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Entrepreneurship as design: A design process for the emergence and development of entrepreneurial opportunities

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Although firms constantly seek opportunities to launch new products, services, or business models, little is known about the way opportunities emerge and develop. In particular, despite current ontological and epistemological knowledge of entrepreneurial opportunities, the process that drives their emergence and development remains understudied. To enrich our understanding, we conduct an exploratory multiple-case study of six design agencies that supported firms in developing their entrepreneurial endeavours by leveraging design sprint, a hybrid method combining design and entrepreneurship. A primary contribution of our study is the conceptualization of a process model illustrating how design (sprint) can support the emergence and development of entrepreneurial opportunities. The model advances four actions that enable translating insights into opportunities: defining, framing, experimenting, and learning. Our findings also offer interesting insights on the role of third-party agents in this process. Indeed, design agencies can act as facilitators in enacting entrepreneurship as design by supporting the emergence and development of entrepreneurial opportunities. Our research also contributes to the debate on the timing of entrepreneurial endeavours, offering an empirical portrayal of their chronology. In this sense, our model also contributes to managerial practice, providing a sequence of actions that can guide the emergence and development of entrepreneurial opportunities.

KEYWORDS
design science, design sprint, design thinking, entrepreneurial endeavours, entrepreneurial opportunity, entrepreneurship, lean startup

1 | INTRODUCTION

Businesses are the translation of an opportunity into a product or service (Baron, 2006). Entrepreneurial endeavours, such as startups or corporate innovations, result from this translation process (Hampel et al., 2020). The emergence and development of opportunities is thus the origin of each and every entrepreneurial endeavour (Cornelissen & Clarke, 2010; Miller, 2007; Shepherd & Gruber, 2020) and a vital activity for firms aiming to launch new products, services, or business models. However, the scholarly literature proposes contrasting views. On the one hand, the positivistic view of opportunities sees them as hidden in the market, waiting to be discovered (Alvarez & Barney, 2007, 2010). On the other hand, some scholars suggest that opportunities are the result of entrepreneurs creating their own opportunities by envisioning novel domains (Alvarez et al., 2013; Alvarez & Barney, 2007, 2010; Shepherd et al., 2020).

More recently, the entrepreneurship literature has started to recognize that these two epistemological stances on opportunities often coexist in reality (Berglund et al., 2020; Dimov, 2007, 2021; Ding, 2019; Edelman & Yli-Renko, 2010; Short et al., 2010). The objective opportunities stemming from market imperfections necessarily need to be paired with individual intention before manifesting as actionable entrepreneurial opportunities (Dimov, 2007, 2011, 2021; Ding, 2019). In this sense, the uncertainty, dynamicity, and complexity related to the existence and identification of opportunities at the macro-level (Klein, 2008; Lounsbury & Glynn, 2001; Shepherd, 2020) make it difficult to assess the success of a given entrepreneurial opportunity ex ante (Dimov, 2011). In this context, all types of firms (i.e., startups, SMEs, and large corporations) need to confront their insights with user acceptance, external resource availability, and building legitimacy with external stakeholders (Cattani et al., 2017; David et al., 2017; Sanasi et al., 2021). At the micro-level, firms need to pair insight with intention (Dimov, 2021) to shape the external environment (Suddaby et al., 2015). They mobilize internal resources and engage in a process of entrepreneurial sensemaking (Alvarez & Barney, 2010; Cornelissen & Clarke, 2010) to translate their insights into entrepreneurial opportunities. Following this line of reasoning, studies recognize that entrepreneurial opportunities are the result of an emergence and development process (Dimov, 2007; Ding, 2019; Sarooghi et al., 2021). Notwithstanding the attempts to depict the constituents and mechanisms of entrepreneurial opportunities, the academic debate is in some respects still limited. Relatedly, scholars call for a better understanding of the way entrepreneurs intentionally translate insights into opportunities (Dimov, 2007, 2021; Hyytinen, 2021). Indeed, the scholarly debate might benefit from a precise conceptualization of the processes that support opportunity emergence and development (Dimov, 2007; Wood et al., 2021).

