch, 2017; Yakis-Douglas et al., 2017). By demonstrating instances where transparency shaped strategic initiatives, we contribute new insights into its critical role in open strategy-making. In the first category (configurations 1-a to 1-c), we found a set of contingency factors to complement *strategy inclusiveness*. While these configurations have inclusiveness as a shared condition, we considered them as sibling permutations (Douglas et al., 2020) and developed a taxonomy from them with the title of *inclusive strategy*.

Considering these configurations, we can conclude that the presence of open strategy principles and IT-enabled strategy formulation in an open climate with empowered staff leads to positive outcomes. This is not a surprising finding as the majority of these factors are individually discussed in prior studies to bring positive outcomes (for example: Ortner et al., 2024; Nketia, 2016; Tavakoli et al., 2017; Gast and Zanini, 2012). The findings, however, further clarifies that the presence of open strategy principles leads to improved outcomes even in the absence of an open organisational climate. Although this is not perse, contradictory to the literature highlighting the impact of organisational factors (Amrollahi & Rowlands, 2019), it confirms

the sufficiency of open strategizing for positive outcomes. Also, the findings show that inclusiveness in strategy, when complemented by an open climate, leads to positive outcomes even in the absence of IT-enabledness. This finding underscores the paramount importance of inclusiveness, illustrating that an open organisational climate can achieve the same positive outcomes in fostering trust among stakeholders and impression management as transparency in strategy (Mahdad et al., 2024; Dobusch & Gegenhuber, 2015).

The other pathway to positive outcomes (configuration 2) identified IT-enabledness as a critical condition. Alongside this, factors like autonomy and integration play a supporting role in this configuration. For this reason, we name this configuration *IT-enabled strategy*. The finding suggests that IT-enabled strategy-making in the presence of empowerment and integration among various departments can lead to positive outcomes even if strategy is not developed openly. Although this is not directly related to the open strategy literature, but it has implications for current literature on using IT for the practice and praxis of strategy (Morton et al., 2022) and the contingencies enabling technology to create positive outcomes.

With regards to the negated outcomes, while all three conditions leading to the lower outcomes have the absence of transparency as a common core condition, we have put them in a taxonomy of sibling permutations and labelled this as *lack of transparency*. First of all, the study shows that the absence of open strategy principles and IT-enabled strategy formulation where staff are not empowered, and there is not a good relationship among them, leads to negated outcomes for organisational strategy-making. This is again not a surprising finding as the factors are individually discussed in the strategy literature as critical factors in creating strategy outcomes and we could expect that their configured absence can create the same negative impact. The study further highlights that the absence of open strategy principles and an open climate lead to negated outcomes, when a climate of autonomy and integration is present. Also, a lack of

transparency leads to negated outcomes even when other cultural factors are present. These findings are interesting as they show opening the strategy process, in particular transparency, is not an option when an open climate exists in organisational level. In other words, when staff are used to have open conversation in an operational level, closing the strategy conversations will lead to negative outcomes.

5.2 Practical Implications

Our work has several important implications for practice and relevance to practitioners. Firstly, understanding the extent that open strategy and open climate can *improve* strategy in organisations and its more intricate impacts will give practitioners the required knowledge of these principles and their potential operationalisation. Moreover, focusing on contextual factors related to organisational climate can help practitioners understand where open strategy could be beneficial in their organisation more generally. Thus, this knowledge will help managers to check whether an open approach to strategy-making is a viable choice. Further, regardless of using an open approach, strategy practitioners can use the developed measures to gain a better understanding of various dimensions of their strategy implementation. Therefore, the results in this study can help them to make better decisions regarding IT-enabled strategy-making, considering the type and contextual factors in their organisation.

5.3 Limitations and Future Research

As one of the few configurational studies in the domain, this work breaks the status quo of primarily qualitative, micro-level focused studies and contributes to research by identifying sets of items and scales for measuring the principles of open strategy. This methodological pluralism is of benefit to future scholarship and the ontological diversity of scholarship in strategy and information systems fields where open, IT-enabled strategy-making is of significant interest. Future studies might adopt a similar approach we used in this study to

investigate the outcomes of other organisational concepts (such as open innovation, open government, and open education).

We recognise that this study has certain limitations generally applicable to configurational research conducted in similar contexts. First, the study may suffer from *informant bias* by referring only to one person in each organisation and asking that person about his or her experience and evaluation of outcomes, whereas strategy is a multi-perspective activity in organisations. Second, one may question the scales we used to capture factors such as the level of inclusiveness, transparency, and IT-enabledness. However, we actively avoided using subjective measures and provide robust scales for respondents to clarify the level of openness in strategy. The results, however, do not confirm the sufficiency of the open climate factors adopted in our study. Therefore, future studies might usefully focus on climate factors beyond what we considered open climate such as innovativeness of the organisation, quality of strategic discourse, and outward/inward organisational focus.

For other measures, however, we had to refer to *subjective measures* that are not always the optimal approach to measure organisational items. In this study, as suggested by previous work on outcomes in strategy processes (e.g. Healey et al., 2015; Herbert, 1999) and IT-enabled impacts (e.g., Iannacci & Cornford, 2018; Karanasios & Slavova, 2019), we referred to top organisational levels to ensure that respondents have sufficient insight into strategy and its impacts. Also, using multi-perspective, detailed items for each of the latent factors in the model, helped the study better capture respondents' understanding of each item.

