

Open Strategy and Open Foresight: Conceptual position and directions for research

Abstract

We look at how the relatively grounded concept 'open innovation' has led to the development of open strategy and open foresight and focus on the latter twos' interaction, building a conceptual case and contributing to strategic management literature. Current literature focuses on innovation, we focus on SMEs strategy making. We conclude this paper highlighting that foresight practices have always advocated of being 'open' for collecting insights which is similar to what is advocated by open strategy, thus presenting an opportunity to explore both the conceptual and normative effects of combining open strategy and open foresight literature.

Introduction

In recent years there has been a surge of academic interest and publications in the area of open strategies and open foresight. This can be partly explained by the growing trend to involve a wider array of stakeholders in generating strategic insights. The continuing wave of publications focusing on this concept of openness has also resulted in multiple streams of research exploring how organisational processes are becoming increasingly collaborative and inclusive. Despite this growing interest, the literature on this area appears to be disjointed.

Herein lies the purpose and impact of this study. The authors of this paper, who are also colleagues, are researchers in open strategy, strategic foresight, and horizon scanning. Whilst interacting with each other it was realised that there were overlaps in the principles of open strategy and strategic foresight, more recently visible in the papers on open foresight. Even though the concepts are observed to have common overlaps there is an opportunity for further research into exploring these overlaps and providing conceptual and empirical clarity.

The rationale behind the research opportunity mentioned above is justified by firstly, by briefly introducing the literature on concepts of open strategy, open foresight, and horizon scanning. This is followed by consolidating the literature on the concepts and presenting directions for future research.

Open Strategy

Whilst open foresight remains an evolving approach, there is the relatively more established practice of open strategy that can shed further light on our understanding of this developing phenomena. Originating from the open innovation paradigm (Chesbrough & Appleyard, 2007), the open strategy school of thought can be defined by three underpinning pillars of inclusivity, transparency and IT-enabledness (Chesbrough & Appleyard, 2007; Whittington, Caillaet & Yakis-Douglas, 2011; Tavakoli, Schlagwein & Schoder, 2015).

Following in the footsteps of the social theorists' interpretation of strategy, the roots of open strategy can be linked back to Giddens's (1984) structuration theory. Where the collective systems that individuals interact with in their day-to-day work constructs an inherent sense of habitual performance. Open strategy attempts to rationalise those daily experiences by harnessing the perspectives of stakeholders within and across the business enterprise to augment the strategic decision-making.

Initially, Chesbrough & Appleyard's (2007) innovations perspective and Doz & Kosonen's (2008) take on strategising through a conversational dialogue through a wider organisational audience, were the original publications in the strategy management domain; the first recognition of open strategy appears in the psychological sciences field. Liinamaa et al. (2004) refer to this phenomenon as a form of 'collaborative strategic planning' where participants share knowledge and partake in strategic planning initiatives designed to encourage dialogue and conversation. With the social sciences take on collaborative strategy, Whittington, Caillaet and Yakis-Douglas (2011) attempt to contemporise open strategy by characterising this as a transparent and inclusive means of strategising that facilitates wider involvement of actors beyond the traditional inward-looking boundaries of the firm. Subsequently, adding the third dimension of IT-enabledness as a support mechanism that enables the widespread dispersion and involvement of internal and external stakeholders.

Whilst numerous terminologies have endeavoured to put forward a granular or seasoned description for what constitutes this recent phenomenon; including democratic strategy, strategy as a practice of thousands, open-source strategy, open coordination, and open strategising have all been used interchangeably in literature to explain comparable concepts (Matzler et al., 2014). More ubiquitously though, the underlying fundamentals, or 'principles of open strategy' (Amrollahi & Rowlands, 2016); those of inclusion and transparency (Whittington, Cailluet and Yakis-Douglas, 2011) and more recently IT-enabledness (Tavakoli, Schlagwein & Schoder, 2015) have remained consistent in academic publications. Presently, these three philosophies of open strategy are widely acknowledged in the field of strategic management planning, with numerous theoretical studies (Whittington, Cailluet and Yakis-Douglas, 2011; and Appleyard & Chesbrough, 2017) and empirical investigations (Stieger et al., 2012; Dobusch & Kapeller, 2013) upholding the view that these three foundational elements increase the effectiveness of strategic planning and decision-making.

