

**Prospecting the Past for the Future:  
Storytelling in Making an Emerging Innovative Business Domain**

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**Abstract**

In innovative business domains, there is a multitude of actors with a range of interests and expectations. The actors make sense of the past, present, and future as they collaborate and make collective sense of emerging business opportunities in the domain. This chapter examines such sensemaking in an emerging innovative business domain of personalized medicine. We explore multiple fragments of stories and identify three antenarratives: innovation, integration, and institutionalization. These antenarratives anticipate the promotion of personalized medicine in Finland. The results of our study show that the future is projected through history as storytellers make sense of plausible past evidence and experiences. This study contributes to storytelling organization theory and the antenarrative literature on prospective sensemaking by highlighting temporality in lived experience and the dialogical dynamics that make history for the future in business storytelling.

*Keywords:* antenarrative, business storytelling, prospective sensemaking, personalized medicine

## **Prospecting the Past for the Future: Storytelling in Making an Emerging Innovative Business Domain**

In this chapter, we explore how past experiences and future expectations are integrated in business storytelling related to personalized medicine. In storytelling, we examine prospective sensemaking through antenarratives as fragments of stories that are “a flash” of something that emerges and unfolds from past influencers, present dynamics, and bets on the future (Boje, 2008). Personalized medicine refers to tailored healthcare solutions that combine personal genomic, health, and registration data to innovate the prevention, diagnoses, and treatment of diseases (e.g., Tutton, 2014). Personalized medicine is an emerging innovative business domain in which a multitude of actors seek ways to advance the use of personal genetic and health data in biomedical research and development (R&D) with the goal of creating new techniques and practices in preventative and clinical healthcare. Because of the rapid development of genomics and data management technology, personalized medicine is expected to make major breakthroughs in both science and business. We show that stories about experiences and expectations constitute the idea of business in the domain of personalized medicine. In our analysis, bets on the future and past influencers depict and reveal the integration of prospective sensemaking and living stories of innovation in this context.

We draw on storytelling organization theory (Boje, 1991) in our focus on the antenarrative literature (e.g., Boje, 2008; Bülow & Boje, 2015; Jørgensen & Boje, 2009) to illustrate the interrelationships among stakeholders and to represent the emergence of business storytelling. We embrace storytelling as an overarching approach to understanding the ongoing and flexible process of making sense of a continuously moving rhizome of story lines in the emerging business domain (e.g., Bülow & Boje, 2015; Jørgensen & Boje, 2009). We focus on a living story (Boje, 2008) that embodies the fragments of stories, in which storytelling is constituted as the “sensemaking currency” of a storytelling system and where plausible past story lines are compared with unfolding story lines (Boje, 1991). A living story is based on experiences and expectations that are recounted in the present

storytelling; therefore, it has not yet reached the coherence of a complete narrative (Boje, 2008; Boje et al., 2016; Bülow & Boje, 2015).

This study contributes to storytelling organization theory by applying the concept of a storytelling system from an organizational level of analysis (Boje, 1991) to a system level analysis in an emerging innovative business domain. Our case study is the domain of personalized medicine in Finland, where genomic medicine and biobanks have been advocated at the national level for over two decades (Tarkkala et al., 2019; Tupasela et al., 2020). We conceive of personalized medicine as an imaginary framework (see Tarkkala et al., 2019) of living stories about future innovations, research, science, and business, which are continuously negotiated among various actors in the present (see Boje et al., 2016; Bülow & Boje, 2015). In the imaginary of personalized medicine, the future-oriented nature of activities targeted at creating a shared space of interest becomes meaningful.

In our analysis, we examine fragments of stories about the future told by the interviewees, describing the actors and making sense of their relationships in the domain. We are interested in the ways in which retrospective and prospective elements intersect in the present storytelling, where actors make sense of past events and experiences to bet on the future. As a storytelling system (see Boje, 1991), the emerging domain of personalized medicine includes various public and private sector stakeholders with a range of expectations and interests. They form a multitude of storytellers who participate in constructing the domain and imaginary landscape of personalized medicine, and they attempt to explore opportunities within them. The system is in constant motion because various stakeholders engage in interaction, sensemaking, and sense-giving (Lehtimäki & Peltonen, 2013). Stakeholders perform stories to make sense of ambiguous and uncertain situations (Boje, 1991) and bet on the future (Boje, 2008). In their storytelling, they refer to future bets as fragments of stories about the future (Boje, 2008), which make sense of plausible past evidence and experience, thus enacting the past-as-future trajectory (Boje et al., 2016). By analyzing the fragments of stories, we detect prospective sensemaking and related rhizomes of discursive fragments (see Bülow & Boje, 2015; Jørgensen & Boje, 2009) that constitute the living stories

of innovation. We also consider polyphony and multiple dialogues (Boje, 2008) to identify the voices of various actors engaged in this emerging domain.

The exploration of the temporal interplay between expectations and experiences directs our attention to storytelling that constitutes the idea of business in the imaginary of personalized medicine. In particular, our investigation of bets on the future and past influencers highlights the nascent character of the emerging innovative business domain by examining continuously unfolding story lines. In business storytelling, the actors make sense of the rhizomes of living stories, in which they enact their lived experiences without narrative coherence. The emergence of business storytelling is illustrated in various story fragments covering the key approaches to and views on constructing the shared space of interest among various stakeholders. The emergence induces the actors to engage in prospecting the past and the present for the future. As a result, we show that in the emerging innovative business domain, antenarratives serve as facilitators for stakeholders to voice their expectations and interests and make collective sense of innovation, integration, and institutionalization.

The chapter is structured as follows. We first describe the context of personalized medicine. We then review previous studies on the storytelling approach in the innovation literature. We next describe our research design and the case study. Finally, we discuss the results of the empirical analysis and consider their implications for both research and practice.

### **Setting the Scene – Personalized Medicine**

In the past two decades, the terms “personalized medicine” and “precision medicine” have been adopted by both professionals and the public to signify the future of medicine and healthcare and to indicate the direction of innovation in medicine (Tutton, 2014). Advocates of personalized medicine (e.g., Collins & Varmus, 2015; Hamburg & Collins, 2010; Hood & Friend, 2011; Horgan, 2017) have claimed that in the future, individually tailored diagnoses, risk assessments, medical care, and healthy lifestyle regimens will replace current diagnoses and treatments that are based on the knowledge of “average” patients and normal variations. The former were derived from biomedical knowledge that was capable of precisely capturing all health-related individual differences and singularities (e.g., Tutton, 2014).