Relating to theory specifically, each of the configurations proposed in this study can also be further explored in future research using either a qualitative or quantitative approach. A contribution is that they offer value to future scholarship which might, for example, investigate

the reasons through which various factors are included in each configuration, answering questions about why such conditions come together and lead to certain outcomes or, indeed, negated outcomes. A multiple-case study approach might also be utilised to further contrast strategy formulation in organisations belonging to each configuration. Using this approach may help to go beyond the subjective perception of stakeholders and better measure the outcomes of strategy in relation to various factors for organisational performance. Finally, while our study did not incorporate the use of all consistency thresholds suggested in the recent literature in Fuzzy-set Qualitative Comparative Analysis (fsQCA), this decision was guided by our focus on exploring broader patterns and relationships over strict causal inference. This approach allowed us to identify and consider a wider range of potential causal combinations, acknowledging that in complex social phenomena, strict consistency thresholds can sometimes mask relevant but less uniform patterns.

6. Conclusion

Our study extends the literature to consider open and IT-enabled strategy in which organisational contingencies can lead to improved outcomes. We specifically focused on the organisational contingencies related to fostering a transparent and inclusive climate within organisational operations (autonomy, integration, involvement). Using a configurational approach enabled us to identify patterns across the studied cases. With regards to the principles of open strategy, this study also makes a key step in differentiating inclusiveness from transparency and their impacts on outcomes. Therefore, the measures for open strategy developed in our work can be utilised in other empirical studies. This considered, our research paves the way for future evaluations of the (various) impacts of openness.

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Appendix 1: Developed items corresponding to open strategy factors, open climate, and outcomes in organisations

Factor	Theme	Item
Inclusiveness	Input	Who was allowed to participate in submitting strategy inputs?
	Process	Who was allowed to participate in the strategy-making process?
	Output	Who was allowed to participate in representing strategy outputs?
	Implementation	Who was allowed to participate in developing strategy implementation and revision plans?
Transparency	Input	To whom were strategy inputs available?
	Process	To whom was the strategy-making process available?
	Output	To whom are strategy outputs available?
	Implementation	To whom are strategy implementation and revision plans available?
IT-enabledness	Input	Which tools were used to collect strategy inputs?
	Process	Which tools were used in the strategy formulation process?
	Output	Which tools were used to develop strategy outputs?
	Implementation	Which tools were used in developing strategy implementation and revision plans?
Outcomes in Organisations	Organisational outcomes	The developed strategic plan helped the organisation to align different stakeholder groups.
	Organisational outcomes	The approach used for strategy helped to save the required time for developing the plan.
	Organisational outcomes	The developed strategic plan helped the organisation to better achieve its strategic goals.
	Organisational outcomes	The developed strategic plan improved the financial performance of the organisation.
	Cognitive outcomes	The content of the developed strategic plan was easy to understand for everyone in the organisation. The developed strategies were achievable at the end of the strategy-making horizon.
	Interpersonal outcomes	A sense of community was developed as a result of the strategy-making in the organisation.
Open Climate	Involvement	Management involves people when decisions are made that affect them. Changes are made without talking to the people involved in them. People don't have any say in decisions which affect their work. People feel decisions are frequently made over their heads. Information is widely shared. There are often breakdowns in communication here.
	Autonomy	Management let people make their own decisions much of the time. Management trust people to take work-related decisions without getting permission first. People at the top tightly control the work of those below them. Management keeps too tight a reign on the way things are done around here. It's important to check things first with the boss before taking a decision.
	Integration	People are suspicious of other departments. There is very little conflict between departments here. People in different departments are prepared to share information. Collaboration between departments is very effective. There is very little respect between some of the departments here.

Key practical and research implications

- The study shows that the organisational contingencies (on operational level) can configure with openness in strategy formulation and lead to positive and negative strategy outcomes. The findings reveal that, in certain configurations, integration can substitute for transparency, thus contributing to the literature on organisational climate and its nuanced role in strategic outcomes. The use of a set-theoretic approach allows for a detailed understanding of the conditions leading to both positive and negative outcomes.
- By examining organisational climate factors, such as autonomy and integration, this research identifies how these factors can interact with open strategy principles to influence outcomes. The findings reveal that, in certain configurations, integration can substitute for transparency, thus contributing to the literature on organisational climate and its nuanced role in strategic outcomes. Contrary to prior literature that views IT tools as essential for open strategy, this study finds that positive outcomes can occur even without IT-enabledness.
- The study highlights that in certain operational environments, openness is not a choice but a necessity without which negated outcomes are predictable. Also, while inclusiveness is more important in creating positive strategy outcomes, a lack of transparency is more expected to create negative strategy outcomes.
- Understanding the peripheral impact of organisational climate factors such as autonomy and integration helps practitioners align these with open strategy principles. Managers can foster a supportive climate to enhance the outcomes of open strategy initiatives, especially when inclusiveness or transparency is challenging to achieve fully.