Table 1 Key principles of 'open strategy'

<i>Principles of Facets/Descriptors Open Strategy</i>	
Inclusiveness	<ul style="list-style-type: none"> • Seeking user opinion through active engagement and involvement of external stakeholders in the decision-making process (Gegenhuber & Dobusch, 2017) • Digital/internet-based forum participation to enable interactions between varied group of internal and external stakeholders (Malhotra, Majchrzak & Niemiec, 2017) • Dependency on external resources from out with the boundaries of the focal firm (Appleyard & Chesbrough, 2017) • Refers to involvement of both internal and external actors in the process of stakeholder consultations and co-strategising (Doz & Kosonen, 2008)
Transparency	<ul style="list-style-type: none"> • Accessibility of information about an organisation's strategy, both during the planning process and the generated output (Mack & Szulanski, 2017) • Distribution of relevant information and material that is clearly visible (Gegenhuber & Dobusch, 2017) • Making project results visible and accessible for external actors (Appleyard & Chesbrough, 2017) • Visibility of information to both internal and external audiences, involving the creation and sharing of knowledge and ideas (Whittington, Cailluet and Yakis-Douglas, 2011)
IT-enabledness	<ul style="list-style-type: none"> • Use of IT in order to increase participation is essential for the strategy process (Tavakoli et al., 2015a; Haefliger et al., 2011) • Social media and associated platforms as facilitators for participation and engagement (Amrollahi, Ghapanchi and Talaei-Khoei, 2014) • Co-creation and collaboration platform that enable participation in open strategy (Schlagwein, Schoder and Fischbach, 2011)

The three principles of open strategy discussed above seemingly overlap with the characteristics of open foresight discussed earlier. Through the inclusive involvement of a wide range of participants in horizon scanning and sharing of information between and amongst the stakeholders in a transparent and robust manner usually through the support of IT-enabled information sharing and communicating platforms. We can reasonably deduce that open foresight belongs to the open strategy doctrine.

Open Foresight

Foresight has multiple definitions that have evolved over the years, emphasising the different aspects of the practitioners' objectives and use of tools (Miles et al., 2008. pg). Although there are differences between technology foresight, corporate foresight, and foresight for policymaking, a unifying basic definition of foresight came from Slaughter:

"Foresight is not the ability to predict the future... It is a human attribute that allows to weigh up pros and cons, to evaluate different courses of action and to invest possible futures on every level with enough reality and meaning to use them as decision making aids... The simplest possible definition [of foresight] is opening to the future with every means at our disposal, developing views of future options, and then choosing between them" (Slaughter, 1995 in Major, Asch and Cordey-Hayes, 2001).

The focus of this paper is the foresight activities of SMEs. Unlike corporate foresight which gained traction in the recent years (Korreck, 2018, Dadkhah et al., 2018, Joneidi Jafari and NiliPourTabataba'i, 2017, Rohrbeck et al., 2015a, Rohrbeck, 2012, Rohrbeck, 2011, von der Gracht et al., 2010, Vecchiato and Roveda, 2010, Rebah and Chaabouni, 2009, Daheim and Uerz, 2008), research on current and potential future foresight practises among SMEs is yet to enter its golden age. While foresight implementations in large corporations and SMEs are nearly identical, some differences are also observed (Milshina and Vishnevskiy, 2018).