Visionaries have predicted that such changes will be unprecedented in medicine, healthcare practices and professions, and businesses (e.g., Hood & Friend, 2011; Swan, 2012; Topol, 2012). Because of the disruptive potential of personalized medicine, an intensive domain of innovation is required, which combines biomedical and clinical research and development (R&D) and a variety of commercial pursuits.

Analyses and discussion of the emerging market for the new genomics first considered personalized medicine in the mid-1990s (Lakoff, 2005). At the turn of the millennium, the medical and commercial potentials of personalized medicine were included in the promise of mapping the entire human genome, which would revolutionize medical care (Tutton, 2014). In the 2010s, the prospect of personalized medicine was closely associated with data-driven medicine. The spread of electronic health records and data repositories enabled the low-cost analysis of patient molecular data and provided new potentials for biomedical research, clinical care, and personalized medicine. The promise of future medicine is now predominantly dedicated to the mining of digitalized biological and health data masses with the help of high-throughput computers and advanced algorithms, which will result in precise and individualized prevention, diagnoses, and treatment, as well as more efficient healthcare in general (e.g., Hood & Friend, 2011; Pentland et al., 2013; Swan, 2012). Personalized drug prescription based on data on the individual's behavioral traits, metabolism, and genetics, which would prevent over- or underdosages and harmful drug interactions, has been presented as an example of the benefits of "precision" medicine (e.g., Pentland et al., 2013). With the deployment of health-related Big Data, a new commercial domain of digital health data sourcing and utilization has emerged, which is related to both commercial and scientific domains of biomedical R&D and to consumers' use of digital health information (see Prainsack, 2017).

The prospects of data-driven personalized medicine have engendered a new global milieu for innovation and business, in which cutting-edge biomedicine and advances in data mining technology are integrated. Commercial health data sourcing has expanded and intensified worldwide as private companies specializing in the provision of genome data analytics and management services to researchers and direct-to-consumers have emerged and started to collect massive databases (e.g., Järvenpää &

Markus, 2018; Stoeklé et al., 2016). Giant corporations, such as Google, Apple, and IBM, have also shown a growing interest in extending their platforms and activities to include health and wellness data (e.g., Powles and Hodson, 2017; Sharon, 2016). In addition, the extensive and intense utilization of biobanks and health data repositories under public authority in advancing personalized medicine has become a spearhead of national innovation policy in countries around the globe (e.g., ICPeMed, 2019; Ong, 2016; Sun, 2017; Tupasela et al., 2020).

In this context, the economic benefits of personalized medicine have been greatly emphasized. Personalized medicine is expected to increase the cost-effectiveness of healthcare and facilitate the formation of innovation ecosystems in genomic medicine and data mining technology, thus boosting commercial activities (e.g., Hoeyer, 2019; Tarkkala et al., 2019; Tarkkala & Tupasela, 2018). Because of this emphasis, personalized medicine is an interesting case study for examining the co-creation of value and value expectations (see Helén & Lehtimäki, 2021) in innovative techno-economies (see Birch, 2017). The pursuit of personalized medicine in several countries (e.g., Fortun, 2008; Hoeyer, 2019; Sun, 2019; Tarkkala et al., 2019) has highlighted two central characteristics of innovative business domains in the making: the considerable and vital involvement of governmental and other public institutions (see Mazzucato, 2018) and the significant role of laws and regulations in innovative R&D (Berry & Bendapudi, 2007). Projects on biobanks and other infrastructures for health data sourcing around the world (e.g., Fortun, 2008; Gottweis & Petersen, 2008; Hoeyer, 2019; Ong, 2016; Tupasela et al., 2020) are examples of governmental policy and regulatory frameworks that seek to support and boost innovative activity and advocate future value creation. However, policy and regulation can also significantly slow down the commercialization and marketization of innovation.

### **Storytelling Approach**

Narratives and narration are common characteristics of human culture, and they are one of the most widespread modes of human communication and sensemaking (e.g., Fischer, 1987). Many scholars (e.g., Abbott, 2002; Gubrium & Holstein, 2009; Herman, 2002; Herman, 2009) have claimed that a narrative's central feature is its capability of presenting reality, action, and the experiences of humans and

their relationships to the world as meaningful and ordered and as problematic and incomplete. Therefore, narratives allow people to make sense of the reality at hand and consider it actionable in many ways.

Narrative provides a temporal and logical order (e.g., Herman, 2009, pp. 75–104), which enables humans involved in activities to make sense of future prospects.

In many domains of innovation, such as business and innovation policy, expectations, possibilities, and uncertainties concerning future events and actions have been presented, comprehended, or imagined (see Jasanoff, 2015), mainly in narrative form (Beckert, 2016, pp. 169–187; Deuten & Rip, 2000; Godin, 2009; Jamison & Hård, 2010). In these contexts, a core feature of the tales told is the connection of the present with a potential future. For this reason, understanding the role of narratives in innovation has been considered important.

Bartel and Garud (2009) showed that a narrative approach is useful first in understanding how stimulating novel ideas are promoted to evoke a coordinated action among a variety of stakeholders. Second, they argued that a narrative approach is beneficial in understanding how innovative ideas are brought to fruition in processes that are not linear processes of commercialization but processes in which ideas are cultivated over time in a complex web of relationships. Finally, they argued that a narrative approach allows for understanding the ways in which ideas are kept alive by translating activities over time so that past, present, and future activities can be coordinated. This line of thinking stresses the importance of understanding the emergence of innovation, which calls for contextualized accounts of innovation and an understanding of multiple stories that constitute the emergence of innovation (Garud et al., 2014).

The traditional narrative research has emphasized a coherent and structured way of narrating organizational life (e.g., Czarniawska, 1998), whereas the storytelling approach shifts attention to understanding the ongoing, occasional, and flexible process of sensemaking within the realm of living stories (Jørgensen & Boje, 2009). Living stories recount the lived experiences and make sense of a continuously moving rhizome of antenarrative fragments that emerge from past influencers, present dynamics, and future bets (e.g., Bülow & Boje, 2015). Therefore, living stories with antenarratives have



not yet reached the coherent and structured form of a complete narrative (Boje, 2008; Boje et al., 2016; Bülow & Boje, 2015). This story approach to organizational analysis implies the focus on multiple stories in a polyphonic system that is characterized by a constant state of becoming (Jørgensen & Boje, 2009).

The antenarrative approach is meaningful in understanding the interrelationship between storytelling and sensemaking in the contexts of strategy making (Vaara & Pedersen, 2013) and organizational change (Boje et al., 2016), where temporality is relevant. In his exploratory study, Boje (1991) contended that organizational stakeholders engaged in storytelling about the past, present, and future to make sense of their environment. Antenarrative addresses the non-linearity of time and accounts for subjective perspectives on space and time. Thus, it allows for elaborating non-linear strategic change. The central argument is that change occurs in the interconnections of diverse voices and the embeddedness and entanglement of living stories and organizational strategies (Boje et al., 2016).