In response, we build on the debate on the connection between design and entrepreneurship (Berglund et al., 2020; Hyytinen, 2021; Mansoori & Lackeus, 2019). Design, as conceptualized by Simon (1988), is seen as the creation of an interface between inner and outer systems, thus embodying the ability to connect the two by iteratively developing artefacts (Simon, 1996). Building on this notion of design, an emerging literature stream has started recognizing entrepreneurship as a design activity (Berglund et al., 2020; Klenner et al., 2022) that requires framing, modelling, and performing (Dimov, 2021). Moreover, studies recognize that creativity and critical reflexivity are needed to transform insights into opportunities (Dimov, 2007; Suddaby et al., 2015) and that artefacts are central in conceptualizing and understanding entrepreneurial opportunities (Ding, 2019).

In this direction, a recent study illustrates the numerous touchpoints between the entrepreneurial approach of effectuation and design thinking aimed at new venture creation (Klenner et al., 2022). Nevertheless, the literature that sees entrepreneurship as an act of design is still in its infancy, and scholars call for a better understanding of the connection between the two disciplines (e.g., Berglund, 2021; Berglund et al., 2020). We hence build on these calls, investigating how design can support the emergence and development of entrepreneurial opportunities. Indeed, further evidence of this mechanism could significantly advance the current academic discourse and provide practitioners with new knowledge.

In the attempt to bridge this gap and contribute to the knowledge creation process, our research relies on an exploratory multiple-case study of six design agencies that supported firms in their entrepreneurial endeavours. The decision to focus on design agencies is grounded in theoretical and practical reasons. Given that the concept of entrepreneurship as an act of design is gaining momentum (Berglund et al., 2020; Klenner et al., 2022), we contend that studying firms that adopt design to support the emergence and development of entrepreneurial opportunities is relevant from a theoretical perspective. On the other hand, in the practitioner world, the value of design is recognized by many firms. According to the McKinsey (2018) report on "The business value of design," design-based firms are said to outperform others in their industries. In considering these aspects, and given the particular context of entrepreneurial endeavour, we base our empirical investigation on a specific design method (design sprint) that leverages design practices paired with characteristics that are typical of the entrepreneurship domain (Dell'Era et al., 2020).

Design sprint is a methodology developed in 2012 by a group of employees at Google Ventures, Google's CVC fund and venture factory (Knapp et al., 2016). To this day, Google Ventures employs design sprints to support the opportunity emergence and development processes both within and outside Google, such as new product development and collaborations with external startups. The method is rooted in established design practices (Magistretti, Allo, et al., 2021), including user focus, visualization, prototyping, and experimentation and is time-bounded to 5 days for each individual iteration. It was envisioned as a method aimed at alternating individual and collective actions to manage entrepreneurial endeavours over time (Zeratsky, 2016).

In addition, its creators[1] and some scholars (Dell'Era et al., 2020) consider design sprint as a first practitioner attempt to connect and integrate design thinking (i.e., creative problem solving) (Brown, 2008), as well as an entrepreneurial approach (i.e., the lean startup method) (Ries, 2011). As such, the design sprint method is an optimal setting to enrich current understanding of how design can support the emergence and development of entrepreneurial opportunities.

Our findings offer a number of interesting insights. Our primary contribution is the conceptualization of a process model for entrepreneurial opportunity emergence and development as an act of design. Identifying a series of four activities (i.e., defining, framing, experimenting, and learning), we extend knowledge of how design (sprint) can support the emergence and development of entrepreneurial opportunities (Dimov, 2007; Shepherd et al., 2019), providing a model that can accompany firms in their entrepreneurial endeavours. Our study also contributes to the ongoing debate on opportunities in the entrepreneurship literature by unveiling how the practice of design (Verganti et al., 2021) can support the translation of entrepreneurial insights into actionable entrepreneurial opportunities (Dimov, 2007). In particular, our study illustrates how to enact the "entrepreneurship

as design" perspective (Berglund et al., 2020) in the emergence and development of entrepreneurial opportunities. Our findings also shed light on the role of third-party agents involved in this process. In highlighting design agencies as facilitators in the emergence and development of entrepreneurial opportunities, our study enriches the entrepreneurship as design literature that considers entrepreneurs as the primary agents (Dimov, 2021) responsible for enacting a design approach in the entrepreneurial endeavour (Klenner et al., 2022).