Corporate foresight is identifying, observing and interpreting factors that induce change, determining possible organisation-specific implications, and triggering appropriate organisational responses (Rohrbeck et al., 2015a). This definition covers the foresight objectives of SMEs, however, large firms usually have adequate resources and the structure to apply foresight and have a broader foresight agenda than SMEs (Milshina and Vishnevskiy, 2018).

In a case study on Biotech SMEs in Germany, five approaches to foresight were observed (Mietzner and Reger, 2009). These can be summarised as detecting new technological trends and spotting weak signals, network-oriented approach to information accumulation, processing customer conversations that feeds into marketing unit data, the gatekeeper approach to monitoring trends that is heavily network-based, and financial controlling-based risk management for early diagnosis of issues.

A recent study that investigated foresight practises of large corporations, SMEs, and academic and research institutes highlighted a substantial benefit SMEs may draw from networked-foresight (Heger and Boman, 2015). They explain this type of foresight approach as similar to corporate foresight but as conducted in-organisational innovation networks with active contributions from the network partners and the network itself. As noted by Milshina and Vishnevskiy (2018), they also highlight the resource constraints of SMEs and the hesitation of

applying sophisticated and complex foresight tools that are observed in corporate environments. However, the impact of networked and collaborative foresight practises among SMEs recently started to receive empirical and conceptual support in the literature. These foresight approaches have been listed under “open foresight” (Wiener et al., 2020).

Miemis et al. (2012) pointed out that the term open foresight was first coined in 2006 by Daheim and Uerz (2006). Daheim and Uerz (2008, pg. 332) offered a set of four criteria of openness in order to qualify a foresight activity as open foresight. Open foresight should:

- *involve relevant stakeholders from inside and outside the client's organisation;*
- *be 'environmentally' open by not prematurely narrowing its (thematic) perspective to just one sector/environment and*
- *be organised/institutionalised as an open process that does not end when the hard objective of one specific project has been achieved.*
- *Open to disruptive trends or open the respective organisation to disruptive factors, as it becomes increasingly important for corporate not to deliver trends and empirical evidence which confirm habits and beliefs, business models or products – 'confirmative knowledge' – but to ask the right questions.*

Before Daheim and Uerz's open foresight proposition, future studies in policymaking were already discussing an epistemological paradigm shift; Tapio and Hietanen (2002) reported a paradigm shift in future studies, identifying a change from an exclusively expert panel based process to an inclusive one (public's involvement). In the meantime, collaborative foresight exercises were experimenting with diverse participant input through a collaborative and inclusive approach to participant choice. This was observed in some Delphi and scenario exercises (Schmitt Olabisi et al., 2016, Johnson et al., 2012, Díaz et al., 2009, Yao et al., 2010, Rayle, 2010). The studies do not qualify as open foresight since all of them had learning through collaboration at heart and did not aim to tick off the open foresight literature's criteria as a whole but merely the first point.

While recent literature on open foresight for multinational corporations focus on innovation and value creation (Wiener et al., 2020, Korreck, 2018, Joneidi Jafari and NiliPourTabataba'i, 2017, Rohrbeck et al., 2015b, von der Gracht et al., 2010), open foresight for SMEs acts as a supportive mechanism for their strategic thinking and decision making. Through foresight, SMEs can adapt existing knowledge, and make strategy for finding investors and partners (Milshina and Vishnevskiy, 2018).

The common issue that presented itself as a barrier to implementing foresight in and among SMEs is lacking the resources (Milshina and Vishnevskiy, 2018, Mietzner and Reger, 2009). However, the additional benefits that come with “openness” of foresight activities can help SMEs save resources (Wiener, Gattringer and Strehl, 2020). Another issue acknowledged in this paper is a more specific aspect of resource scarcity, that is SMEs lagging IT skills. However, as pointed out by Deschryvere, Mikkola and Conn (2020), some of the expected effects of COVID-19 on SMEs are that the SMEs can take a leap forward in digital skills as well as recognise the increased need for cooperation, diversity and ambition. In line with expectations, a recent survey by McKinsey and Company (2020) discovered that following the Coronavirus pandemic, businesses across the globe accelerated the adoption of digital technologies.