Antenarrative has been used in analyzing McDonald's Corporation's internationalization and organizational expansion (Haley & Boje, 2014), the cross-cultural merger and acquisition of a bank in Finland and Sweden (Vaara & Tienari, 2011), Burger King's international strategizing (Boje et al., 2016), and negotiations in the context of new public management (NPM) in higher education in Denmark (Bülow & Boje, 2015). These previous studies emphasized the perspectives of stakeholders, whose voices are rarely considered in formal organizational, strategy, and corporate narratives. These studies also highlighted the contextual embeddedness of storytelling. Using antenarrative analysis, researchers examined the interplay between retrospective and prospective sensemaking (Vaara & Pedersen, 2013) and showed that the future emerged in the present through antenarrative sensemaking.

In our research, we investigated continuously unfolding storylines that make sense of an emerging innovative business domain. We apply storytelling organization theory (Boje, 1991; Boje, 2008) to analyze the antenarrative literature (e.g., Boje, 2008; Bülow & Boje, 2015; Jørgensen & Boje, 2009) and to illustrate the interrelationships between stakeholders and the emergence of business storytelling. We resolve the tension among voices in previous works that drew on narrative analysis by focusing on the emergence of business storytelling in a polyphonic system (see Boje, 1991; Jørgensen &

Boje, 2009) and identifying multiple stories (Boje, 2008) in constructing the idea of business. In this storytelling system, no coherent narratives exist; therefore, the actors engage in storytelling to make sense of ambiguous and uncertain situations by identifying cues in both the past and the present (Boje, 1991), thus reinforcing the past-as-future trajectory (Boje et al., 2016).

Previous studies in the literature on antenarrative (e.g., Boje, 1991; Boje et al., 2016; Haley & Boje, 2014) have often examined storytelling phenomena in organizational contexts. From our point of view, antenarrative analysis can be conducted in a new context by studying prospective sensemaking and the living stories of innovation in an emerging storytelling system where stakeholders represent different organizations and contribute their stories to construct the innovative business domain. In terms of innovation narratives, we followed Bartel and Garud (2009) in translating activities over time through fragments of stories about the future. We addressed the call for contextualized accounts of innovation (Garud et al., 2014) by analyzing multiple story lines that shaped the emergence of innovative businesses.

### **Research Design**

Our case study of an emerging business domain was situated in Finland, where the advocacy for data-intensive genomic medicine has been a national effort since the late 1990s and is nowadays framed by an imaginary landscape of personalized medicine (Tarkkala et al., 2019; Tupasela et al., 2020). Both academic research institutions and public authorities have invested in building a biobank infrastructure and enhancing biobank research based on public–private partnerships in addition to modifying legislation and regulatory frameworks. These investments have been made to enable the extensive use of and easier access to public healthcare data repositories for a wider range of users, including the research and development (R&D) projects of private companies.

The Finnish government has set a strategic goal to develop Finland as a pioneer and an internationally desired partner in healthcare, high-level research, and global business by utilizing genome data (Finnish Government, 2016; Tarkkala et al., 2019). In addition, Finland has been eagerly promoted as the best “testbed” for biomedical research because of the unique genetic composition of the Finnish

population, extensive and accessible reservoirs of health-related data in digitalized public healthcare and population databases, and expertise in biomedical research and data management (Tarkkala 2019; Tarkkala & Tupasela, 2018). This national advocacy has included the promise to open new business opportunities for innovative companies in biomedical research and related information and communications technology (ICT) and to boost the growth of the domestic business ecosystem of personalized medicine (Tarkkala et al., 2019; Tupasela et al., 2020). The case study presented in this chapter focuses on the business of promoting personalized medicine in Finland.

We began our study by contacting potential interviewees and making appointments to meet with the actors in the domain. During the first round of interviews, we asked the interviewees to recommend other stakeholders in the domain. In this process, we familiarized ourselves with the stakeholder setting and gained access to stakeholders in both the public and private sectors. The interviews provided us access to the natural context of storytelling (see Boje, 1991). In each interview, the story lines described the emerging context and continuously evolving innovation activities. Therefore, fascinating stories emerged from the interviews. It was intriguing that interviewees were extremely eager to share their experiences with the researcher, and they were enthusiastic about telling their stories, recounting frustrating experiences, and projecting future events. As a result, the interviews elicited the engagement of the interviewees in sharing their stories, which enabled us to gain access to the lived experiences of the phenomenon under study (see Gioia et al., 2013).

We conducted 11 interviews with different stakeholder representatives from the public and private sectors of the personalized medicine field in Finland from 2016–2018. Two information technology companies represented private sector actors in eight interviews (Company interviews 1–8). In addition, interviewees from public organizations, including a biobank, an industrial policy organization, and an expert association, represented the public sector actors, each of which had one interview (Public organization interviews 1–3). The interviews lasted between 45 and 127 minutes. The interviews were recorded and transcribed, and the transcripts provided the dataset for our analysis.

In the empirical analysis, we aimed to explore how past experiences and future expectations were integrated in business storytelling related to personalized medicine. We conducted a reflective case study based on the methodological approach of theory elaboration, where the existing theoretical evidence informed our inductive data analysis (Ketokivi & Choi, 2014). We engaged in a subjective search for meaning, relied on contextual understanding and thick description, and provided an analytical understanding of actors' subjective experiences as the outcome (Welch et al., 2011). Using this research design, we sought to address the idea of business in the context of personalized medicine by exploring the actors' views on and experiences of this topic.

Following Ketokivi and Choi (2014), our engagement with the case study approach was two-fold. First, we engaged in a close examination of the research context and a rich description of the data to embrace the complexity of interpretive sensemaking (Welch et al., 2011). We thus formed the contextual foundation of this study by being grounded in the situation and attuned to the characteristics in the empirical context (Ketokivi & Choi, 2014). We present insights into this descriptive dimension in the findings section of this chapter. Second, following a reflective data analysis, we discussed the results of the study before positing their theoretical implications (Ketokivi & Choi, 2014). Because of the contextual description, the goal of this study was not to address the generalizability of the results but to offer plausible explanations and implications based on this unique case (Welch et al., 2011). Consequently, we added to our theoretical understanding by providing insights into the results of this study, which provided a thick contextualized conception of the idea of business in personalized medicine. We elaborate on this explanatory dimension in the discussion section in this chapter.