Finally, our study also contributes to the ongoing debate on the timing of entrepreneurial endeavours (Wood et al., 2021). In particular, our process model provides a sequence of activities (i.e., defining, framing, experimenting, and learning) that can contribute to documenting the chronology of entrepreneurial endeavours (i.e., sequence of actions) from an empirical perspective by proposing an ordered process of translating insights into actionable entrepreneurial opportunities. Hence, by proposing the sequence of steps, our model contributes to the debate on chronology (McMullen & Dimov, 2013), delving deeper into the links between this sequence of activities and the iteration mechanisms in the experimenting phase and conditioned feedback in the learning activity.

2 | THEORETICAL BACKGROUND

Entrepreneurial endeavours encompass the identification of an entrepreneurial opportunity and its translation into a business idea (Shepherd et al., 2019) in a process of opportunity emergence and subsequent opportunity development (Dimov, 2007). In fact, it is not until an insight regarding a promising entrepreneurial endeavour is acted upon that an opportunity materializes (Dimov, 2021).

In the following sections, we provide an overview of current understanding of opportunity emergence and development. Then, we identify the gap in the literature, namely, the scarce investigations and codification of how opportunities can emerge and be developed. To bridge this gap, we build on the emerging literature that views entrepreneurship as an act of design (e.g., Berglund et al., 2020; Dimov, 2021; Hyytinen, 2021; Klenner et al., 2022), adopting a design approach to the emergence and development of entrepreneurial opportunities.

2.1 | Emergence and development of entrepreneurial opportunities

The way entrepreneurs identify opportunities has been extensively debated in the entrepreneurship literature (e.g., Alvarez & Barney, 2007). Entrepreneurial opportunities are deemed to either emerge from market imperfections (Kirzner, 1973) or from the purposeful creation of new products and services (Schumpeter, 1934), a dichotomist view driving the distinction between the discovery and creation of entrepreneurial opportunities (Alvarez & Barney, 2007).

In particular, the discovery view of opportunity identification argues that entrepreneurial opportunities exist in the market, independently of entrepreneurial action (Alvarez & Barney, 2007). This view adopts a positivist epistemological stance on entrepreneurial opportunity emergence (Alvarez & Barney, 2010; Suddaby et al., 2015), building on Kirzner's (1973, 2009) work on entrepreneurial market processes, and the assumption that entrepreneurs observe the state of market equilibrium and exploit it to their advantage (Alvarez & Barney, 2007; Shane & Venkatraman, 2000). In this sense, prior market knowledge plays a crucial role in determining the entrepreneur's ability to assess and detect emerging entrepreneurial opportunities (Cornelissen & Clarke, 2010; Grégoire et al., 2010; McMullen & Shepherd, 2006). On the other hand, the creation view of opportunity identification argues that entrepreneurial opportunities are the result of purposeful entrepreneurial action (Alvarez & Barney, 2007) carried out by specific individuals (entrepreneurs) equipped with specific qualities that lead to better entrepreneurial decision-making (Kirzner, 2009; McMullen & Shepherd, 2006). This view builds on Schumpeter's (1943) work whereby entrepreneurs are seen as agents of change, gifted with unique boldness, imaginativeness, and creativity that enable them to introduce disruptive changes to current market conditions.

However, the recent literature has put forward the idea that, in reality, entrepreneurs mediate between these two perspectives (Berglund et al., 2020; Dimov, 2007, 2021; Ding, 2019; Edelman & Yli-Renko, 2010; Short et al., 2010). While opportunities exist as market imperfections when looking at markets from a macro-perspective, individual intentions play a crucial role in the emergence and development of opportunities at the micro-level of individual entrepreneurial endeavour (Dimov, 2011; Ding, 2019). In this view, entrepreneurial opportunities can only be defined as such when they encompass an intentional stance towards the entrepreneurial endeavour (Dimov, 2021).