Horizon Scanning

The Oil crisis of the 1970s forced organisations to reconsider their forecasting techniques. The prevailing forecasting techniques at that time were statistical growth projections based on the foundation of past data which considered that the future would continue in the same linear manner (Ansoff, 1975). Ansoff (1975) introduced the weak signals (WS) theory as an alternative to the traditional forecasting. The rationale behind Ansoff's weak signal theory is that, by detecting and acting on the weak signals, trends, and other indicators of change organisation can be better prepared and hence maintain or gain competitive advantage. Ansoff proposed an early warning system, in order to continually monitor the weak signals, to aid in the strategic management of an organisation.

The failure of traditional models of forecasting and a push towards early warning systems and environmental scanning systems by strategic management experts such as Ansoff lead to the increased use of strategic foresight. Strategic foresight is a multistep process which begins with that of scanning and monitoring changes (weak signals, trends, drivers, etc.) e.g., horizon scanning. This is followed by sense making activity of the information gathered from the previous step, an example of this is scenario planning. Post this, strategic priorities are selected and finally these are implemented. The foresight process is represented in figure 1.

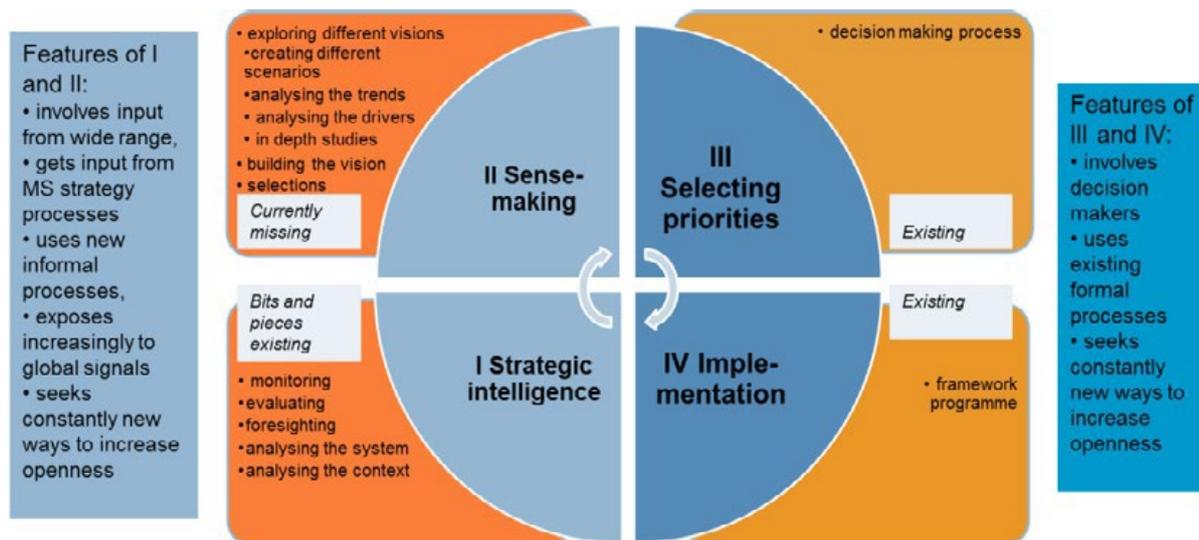


Figure 1: Foresight process (Cuhls, 2020)

Strategic foresight can be defined as “expanding awareness and understanding through futures scanning and clarification of emerging situations. It suggests a kind of vision—a vision of the mind rather than of the organs of sight. It pushes the boundaries of perception forward in at least three major ways: by assessing possible consequences (of actions, decisions, etc); by anticipating problems before they occur; and by considering the present implications of possible future events” (Slaughter, 1990, pg. 801)..