We adopted the antenarrative inquiry as the analytical approach to account for the integration of expectations and experiences in stories about the future. Antenarratives with bets on the future and past influencers were constructs that helped us operationalize the investigation into the lived experience of the research participants. In this research, an antenarrative bet on the future was defined as the fragment of stories about the future. Previous applications of the antenarrative approach have extended the traditional view of sensemaking by emphasizing the prospective focus: "the future is already arriving, making

antenarrative sensemaking ‘bets’ on the future a strategic necessity” (Bülow & Boje, 2015, p. 202). The fragments of stories about the future constitute bets on the future and past influencers, thus drawing our attention to prospective sensemaking (Boje, 2008) in the storytelling by the stakeholder interviewees in this case study.

In the beginning of the analytical process, we read the interview transcripts closely to become acquainted with the details of the textual environment and to identify plausible fragments as the subject of our study (Deal et al., 2018). In following Jørgensen and Boje (2009), we noted the ambiguous, dialogic, multi-voiced, tentative, and equivocal nature of lived experience in the emerging innovative business domain. The empirical results showed that the interviewees expressed a strong future orientation and discussed several expectations of stakeholder collaboration and the overall development of the domain. The interviewees articulated various dreams, visions, and hopes in discursive fragments. According to the stories shared by the interviewees, the future was bright despite uncertainties emerging from the past and challenges experienced in the present. Influenced by Deal et al. (2018) and their micro historical approach to archival data, our process of close reading enabled us to identify fragments of stories about the future.

Following Boje (1991) and Deal et al. (2018) in analyzing the story fragments, our engagement with the antenarrative inquiry was two-fold (see Boje, 1991). First, on the surface level, we proceeded to highlight and extract all bets on the future to understand how they occurred in storytelling. As the interview excerpts will show, the interviewees shared their ideas about the future in small pieces and fragments without a plotted sequence. In this study, we included a wide variety of differently expressed references to the future as bets on the future. In determining the expressions that could be counted as bets on the future, we paid attention to the use of the future tense, Finnish conditional expressions, temporal qualifiers, such as “next year,” “in five years,” and “in the ideal future,” and to future terms, such as “a dream,” “a vision,” and “utopia.” In this type of analysis, we paid attention to what was said in addition to how it was said to make sense of references to the future. Based on the process of determining bets on the future, interview excerpts, including those referring to bets on the future, were extracted. A separate file was created to analyze these bets.

Second, on the fragmentary level, we analyzed the surfaced bets on the future. We closely read (see Deal et al., 2018) the data set, including bets on the future, and we harmonized the data. With a view to distilling the central elements of the bets on the future, we highlighted expressions of the future and pondered the key message of each bet. We also interpreted the meaning of expressing a certain bet on the future. Several questions guided our analytical process: What does this tell us about the domain and its development? What do they mean when they say this? Why is this an interesting bet? In this data-embedded and inductive engagement in the analysis, we were able to form central conceptions that would help us in communicating the major findings of the study (see Ketokivi & Choi, 2014).

Based on our two-fold antenarrative inquiry, we observed the play of stories across temporal dimensions. On closer examination, bets on the future were influenced by past influencers, or a story line from the past was leveraged to make sense of future directions. By analyzing the fragments of stories, we detected prospective sensemaking in the rhizomes of discursive fragments (see Bülow & Boje, 2015; Jørgensen & Boje, 2009) that bet on the future by making sense of past events and experiences, thus indicating the past-as-future trajectory (Boje et al., 2016). We interpreted these ideas of constructing the present by referring to both past experiences and anticipated future events. For example, some interviewees described their unsuccessful experiences of collaborating in the domain, and they articulated the crucial need to establish collaboration opportunities in the future. We also found evidence that the past was influenced by ideas about the future and vice versa. For example, we identified past terms that denoted historical knowledge, such as “our experience,” “our national heritage,” “immature,” and “in-depth substance expertise.” We noted that the perfect tense was used to express a past event that had consequences in the present, such as “Finland has been a forerunner.” In this dataset, bets on the future were visible in the original transcriptions. By extracting these bets as a separate unit of analysis, we identified a mixture of the past, present, and future.

Because of the elaborative, reflective, and data-driven process, the analysis was lengthy yet rewarding. In performing this antenarrative inquiry, we applied the storytelling approach to a qualitative and interpretative analysis, which enabled us to gain insights into the dynamics of polyphony and

multiple dialogues among stakeholders (Boje, 2008). The innovation investigated in this study was explicable in terms of a living story (Boje, 2008) that embodied the fragments of stories about the future, thus constituting storytelling as the sensemaking currency in a storytelling system where past stories were compared to unfolding story lines (Boje, 1991). The living story enabled us to identify the lived experience that was recounted in the present storytelling but did not reach a coherent narrative structure (Boje, 2008; Boje et al., 2016; Bülow & Boje, 2015). We discuss this living story in terms of three types of antenarrative bets on the future in relation to innovating the utilization of health-related data in Finland. In the following, we offer a close examination of present storytelling to make prospective sense of the future by referring to past events and experiences.

### **Findings: Antenarratives as Expectations of Innovation**

Based on the results of the antenarrative analysis, we framed three lines of antenarrative: innovation, integration, and institutionalization. In the following, we describe each antenarrative in detail and elaborate the unfolding story lines according to bets on the future and past story lines according to past influencers. Table 1 in the discussion section shows the variety of past, present, and future dynamics in making history for the future in business storytelling. We offer the implications of these results in the discussion section.

#### ***Innovation Antenarrative: Data-Centered Imagining about Mutual Innovation in Finland***

The innovation antenarrative comprised stories about Finland, and the Finnish health-related data indicated great optimism. The Finnish health-related data denoted a strong orientation to Finland's long history of collecting and storing personal genomic, health, and registration data in national repositories. In several fragments of stories, Finland was depicted as a forerunner in the field of personalized medicine. Therefore, Finland was considered to show great promise as a site of innovation. In Finland, the high quality of health-related data was considered a unique resource, and data-centered innovation was expected to accelerate in the near future. Several actors expressed the collective imagination about opportunities for personalized medicine in Finland. Past investments in collecting and storing the health-

related data called for future actions to utilize and capitalize on them as available resources compiled in the past.

In the environment of the Finnish innovation actors, competition between countries was considered important. In personalized medicine, international competition was recognized to have a major influence on technological advancement and the design of data infrastructures. International competition was described as increasingly intense, and keeping up with the pace of development in the immature field was considered essential: “If you don’t keep up with the development now, probably in two years or three years you have already lost to a competitor” (Company interview 4).