The most recent scholarly accounts on entrepreneurial opportunities (e.g., Berglund et al., 2020; Dimov, 2021; Ding, 2019; Hyytinen, 2021; Sarooghi et al., 2021) are starting to look at the concept as the combination of an exogenous opportunity or insight that cannot exist independently of the entrepreneur's intention to act upon it (Dimov, 2007, 2021). Opportunities are seen as emerging and continuously developing throughout the entrepreneurial journey (Dimov, 2007; Ding, 2019; Sarooghi et al., 2021), undergoing both an endogenous transformation and standing the test of (exogenous) market conditions (Berglund et al., 2020; Sanasi & Ghezzi, 2022). In fact, once entrepreneurs identify an opportunity, they have to engage in translating it into an actionable business, as well as assessing its viability (Shepherd et al., 2019). In so doing, they constantly engage in decision-making between different alternatives to evaluate which is worth pursuing (Gans et al., 2019). Entrepreneurs thus build and employ knowledge structures to assess, judge, and make decisions on alternative courses of action with regard to the entrepreneurial opportunity they are developing (Mitchell et al., 2002).

The translation of an opportunity from an objective insight into a business thus entails an interpretation and sensemaking process (Alvarez & Barney, 2010; Cornelissen & Clarke, 2010), whereby opportunities emerge as entrepreneurs mobilize resources and seek

legitimacy from external stakeholders (Alvarez & Barney, 2010; Cornelissen & Clarke, 2010; Glaser & Lounsbury, 2021). This process has been conceptualized as the emergence and development of entrepreneurial opportunities (Dimov, 2007; Ding, 2019; Sarooghi et al., 2021).

Although prior studies consolidated the idea that this process is largely reliant on intentionality, the way opportunities are made sense of and developed into businesses remains to some extent tacit and underinvestigated in the entrepreneurship literature (Dimov, 2007). As such, the current literature is lagging in understanding the processes involved in the emergence and development of entrepreneurial opportunities, translating the insights from opportunity emergence to developed opportunities that can transform into working businesses.

With our study, we address this gap by leveraging the theoretical discourse that assimilates entrepreneurship—and more specifically, the emergence and development of entrepreneurial opportunities—to design (Berglund et al., 2020; Dimov, 2021; Ding, 2019; Hyytinen, 2021; Klenner et al., 2022; Sarooghi et al., 2021; Seckler et al., 2021). We build on the idea of design as the act of making sense of things—that is, the act of interpretation (Rylander Eklund et al., 2022; Stigliani & Ravasi, 2018)—to investigate how specific design practices can support the translation of an opportunity from emergence to development, conceptualizing a design process for opportunity emergence and development.

2.2 | Entrepreneurship as design

The ongoing scholarly debate on entrepreneurship as design (Berglund et al., 2020) bases its core principles on Herbert Simon's (1996) design science approach. In his book, "The Sciences of the Artificial," Simon (1996) defines design as the act of achieving a particular goal, considering the environmental circumstances. This definition of design as the act of looking forward is in line with the fundamental principles of entrepreneurship (Sarasvathy, 2003). In fact, prior studies argue that goals in entrepreneurship are often unclear and thus the means to achieve a given desired outcome (Dimov, 2007). As Berglund et al. (2020, p. 8) report, "design processes are frequently guided by quite abstract goals and vague notions of 'interestingness' (Simon, 1996)." Nonetheless, the entrepreneurship literature recognizes the value of design in problem framing and solving as a good iterative approach to cope with this vagueness of goals and processes (Hyytinen, 2021), to the point that a number of studies are starting to investigate the "designerly ways of entrepreneuring" (Klenner et al., 2022).

As design is recognized as an approach that supports sensemaking by leveraging artefacts and probes to enact critical reflection (Verganti, 2016), previous studies hint at the possibility for opportunities to emerge and develop by leveraging low- and high-fidelity artefacts (Ding, 2019). The literature recognizes the ability to enact critical reflection and iteratively move between problem framing and reframing as some essential aspects of the practice of design (Verganti et al., 2021). In this sense, building on Schön and Rein (1994), artefacts have historically embodied valuable tools that allow teams to reflect as they walk through the creative process. The ability to enact critical reflection and build artefacts as vehicles of thought is a crucial aspect of design, embodied in normative models and prescriptive approaches (BenMahmoud-Jouini & Midler, 2020). In particular, design thinking (Brown, 2008) has established itself among design and management practitioners as a prescriptive approach to the application of the design process to real-life situations.