The advantage of strategic foresight (SF) over forecasting is that SF acknowledges that the business environment is not static but rather extremely dynamic. Also, one of the most important elements of foresight is the participatory part. This paper will focus on the participatory aspect of foresight, which is gaining momentum in research as open foresight.

Based on some cases and process suggested by select papers from literature, this paper argues that open foresight is not a distinct field by itself, but it is a form of open strategy. To achieve this goal, this paper will focus on horizon scanning.

Before delving further into strategic foresight and horizon scanning, it is important to define weak signals since most of the strategic foresight activities are built on the foundations of WS theory. Ansoff defined weak signals as symptoms of possible change (Ansoff, 1975, Holopainen and Toivonen, 2012). Godet defines weak signals as ambiguous, seemingly unimportant or unexceptional trend that can considerably impact an organization's aims and objectives but requires correct interpretation (Rowe et al., 2017). Recent developments such as globalisation, influence of world politics in global economy and the interconnection of multiple factors have made the WS theory more important than before (Rossel, 2011)

WS or more generically early warnings has garnered enough support to become a sub domain on its own in management research. There are several concepts based on the early warning systems such as peripheral scanning, horizon scanning (HS), and environmental scanning system (ESS). Even though there is a lot of literature on early warning systems there is a need to clarify the relation of similar concepts such as peripheral scanning (Haeckel, 2004, Day and Schoemaker, 2005) (Day and Schoemaker, 2005), horizon scanning (Cuhls, 2020, Miles and Saritas, 2012, Amanatidou et al., 2012), and environmental scanning systems (ESS) (Mayer et al., 2013) within strategic foresight. Even though there are some ambiguities with respect to the various concepts, they all promote the idea of seeking information from variety of source in order to make informed strategic decisions.

To provide clarity, the main difference between the likes of Peripheral Scanning/ESS and horizon scanning is that the former concept looks for drivers of change that are generally concerned with the present timeline and/or a short-term future. Horizon scanning (HS) on the other hand is concerned with seeking WS, trends, or drivers of change with a focus on long-term future (Rowe et al., 2017). Since strategic foresight, and therefore open foresight, in general is concerned with longer future time horizons, this paper will focus on HS. The CSA (Chief Scientific Advisor's committee – UK) defines HS as “Horizon scanning is the systematic examination of potential threats, opportunities and likely future developments including – but not restricted to – those that are at the margins of current thinking and planning. Horizon scanning may explore novel and unexpected issues, as well as persistent problems or trends” (DEFRA in Miles, 2005, pg. 21)

As with foresight, HS emphasis the need for broadening the scope of sources as well as participants for gathering WS. This is similar to what is suggested in open strategy. Further, the literature on the concept advocate taking advantage of the growth in internet, computing technology, and social media to accommodate a broader participation. This use of technology has been accelerated due to its acceptance and wide use due to the prevailing COVID-19 pandemic, for instance virtual meetings using platforms like “Zoom”, “teams”, and “Skype” have become completely normal which wasn't the case before the pandemic. Some of the ways suggested for using the developments in technology and internet are the use of social scanning web 2.0 (twitter, blogs, etc.) (Pang, 2010). Other methods mentioned are by web mining and text mining along with the use of machine learning for detecting and WS (Thorleuchter and Van den Poel, 2013, Mühlroth and Grottke, 2018, Yoon, 2012)

The general method followed by researchers advocating the use of technology is firstly to mine text using computer programming language (example: python3 or Java) to collect and dump

text data from sources such as websites, academic papers, government & private databases, and twitter which is called a corpus. Even though there is lack of literature on how to analyse the corpus for identifying WS, the most common method suggested is using the Latent Dirichlet Allocation (LDA). LDA is a probabilistic topic modelling unsupervised machine learning method. How LDA works is beyond the scope of this paper and information on how the LDA model works with respect to weak signals can be found in papers by Kim et al. (2019) and El Akrouchi et al. (2021).