Many interviewees highlighted the need to benchmark Finnish national operations against other countries that were moving forward in personalized medicine work. There was a concern about the prospective challenges caused by this competitive arrangement and a fear of losing the Finnish edge over competitors, as the following excerpt shows:

In Finland, all “the bricks” exist but there are a lot of challenges when maybe the goals are not set according to money, turnover, and jobs and then it is time-consuming and the rest of the world is advancing at a fast pace. In some other countries, they think about these things with different priorities, and Finland’s temporal competitive edge is being destroyed at an alarming rate.

(Company interview 5)

Being quick to learn, making swift decisions, and planning an effective use of resources were considered key activities in staying abreast of the international competition. A major dream was to use the potential of advanced healthcare services and, at the same time, establish a new economic arena for technological innovations. Therefore, the struggle to initiate collaboration and action was considered alarming on the Finnish scene. The following excerpt indicates concern about Finland’s exclusion from the international market regarding the future:

I think we will be in a different world maybe in five years but in 10 years at least, and I think that if the Finns do not get involved in this, others will. Then we will be at the mercy of the things others have developed and that’s why I am in this state of emergency. I would



like things to move forward faster so that we could utilize Finnish know-how, which is guaranteed to suit us better than those made elsewhere, and because these trends are global, there will be demand in the world for what we develop here. (Public organization interview 2).

Although Finland was acknowledged as a forerunner in the field, its position was not considered stable. Several actors fantasized about becoming part of continued development and the related collective action to fulfill dreams about personalized medicine in Finland. The actors anticipated future events and developments to keep up with international actors. One interviewee expressed the following: “In my opinion, the challenge for the future is that we really get involved in that international activity and that this activity starts” (Public organization interview 3).

Finland was perceived as an environment that offers an opportunity to develop innovative personalized medicine solutions in collaborative settings. In enabling the joint use of Finnish health-related data, it emerged as a common interest to make “the data that we have” available in a flexible and prompt manner. The following excerpt indicates that the available data would enable international collaboration: “Of course no one [in the world] is interested in Finland or our [company’s data management] services if we do not have [integrated] data available” (Company interview 2). Therefore, actors who were engaged in the development of data utilization were perceived as being on the right track. Innovating the utilization of the Finnish health-related data was depicted as requiring common goals and establishing collaboration in Finland, as the excerpt below shows:

The biggest problem in Finland is slowness. If we could shift to a slightly higher gear, we could have a common vision and goal, and then we all would go toward it, and we would help each other so that we could get there faster. (Public organization interview 2)

The Finnish health-related data were considered to show great promise as a prospective goldmine of health information (see also Tupasela et al, 2020). There was an urge to solve the puzzle in terms of an effective and collaborative use of health-related data in Finland: “We will go in the right direction if we can bring them [the data] in a format that really enables us to use them together in some reasonable way”

(Company interview 3). It was believed that solving this puzzle would lead to many rapid advances in science and the national economy.

The excerpts quoted below exemplify prospective sensemaking by highlighting sequential thinking about the desired stages in the data utilization process. The data need to be in a certain format so that they could be utilized in a versatile manner, which was expressed by one interviewee: “All this we’re talking about [the integrated and harmonized health data] would be a treasure trove for artificial intelligence and artificial intelligence applications and information management and everything” (Public organization interview 2). In addition, the collective use of health-related data would need design and planning in terms of the entire infrastructure. The following excerpt indicates that there were high expectations for organizing the joint use of data in Finland and benefiting from the potential of Finnish health-related data:

You can’t find competitors anywhere having enough “n” [population] and as much information combined as we have in Finland. If only we would now get this national system in order. We have now seen that those big companies do not come here to cooperate with us if we don't really have something so unique that isn't available anywhere else in the world. (Public organization interview 1)

Open communication was considered the key to success because it could engage both public and private actors in collective imagining about opportunities in the future. In relation to the utilization of Finnish health-related data, it was considered essential to establish “the understanding about what we can really achieve with this data” (Company interview 3). A general understanding about the prospects of the utilization of the health-related data in Finland would enable mutual value creation in the field. It was also noted that open discussion would be needed to eliminate potential fears, suspicion, and unawareness: “Somehow it feels that...on state officials’ minds, there are only more fears of increased costs, for example; maybe an open discussion would therefore be good” (Company interview 1). These fears were called “trolls” that easily hide mutual hopes, prospects, and opportunities related to vast innovation

opportunities in terms of the prospect of Finland in the development of personalized medicine. It was believed that dealing with fears would facilitate the emergence of data-centered innovation in the field.

***Integration Antenarrative: Aspiring to Public–Private Synergy***

The integration antenarrative was focused on stories about inchoate collaboration and related challenges in the Finnish field of personalized medicine. The interface between the public sector and the private sector is essential in this domain. This interface was depicted as involving the negotiation of differing expectations of collaboration and promoting the integration of public and private stakeholders. Regarding integration, numerous experiences had influenced the stakeholders' attitudes toward and expectations of collaboration opportunities between the public and private sectors. These stories included the challenges inherent in a collective innovation process and provided ideas about overcoming such challenges by focusing on mutual hopes, goals, and dreams. Contributing to the quality and value of Finnish health-related data as a national heritage was considered the reward for joining forces.

Cross-sectoral collaboration was considered a positive requirement, as several interviewees recognized the need for partnership despite the origin of the collaborating actor. While differing interests were recognized, it was considered essential to join the paths of both public and private collaborators in a way that would enable working in partnership and creating mutual benefits. For example, a recipe for success was considered to include experts in both academic research and innovation and in company R&D. The following excerpt showed that there was an interest in joint action to utilize the Finnish health-related data effectively by integrating stakeholder resources:

In academia, we have people who have in-depth substance expertise, so why not take the private business offering as a basis and start developing something on top of it. In many projects, it would certainly be possible to go much further this way. (Company interview 4)

Despite the desire for collaboration, the emerging and gradually developing collective path to partnership could pose certain challenges for the actors involved. For example, discrepancies between private and public logics of action could hinder the prospects of collaboration. Public projects were described as sometimes comprising time-consuming activities that could prove challenging, especially for

business actors who could not always wait and adjust to delays because of the requirement to closely monitor the progress in each fiscal period. Moreover, seeking cooperation opportunities often required continuous “lobbying” to explain what the prospective collaboration could entail. The following excerpt connotes the inevitable frustration caused by this repetition, which was also projected to continue in the future: “This will work out as long as you can cope with knocking on the doors and explaining it to people that it is not worth rebuilding the wheel” (Company interview 5).