More recently, scholars have started to debate the theoretical value of design thinking as a method to carry out innovation (e.g., Klenner et al., 2022; Magistretti, Ardito, & Messeni Petruzzelli, 2021; Verganti et al., 2021). In this sense, design thinking is conceptualized as a formal method that dynamically and iteratively supports firms in understanding user needs and creatively proposing solutions (Carlgren et al., 2016). Although simple, design thinking can differ in scope and the process enacted to design a solution (Verganti et al., 2021). Building on these differences, previous accounts distinguish four possible ways of carrying out design thinking within organizations—that is, creative problem solving, innovating the meaning of products and services, developing creative confidence, or executing design sprints (Dell'Era et al., 2020). These four kinds of design thinking differ in scope (i.e., solution vs. direction) and in the process followed (i.e., outside-in vs. inside-out) to carry out innovation (Magistretti et al., 2022). In particular, creative problem solving and creative confidence leverage an outside-in approach, starting from empathizing with end-users and employees to unveil latent needs, later adopting creativity to solve them (Johansson-Sköldberg et al., 2013). On the contrary, design sprints and innovation of meaning adopt an inside-out approach, supporting innovators in designing new venture ideas or meaningful strategic directions (Artusi & Bellini, 2022).

The value of studying design thinking beyond products and services is recognized both in practice and in academic debates (Gruber et al., 2015). Gruber et al. (2015) stress the different considerations of designers, engineers, and businessmen about design thinking, calling for further research on how design can help in developing visions and opportunities. Among the four kinds of design thinking (Dell'Era et al., 2020), design sprints enable innovators to transform visions into opportunities through an inside-out method that leverages iteration and experimentation.

The design sprint method was originally conceptualized by Google Ventures in 2012 while redesigning the Gmail Inbox solution, consolidated in the book "Sprint: Solve big problems and test new ideas in just five days" (Knapp et al., 2016). The design sprint method is specifically designed for teams to build on initial assumptions through user testing and continuous iterations within a limited timespan (Magistretti, Allo, et al., 2021). In this way, design sprints enable practitioners to move from an abstract insight to a tangible prototype that allows the team to learn about the validity of their assumptions (Zeratsky, 2016), and converge over the future direction. In this sense, the design sprint method holds the strongest resemblance with the way entrepreneurs carry out entrepreneurial sensemaking about opportunities (Cornelissen & Clarke, 2010).

Specifically, design sprint merges the core practices of the design thinking method (Carlgren et al., 2016; Johansson-Sköldberg et al., 2013; Micheli et al., 2019) while borrowing some of the key practices of the lean startup method (Ries, 2011). Indeed, design sprint (Knapp et al., 2016) does not start from user needs as a creative problem-solving approach (Micheli et al., 2019), but starts with an internal hypothesis developed by the team building on insights and internal experiences, pushing the team to test it as fast as possible with the market to measure and learn its validity. In this sense, design sprint assumes the principles of effectuation (Sarasvathy, 2003) and the lean startup method (Hampel et al., 2020).

The link between design and entrepreneurship is gaining relevance through the increasing number of studies published (e.g., Berglund et al., 2020; Ding, 2019; Hyytinen, 2021; Klenner et al., 2022; Sarooghi et al., 2021; Seckler et al., 2021). However, to generate cumulative knowledge, scholars are calling for future research to adopt a design perspective to investigate the processes and agents involved in entrepreneurship (Gruber et al., 2015; Klenner et al., 2022; Sarooghi et al., 2021). This view opens the debate on how to act in entrepreneurial endeavours, with a particular focus on the role of opportunities as the central "artefact" in entrepreneurship as design (Berglund et al., 2020). However, in this sense, current understanding of how design can support the emergence and development of entrepreneurial opportunities is still underdeveloped. Considering the design sprint method, we contend that investigating how design (sprint) can support this process will provide fruitful insights for both scholarship and practice.