Apart from the analysis of text mining, social media, and machine learning approaches, another approach is to use dedicated websites to capture information from various people regarding a particular issue or generic opinion of futuristic trends. An example would be the use of IT tools for detecting WS by Deutsche Telekom (PEACOC Scouting Tool) to analyse the inputs of external as well as internal scouts of WS (Rohrbeck et al., 2015b). Another technology based collaborative method is the use of expert network to capture and monitor emerging trends and analyse the information using quantitative methods (Kim et al., 2013).

Another similar collaboration based horizon scanning but more human centric approach is the Searchlight function developed by the Rockefeller Foundation (Juech and Michelson, 2012). The Searchlight function consists of a network of forward-looking organisations from various developing. These organisations conduct local specific horizon scanning and produce newsletters of the scan and submit it to the foundation. The newsletters collected from all the organisations are collated and analysed to detect issue specific trends.

Horizon scanning activity is also taken up to aid in government policy formulation. The most common method used in this setting is based on the process suggested by Hines et al. (2018). In this method people from various ranks, departments, within the organisation and sometimes where possible even external experts are recruited and trained as scanners for identifying WS, trends, and drivers of change.

The scanners are encouraged to use diverse resources to identify the WS, trends, and drivers. The usual resources are futuristic journals, news blogs, internet keyword search, seeking expert opinion, etc. If the scanner finds relevant information, he/she will file the information based on the impact assessment as either H1, H2, or H3. H1 implies immediate impact; H2 implies that there is a high possibility of impact in the near future but not immediately and thus action needs to be taken; H3 implies that it's a weak signal with a potential of becoming a strong signal but no action is needed, and the signal needs to be monitored. All the assessment, that is H1s, H2s, and H3s are collated and presented as dashboards which can be used to aid the organisation to make policy decisions.

Consolidation and Directions for future research

The proposed bridging of the literature on open foresight and open strategy in this study not only helps to position the evolving concept of open foresight in the remit of open strategy practices, but also helps in identifying further research opportunities. Three generic propositions regarding the relationship between open foresight and open strategy research are formulated and elaborated upon in the subsequent sections.

Conceptual Clarity

The review has revealed a knowledge gap in relation to the overlap between the designs of open foresight and open strategy, both of which are shown to have developed from the open innovation paradigm. Existing studies focus on collaborative open foresight and attempt to

rationalise this as being holistically different to the traditional foresight approach. However, through this review it is proposed that future research should be directed towards these phenomena, in particular:

- conceptual clarity that can provide insights on the rationale for combining the existing literature streams;
- deliver a theoretical framework bridging the two perspectives together.

By definition, the open strategy approach is characterised by the principles of inclusivity, transparency (Chesbrough and Appleyard, 2007; Whittington, Cailluet and Yakis-Douglas, 2011) and IT-enabledness (Tavakoli, Schlagwein and Schoder, 2017) which are all identified as traits of the open foresight phenomena. Yet, extant studies have overlooked these meaningful comparisons between both strands of literature. By bridging these two perspectives and positioning open foresight within the domain of open strategy practices, this review proposes further conceptual clarity is required to understand the relationship between both phenomena.

Focus on Normative Research

Further normative research is required to provide practitioners with tools and frameworks to aid in decision-making. Particularly in the context of small and medium sized enterprises (SMEs) where limited studies exist on open foresight. Corporate open foresight and open strategy practices appear to be the dominant perspectives in existing empirical studies. On this front, one of the authors has extensive exposure to the workings and constraints of SMEs, especially Indian SMEs, through his work experience. Thus, SMEs in this section will imply SMEs in the Indian context.

The author worked in the plastic packaging material manufacturing industry (shampoo, pharmaceutical bottles, etc.). Similar to many other SMEs, this SME was a part of an industrial association – All Indian Plastic Manufacturers Association (AIPMA). The role of association was to lobby the government on behalf of its members for seeking support for overall growth of the plastic industry. Not only this but the association took up educational activities for its members by conducting various consulting and seminars, for e.g., on some new technology, changes in regulation, international & domestic developments that might affect the industry etc.