The interviewees from the public and private sectors expressed different expectations of cooperation, which could prevent prospective partners from establishing a common ground for collaboration. In general, the public sector would be interested in collaborating in R&D and promoting research-related initiatives, whereas the private sector would be interested in opportunities for commercializing innovations and discovering new applications of existing solutions. In addition, one business representative expressed concern about the discrepancy between public and private operations, which may not inspire confidence in finding a common denominator. The following excerpt illustrates that this discrepancy in uniting operations and defining common goals had affected budget planning and resource allocation:

If you think about, for example, the company's future projections and budget plans for the future, I don't really bother counting on these [public projects] with a big number. Although somehow we have been involved in the conversation, but I just don't know what the schedule is and what the priorities are on that [public] side, so I'm not still going to put a terribly big number there. (Company interview 5)

It was considered essential to promote the integration of public and private actors in the early stages of project planning. Hence, it could be ensured that all participants would subscribe to common views and share a similar logic of action. This integration would promote innovation and mutual value creation in the future, which was expressed in the following excerpt:

There is something preventing [public actors] from opening the discussion with commercial actors, which should be done right in the beginning. They may spend a long time thinking among

themselves in some working groups, consortia, or projects, and when we hear from them, our first response is that we would have had the solution right at first hand. (Company interview 3)

The prospects of multi-actor collaboration were considered a combination of international and national partnerships. One business representative predicted that partnering with the cloud services of “global giants” could bring real benefits to Finnish companies. However, personalized medicine projects were considered central in public–private collaboration. The interest in becoming a partner in these projects was based on opportunities for collaboration and curiosity about prospective partners’ competences. The following excerpt indicates that the inclusion of multiple partners could contribute to the value of Finnish health-related data, which was acknowledged as a national heritage, in a public–private collaboration project:

Is it necessarily a public actor who grinds the data there? It would be smarter if there could be different actors who would be trusted partners so that the level of information security remained good, and then they would help the pharmaceutical companies in the projects, and then the value of the national heritage would always increase but there could be these companies. (Company interview 2)

The integration of stakeholder resources and capabilities was expected to create synergy. Inspired by the prospect of synergy, many actors dreamed of success stories. It was highlighted that there was a need for more investments, workforces, and companies in the field. A business representative expressed a dream about witnessing the success of their company in setting the example of a thriving and prospering business in the field. However, testbed projects were cited as recent examples of attempts to build inter-sector collaboration and gain from collaboration in a way that enabled the creation of mutual benefits. It was noted that “the rules” need to be clearly established for public–private collaboration to ensure the easy access and effective collaboration opportunities for both parties. The following excerpt highlights the expectation of a spin-off effect of the collaborative environment, which would invite actors to imagine new synergetic opportunities in this field.

In my opinion, this big picture should be constructed so that here, around biobank operations, these small start-ups could emerge and then further refine that information. (Public organization interview 1)

Increasing the reciprocal activity between the public and private sectors was deemed to contribute to mutual achievement. It was often expected that collective innovation activities would facilitate the realization of various hopes and plans on both sides. The following excerpt indicates that public–private collaboration would reduce “the re-invention of the wheel,” which some interviewees argued would happen in public projects compared with the offerings of Finnish business actors.

And this is one big opportunity for Finland, from a business perspective for Finnish companies, to offer the know-how so that these [data utilization projects] could be implemented reasonably, cost-efficiently, and truly in world-class solutions. There is no need to start redeveloping. (Company interview 3)

### ***Institutionalization Antenarrative: Prospects for an Integrated Data Infrastructure in Finland***

The institutionalization antenarrative involved stories about an infrastructure for integrating health-related data in Finland. The desire for this infrastructure was closely related to enabling data-centered innovation and establishing public–private integration in Finland. The infrastructure was expected to structure and balance “the pinball development” of personalized medicine, which was recognized as an inherent characteristic of this emerging and innovative domain. A goal of this innovation infrastructure was identified as enabling the export of personalized medicine innovation and attracting international interest in Finland. In terms of past influencers, the institutionalization antenarrative entailed an idea of “the battle of the fairies and trolls” to depict an emerging domain where various bets on the future were intertwined with experience, frustration, and fear.

Multiple actors who participated in innovating data utilization faced the prospect of an uncertain and unpredictable future. Personalized medicine was described as a relatively new and immature field where all actors, operations, and conducts were gradually taking shape. This incompleteness denoted a lack of standard procedures. The field appeared to be a dynamic and constantly developing entity, which

the associated actors found difficult to conceive. The following excerpts demonstrate that the nascent phase of market development has affected the inchoate collaboration between the prospective partners. Both excerpts indicate uncertainty about the future, which resulted from varying customer needs and fast technological progression:

The current customer need is not a guarantee that you will do the right things in three years.

(Company interview 4)

It is pretty naive to think that you could define that this one [thing] is now the good thing you should do. No one needs that in a year. (Company interview 5)

Considering that personalized medicine has been characterized as an emerging innovation, “the pinball effect” was considered to drive the development in this immature field. Pinball development is an apt metaphor because, in addition to fast-paced development, it is difficult to predict the direction of development. Competitors and customers come and go, and new actors in the field emerge as new technological solutions become available, which is demonstrated in the following excerpt. This fragment highlights the process of prospective sensemaking, which is essential for the actors in this market. The excerpt conveys the everyday situation of a business actor who ponders the need to stay ahead of competitors. In this market, no one knows when or where development will change direction.

In two years, there can be an enormous customer demand for a new technology, in which case we can have an enormous number of customers [if we have a ready-made solution]. If, in two years, we find that the technology has diffused in the world and to the customers, and if at that point we only start developing it, it can be too late as we talked about the speed of this field and so forth.

(Company interview 4)

The above excerpts are also examples of the sensemaking process in which the actors engage to give meaning to their experiences in this field. Inevitably, these story fragments indicate not only uncertainty but also frustration and the pressure to tackle the challenges inherent in this immature market. To account for the potential questions, developments, and changes in the market, many actors also expressed that it was essential to stay informed about potential movements in the future. They felt the

need to anticipate and predict potential opportunities and threats, while constantly making sure that they were doing “the right things” in the present.

In particular, the biobank sector was considered a crucial arena for prospective innovation because of multi-stakeholder collaboration. A joint operator was desperately needed to establish prospects for innovation in the Finnish biobank field by uniting diverse biobanks in a unique arena of value-seeking innovation activities: “It would be an ideal situation that all the data would really come through one hatch but I don't know how they will end up building that straw mobile” (Public organization interview 2). This operator, the Finnish Biobank Cooperative (FINBB, founded in 2017, <https://finbb.fi/>), was expected to establish itself as “a one-stop shop” for Finnish biobank materials. This access to Finnish biobank data would allow the actors involved to initiate the promotion of the data, thus creating diverse utilization opportunities and leveraging unforeseen benefits. The united biobanks could provide valuable resources for prospective innovation.