3 | METHODOLOGY

Studies intersecting entrepreneurship with design have mostly adopted a theoretical perspective (Berglund et al., 2020; Elsbach & Stigliani, 2018; Mansoori & Lackeus, 2019). However, more recent studies call for the application of a design science approach to study entrepreneurship empirically (Dimov, 2021; Hyytinen, 2021). Design science consists in studying a phenomenon in the making (Dimov, 2016) to document its real-world unfolding (Auernhammer, 2020). Consistently with this view, we investigate how design can support the transformation of emerging insights into opportunities and their development, adopting the perspective of investigating opportunities as expressed by actions (Dimov, 2011). To do so, we conduct an empirical investigation built as a comparative multiple-case study to enhance the comparability of findings, and enable pattern-recognition (Eisenhardt, 1989). Our sample consists of six design agencies that supported firms—both established and new ventures—in their entrepreneurial endeavours using the design sprint method for a total 41 design sprints.

We selected the context of design agencies as they are experts in the practice of design (Magistretti et al., 2022). Indeed, design is becoming a powerful approach in many industries (Gruber et al., 2015). Design agencies enrich the validity of our data collection given the value-adding potential recognized in the user-centricity characterizing design agencies, as well as the proven effectiveness of mediation in the development of entrepreneurial endeavours (Strike & Rerup, 2016). In particular, design agencies and consulting firms leverage design due to of its recognized value in the outcomes achieved (McKinsey, 2018). In addition, a growing body of literature shows that design is becoming more relevant in developing entrepreneurial opportunities (Berglund et al., 2020). Thus, the focus on design agencies, and especially design sprints, is considered an ideal setting for our investigation of how design (sprint) can support the emergence and development of entrepreneurial opportunities. Specifically, the original formulation of the design sprint method merges the "designerly" (i.e., user focus, prototypes, and iteration; Magistretti, Ardito, & Messeni Petruzzelli, 2021) and entrepreneurial approaches (i.e., build, measure, and learn; Ries, 2011) (Knapp et al., 2016).

The possibility to gain access to retrospective information on 41 different design sprints carried out by the six design agencies, as well as documented news and archival data on each entrepreneurial endeavour, allowed us to ensure an adequate level of both primary and secondary data, and thus to effectively triangulate (Eisenhardt, 1989; Goffin et al., 2019).

3.1 | Research setting

We selected design agencies specialized in the application of the design sprint method, offering a particularly appropriate setting to observe the way a design approach can support the emergence and development of opportunities. Originally, Google defined design sprint as a method "for solving problems through designing, prototyping, and testing ideas with users. Design Sprints quickly align teams under a shared vision with clearly defined goals and deliverables. Ultimately, it is a tool for developing a hypothesis, prototyping an idea, and testing it rapidly with as little investment as possible in as real an environment as possible."[2] According to this definition, design sprint embeds design practices (i.e., prototyping and testing with users) and an entrepreneurial approach (i.e., hypothesis formulation and rapid testing). Given this dyadic approach, we deemed design sprints an ideal setting for our study of design practices in the emergence and development of entrepreneurial opportunities. In fact, the method was originally envisioned for entrepreneurial endeavours, that is, in Google Ventures, but leveraging design thinking (Dell'Era et al., 2020).

We selected our cases through purposeful sampling (Patton, 2014), as we aimed to analyse a complex phenomenon in a specific subset of subjects, that is, design agencies. Through screening, we selected six design agencies that have been certified by Google Ventures as expert providers of the design sprint method worldwide. Purposeful sampling allows specifically selecting those cases that, according to the researchers, are information-rich and can provide meaningful information through in-depth investigation (Siggelkow, 2007). Moreover, purposeful sampling is particularly appropriate when the primary data sources are limited. Indeed, as design sprint is still a relatively emerging method, the number of agencies that have mastered the methodology is limited. As such, we

aimed to select design agencies that adopt the best practices in design sprint among those available, in line with the purposeful sampling strategy based on the similarity of selected cases while also geographically heterogeneous (see Table 1).