Associations, like the AIPMA, play a key role since SMEs resources at individual level are constrained. It is easier and affordable for an SME to gain information through seminar rather than gain information individually by hiring an expert, as this would be very resource intensive and many a times not feasible for the SME. Even though SMEs do a fair amount of strategic planning activities, strategic foresight activities (including environmental scanning) are modest to even absent. Why so, is beyond of the scope of this paper. IT enabled foresight (text mining, internet trend monitoring, social media opinion gathering, machine learning) is almost out of sight for the SMEs since these are resource intensive.

These limitations, especially with respect to IT enabled foresight, could be overcome by using the association platforms and open foresight. The association could secure the services for IT enabled open foresight and the cost could be distributed on to its interested members. This way SMEs would benefit from reduced costs and benefit from the foresight activities.

The possibility of open foresight opening the doors to SMEs under the open strategy framework for a collaborative and networked strategy development process provides the potential for unique insights into the nature of SME strategy development. By emphasising the collaborative

nature of openness, conducting foresight together, and saving resources, including new and various inputs that would not have occurred otherwise, and as a result, creating value and supporting collaborating organisations to steer proactively towards a desired future is possible. Open strategy should be seen as playing an overarching role between open foresight and increasingly digitally skilled SMEs in a post Covid-19 world. SMEs catching up with digital skills also open up new doors to implantation of text mining and machine learning approaches for their foresight practises.

Focus on theory-based research

Existing studies adopt network and agency-based theories approach to explain the utility of open strategy in empirical research. Similarly, under the open foresight doctrine there is seemingly an impetus on collaborative or network-based open foresight practices (Heger and Boman, 2015). However, these studies fail to recognise the limitations facing SMEs, such as resource constraints as mentioned earlier in this review, neglecting the utility of undertaking open foresight and open strategy processes in the SME specific context. In order to provide a richer appreciation of the underlying motives for engagement in open foresight activity by SMEs, it is useful to consider the value gained by these organisations in embracing the process. (Milshina and Vishnevskiy, 2018) suggest that SMEs can offer a supportive mechanism to facilitate strategic thinking and knowledge sharing. In particular, SMEs are able to access knowledge and resources that may otherwise have been outside their reach under the traditional approach to strategy (Milshina and Vishnevskiy, 2018).

Future research should consider the application of the resource-based view (RBV), in particular to the resource accessed through network forms of open foresight. Ruzzier, Antoncic and Konecnik (2006) inferred a convergence between the network perspective and the RBV when considering the internationalisation efforts of SMEs. Exploring the potential resource advantage accrued by SMEs would shed additional light on the strategy development perspective discussed earlier in this review. Relatedly, considering the dynamic capabilities approach would allow for a better understanding of how the collaborative and network inspired open foresight process in SMEs. Extending theory application beyond the network and agency perspectives would enable new insights into SME adoption of open strategy inspired open foresight processes.

Concluding remarks

In conclusion, research on SME open strategy and open foresight processes is at an exciting stage. In many ways strategy development in SMEs remains a relatively under-researched area when compared to insights generated in the corporate foresight literature. Now that a substantial body of literature exists on both open strategy and open foresight approaches, it is timely to consider the overlaps in the conceptualisation of both perspectives. Through this review, it is shown that horizon scanning strongly advocates collaboration along with the use of technology for identifying weak signals, trends, and drivers of change. Even before the advent of new technologies, the most important element of strategic foresight was collaboration or being 'open' for collecting insights. Thus, foresight has always been based on the principles of open strategy even though this had not been explicitly stated until the recent mentions of open foresight. This review shows there is an excellent opportunity to explore both the conceptual and normative effects of combining open strategy and open foresight literature.

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