FINBB was considered key in establishing innovative infrastructure in Finland by offering essential data in an accessible format to different actors involved in innovative activities. In the following excerpt, the interviewee articulated hopes for precipitating the utilization of Finnish health-related data. The hopes were based on the present situation, which allows actors to expect great things from the joint use of data. This fragment also highlights that these actors make sense of the future by verbalizing their hopes in explicit terms and then discussing the related requirements to propose important steps toward the success of personalized medicine innovations in Finland: “I hope that this biobank thing [with one hatch to the retrieval of biobank data] will be set in motion, so that it becomes a realistic and scientific valuable resource that can then be commercialized wherever feasible” (Company interview 6).

Many prospective ideas underlined the expectation of mutual value creation based on the integration of the data. It was predicted that in the future, as the quantities of data increased, actors that could integrate data would be valuable. Finnish biobanks were entrusted with the responsibility for “attracting international interest” in Finland, in which case, the commercialization of multiple Finnish innovations could be realized. The Finnish biobank sector could attract investments and business



opportunities in Finland by providing an approachable and manageable system for accessing the integrated data. A functioning system of biobank operations would also allow for international collaboration in R&D: “In order for an interesting research opportunity on the [Finnish] population of 5.5 million to open up to an international forum, a clear [service] hatch is needed” (Public organization interview 3).

Inevitably, the process of establishing a platform for mutual value creation entails challenges, complex considerations, and negotiations of divergent interests. As multiple stakeholders gather to join their forces, disparities often become emphasized, which thus demands the patience, ambition, and social skills of the potential collaborators. In relation to the complexity of attaining mutual value creation in this setting, the prospect of establishing preventative measures in healthcare was a source of discrepancy. In this discrepancy, actors may prioritize and schedule different aspects of the same phenomenon, which is illustrated in the following excerpt:

Unfortunately, political decision-making does not easily embark on preventative action, and this is where genetics would be really strong .... [But] then again it is politically quite difficult because the benefits will not be materialized until sometime in 10 years. (Company interview 1)

The synergy generated by multi-stakeholder collaboration would eventually lead to mutual gains at the national level. The prospects for the success of Finland were discussed by referring to the need to balance the risks against the potential benefits of data utilization. Several interviewees recognized the analogy of “the battle of fairies and trolls,” which indicated a strong juxtaposition of the advantages and the dangers in the public discussion on the prospects for implementing health-related data in Finland. It was acknowledged that many things needed to be designed and various milestones needed to be reached. Although numerous challenges and risks could lie ahead, the only choice was to move forward and contribute to the joint action to establish the infrastructure.

The interviewees were closely involved in the concrete activities of designing and preparing the infrastructure and establishing the data utilization system. They acknowledged that Finland leads the way in planning and executing a favorable digital and legislative infrastructure, thus having the potential to

become a distinguished expert in personalized medicine. It was believed that the benefits of utilizing the health-related data in Finland could be achieved by making swift decisions and investing in the establishment of mutual value creation in this multi-stakeholder setting. The following excerpts express the dream of establishing Finland as a hub of personalized medicine:

A health business ecosystem would be established in Finland, so I think it would be a pretty sweet thing, this [country] would be a well-known place of the bio field. (Company interview 2)

The dream is that health technology would be one of the cornerstones of the Finnish economy. (Public organization interview 2)

The dream of establishing a health-related ecosystem in Finland indicates the high expectations of the capability of Finnish actors to create mutual value based on the opportunities in this field. The following excerpt illustrates the idea of utilizing the prospect of Finland in the development of personalized medicine: “I think it would be great if we could be pioneers globally and then [we] would have one export product if we could package this concept of national cooperation” (Public organization interview 1). In particular, one stakeholder verbalized the motivation to be involved in developing personalized medicine in Finland by referring to a major expectation of the field at the national level: “This field is however a possible substitute for Nokia in Finland” (Company interview 1). Nokia was a Finnish telecommunications corporation that was an innovative and successful producer of mobile phones and a pioneer in developing telecommunications in the 1990s. The reference to Nokia indicates a strong national narrative of the international recognition of Finnish innovation, national economic growth, and negotiating power in the global market and in Finnish society. Within this frame of national history, the expectations of and bets on personalized medicine appeared vast and significant for industry and for the country.

## **Discussion**

In analyzing fragments of stories about the future, our study of business storytelling showed that history shapes the future in a dialogic path. In storytelling, the future passes through history, making sense of plausible past evidence and experience. Table 1 summarizes the key findings and specifies the

past, present, and future dynamics that make the history of the future in business storytelling. First, we specify the three antenarratives and provide a brief description of the main content of each antenarrative. In the third and fourth columns, we illustrate unfolding story lines by future bets and past story lines by past influencers. The last column describes temporality in lived experience, which integrates future expectations and past experiences to account for prospective sensemaking. As shown in Table 1, story lines of the past continue in the unfolding story lines by means of influencers that make a bet on the future seem plausible from the storyteller's point of view.

**Table 1**

*Making History for the Future in Business Storytelling*

<b>Antenarrative title</b>	<b>Antenarrative description</b>	<b>Unfolding story line with future bets</b>	<b>Past story line with past influencers</b>	<b>Temporality in lived experience</b>
Innovation	Data-centered imagining about mutual innovation in Finland	Highlighting the role of fierce international competition in setting the standards for development and the need for benchmarking to retain Finland as a forerunner	Delving into the past indications of Finland as a forerunner in innovation related to personalized medicine	The global mindset of the stakeholders, their knowledge of the past, and their extensive experience in this domain constructing the view of the international market and its anticipated requirements in relation to Finland
		Engaging both public and private stakeholders in collective imagining about the goldmine of jointly used health-related data	Depicting the Finnish health-related data as a historical resource enabling numerous future opportunities in personalized medicine	Past frustration due to slow progress in the domain and past fears based on negative experiences of initiating inter-sector collaboration

Integration	Aspiring to public–private synergy	Creating mutual benefits in public–private partnerships	Overcoming public–private discrepancies stemming from previous attempts to collaborate	The Finnish tradition of separating public and private operations influencing the desire for establishing synergetic partnerships
		Establishing synergy to reduce “the re-invention of the wheel” and contribute to the value of Finnish health-related data as a national heritage	Acknowledging Finnish health-related data as a national heritage that is worth cherishing in collective efforts	Past frustration due to non-existent collaboration opportunities and skeptical attitude toward the efficiency of mutual projects
Institutionalization	Prospects for an integrated data infrastructure in Finland	Anticipating that an established infrastructure would structure and balance the pinball development of the domain	Recounting the experience of working in the immature domain with inchoate collaboration between prospective partners	Past sense of frustration due to the pinball game in the domain

		<p>Attracting international interest in the Finnish data infrastructure with the integrated health-related data in united biobanks</p>	<p>Referring to the past expectation of the biobank sector to initiate the extensive utilization of health-related data in Finland and internationally</p>	<p>Desiring the systematic utilization of the Finnish health-related data to move forward with the overall development of the domain</p>
		<p>Continuing the success story of Finnish innovation by establishing Finland as the hub of personalized medicine</p>	<p>Comparing the prospect of Finland in personalized medicine to a previous technologically driven innovation export</p>	<p>A strong national narrative of receiving international recognition of a Finnish innovation export in the background affecting the expectations of and bets on personalized medicine</p>

The findings of our case study indicate that the innovation antenarrative anticipated the promotion of personalized medicine in Finland. Innovation in data-driven medicine was expected to accelerate in the near future because Finnish health-related data repositories were considered to hold unique promise. Finnish health-related data was considered a resource that had been gathered in the past and now constituted a prospective goldmine of health-related information. This past story line was used to articulate the need to engage both public and private stakeholders in collective imagining about the potential for utilizing Finnish health-related data. The stakeholders also shared a global mindset and extensive experience in the domain, which constructed their views of the international market and its requirements in relation to Finland. They delved into the experience of Finland as a forerunner in innovation in relation to personalized medicine. This past evidence influenced the unfolding storyline, in which bets on the future highlighted the need for benchmarking Finland's performance against fierce international competition to maintain its position as a forerunner in innovation. It was also considered essential to remedy the situation by inter-sector collaboration, which previously caused frustration and fears based on negative experiences and slow progress.

The integration antenarrative focused on public-private collaboration and establishing synergy. The interface between the public and private sectors involved negotiating different expectations of collaboration and focusing on mutual hopes, goals, and dreams. The stakeholders understood the Finnish tradition of separating public and private operations, which influenced their desire to establish synergetic partnerships. Previous attempts to collaborate were recounted as a source of public-private discrepancies. This experience led to the desire to pursue mutual benefits in public-private partnerships. Past frustration due to non-existent or unsuccessful collaboration opportunities caused a skeptical attitude toward the efficiency of mutual projects. However, Finnish health-related data were considered a national heritage that was worth nurturing and cherishing by collective efforts. Despite experiential knowledge, there was hope that synergy would be created and that the re-invention of the wheel caused by overlapping work in the past would be decreased.

The institutionalization antenarrative described the integrated data infrastructure developed to enable personalized medicine innovations in Finland. These story fragments involved many normative expectations and ideas of what would be needed to establish Finland as the center of personalized medicine, which suggested that, inevitably, new rules, norms, and a collaborative future would be created simultaneously. The stakeholders expressed frustration with their experiences of working in this immature domain. Establishing the infrastructure was expected to structure and balance the unstable development of the domain and enable collaboration between the prospective partners. Moreover, the relevance of the domain for research and medical innovation would be enabled by establishing the systematic utilization of Finnish health-related data. There was a past expectation that the biobank sector would initiate the utilization of Finnish health-related data. This past expectation influenced the unfolding story line of imagining international interest in the Finnish health-related data infrastructure. In the background, there was the national hope of receiving the international recognition of a Finnish innovation export, which would affect the expectations of personalized medicine to continue the success story of Finnish innovations. This is the reason that the prospect of Finland in personalized medicine was compared to the experience of a previous technologically driven innovation export.

In this study, we found that in business storytelling, the stakeholders referred to a range of expectations as bets on the future (Boje, 2008) that made sense of plausible past evidence and experiences, thus enacting the past-as-future trajectory in the interconnections of diverse voices (Boje et al., 2016). By analyzing bets on the future and past influencers, we identified prospective sensemaking in antenarratives that anticipated the future (Bülow & Boje, 2015; Jørgensen & Boje, 2009). In particular, our results contribute to the previous work investigating the interplay between retrospective and prospective sensemaking (Vaara & Pedersen, 2013) by capturing antenarrative bets on the future from story fragments in the storytelling system (Bülow & Boje, 2015).

This study makes two contributions to the existing literature. First, we contribute to the antenarrative literature on prospective sensemaking (e.g., Boje, 2008; Boje et al., 2016; Bülow & Boje, 2015) and elaborate prospective sensemaking as an ongoing collective process of construing a plausible



future. The results of this study extended our understanding of temporality in prospective sensemaking (e.g., Boje, 2008; Vaara & Pedersen, 2013) by showing that in business storytelling, the stakeholders engaged in making history for the future in the emerging storytelling system. We indicated that the temporality in lived experience integrates future expectations and past experiences to account for multiple stories in making prospective sense of the emerging innovative business domain. Second, we also contribute to storytelling organization theory by applying the concept of a storytelling system (Boje, 1991) to a system level analysis in the emerging innovative business domain. By identifying the fragments of multiple stories, we showed that the idea of business becomes constructed in the polyphonic system, thus extending the previous work in plural and polyphonic systems of storytelling (see Boje, 1991; Boje, 2008).

In our inter-organizational analysis, we offered a close examination of antenarratives as facilitators of prospective sensemaking that included bets on the future and past influencers as contextual intricacies. The results of our analysis particularly showed that antenarratives facilitated stakeholders to voice their expectations of and interests in public–private collaboration and make collective sense of innovation, integration, and institutionalization in the emerging innovative business domain. These results illustrated the dynamics of prospecting the past and the present for the future within the emergence of business storytelling.

## **Conclusion**

By drawing on the storytelling organization theory with a focus on the antenarrative literature (e.g., Boje, 2008; Bülow & Boje, 2015; Jørgensen & Boje, 2009), we demonstrated interrelationships among stakeholders and the emergence of business storytelling. Using the storytelling approach, we examined the ongoing and flexible process of making sense of a continuously evolving rhizome of multiple stories (e.g., Bülow & Boje, 2015; Jørgensen & Boje, 2009). The story told in this chapter is one account of the intertwining of prospective sensemaking and living stories of innovation in the emerging innovative business domain of personalized medicine in Finland.

The results of this study revealed temporal dynamics that constituted the emerging innovative business domain, where future bets based on plausible past influencers became meaningful through innovation, integration and institutionalization antenarratives. Both history and the future were intertwined in the present storytelling, as the actors made sense of their past experiences and bet on their prospects in the emerging and polyphonic system where they would engage in making the history of the future. This study showed that the future orientation inherent in an innovation process provokes various actors to solve and tolerate challenges in the past and in the present by imagining, believing in, and hoping for future achievements and prospective success in the emerging innovative business domain. The findings of this study indicate that the data-centered imagining of mutual innovation in personalized medicine and the desire for public–private synergy serve to create prospects for an integrated health data infrastructure in Finland.

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