3.2 | Data collection

Our study combines primary (i.e., semi-structured interviews) and secondary data sources (e.g., archival data, websites, news sites, and repositories). We conducted the interviews in three steps. First, we held three pilot interviews (for an overall duration of around 162 min) with the Head of Design Relations, the Lead of the Design Sprint Master Academy at Google US, and a former Program Manager at Google for Startups UK. Through these interviews, we aimed to test the interview protocol and gain an initial understanding of how the design sprint methodology is deployed in entrepreneurial endeavours. Second, we conducted 52 semi-structured interviews in two rounds with the six design agencies that constitute our sample. The interviews were carried out between June and November 2020 following a retrospective logic. Both rounds of interviews were based on the three-stage plan approach (Hauser et al., 2020). First, each interview started with an introduction to the topic where we requested general information about the design agency and the project under scrutiny. In this initial part of the interview, we posed questions such as, "When was the design agency founded?" "What kind of clients do you serve?" "How many employees do you have?" and "How long have you adopted Design Sprint?" Second, we sought a general description of the design sprint method the agency adopted, for example, "Can you describe whether and how you tailor the original design sprint method to your client's and team's needs?" "How many consultants were involved in each design sprint?" and "How did the approach you adopted differ across different projects or sprints?" Third, we covered a comprehensive description of each of the sprints and how the design agency adapted the design sprint method to the case. The last section of the interviews delved more in depth into the sequence of actions performed throughout the design sprint, with questions like: "Which activities did you conduct to perform the Design Sprint? In what order?" "How much time did you dedicate to each activity?" and "Which templates did you employ, and when?"

In the selection of the design sprints analysed, we aimed for variety in terms of target firm and industry to consider how opportunities emerge and develop across different contexts. We specifically asked design agencies for the possibility to collect design sprint data concerning large organizations, SMEs, and early-stage startups. In addition, we looked for design sprints in different industries, such as travel, fintech, the sharing economy, and public services. The design sprints considered all aimed to develop new digital services, leveraging insights and opportunities emerging in the industries of interest. Moreover, we asked the design agencies to identify both regular and idiosyncratic design sprints in terms of the course, activities, and outcome. In turn, we collected data on design sprints closely aligned with the original conceptualization of Google Ventures, and others that entailed specificities and unexpected outcomes, leading to analysing 41 different design sprints.

Although we adopted this approach in both interview rounds, the first was more explorative in nature so as not to interfere with the informants' responses (Miles et al., 2014), while the second was more exploitative aimed at gathering fine-grained insights. Each interview was recorded and transcribed verbatim, lasting between 45 and 60 min for a total of 35 h and 32 min of interviews. We selected the informants with leading positions in the team, such as Heads of Product Design, CEOs, and Founders of the design agencies. Following Giudici et al. (2018), we triangulated the general interviews with participation at live events held by the design agencies, and the retrieval of secondary-source information about the design sprint method adopted in each specific project. The collection of secondary-sources helped us familiarize with the topic and integrate the primary-source data (see Table 2).

3.3 | Data analysis

We analysed our data to link our empirical observations with extant theoretical ideas and generate a novel understanding of the phenomenon under scrutiny (Langley et al., 2013). This analytical process requires a sequence of steps to construct a theoretical model by leveraging the empirical evidence (Eisenhardt & Graebner, 2007; Gioia et al., 2013). To do so, we followed the three-step approach that Giudici et al. (2018) suggest to produce a coding tree describing the inductive abstraction of the primary and secondary empirical data gathered (see Figure 1).

TABLE 1 Sample of firms

Name	Code	Nationality	Number of design sprints analysed
Design Agency A	DAA	Germany	10
Design Agency B	DAB	Spain	5
Design Agency D	DAD	Switzerland	6
Design Agency H	DAH	USA	8
Design Agency T	DAT	Spain	6
Design Agency V	DAV	USA	6

TABLE 2 Main data source and use

Data Type	Data Source	Quantity	Use in the analysis
Pilot interview	Google - Head of Design Relations and Lead of the Google Sprint Master Academy for Startups UK – former Program Manager	**3** Interviews **162** min	*Gaining* an initial understanding of the Google Design Sprint method
First and second rounds of interviews	Design Agency A – Founder/Head of Design/Design Consultant Design Agency B – Founder/Partner/ UX Design Lead Design Agency D – CEO/Design Consultant Design Agency H – Founder/Partner/ Design Consultant Design Agency T – CEO/Head of Design/Founder/Partner Design Agency V – Partner/Founder/ Design Consultant	**52** Interviews with top executives and design consultants in the design agencies **41** Design Sprints analysed in different industries involving different types of clients (e.g., large firms, SMEs, startups) **2132** min (1452 min first round; 680 min second round) **275** pages, *verbatim*	*Gathering* information about the way the Design Sprints were run (e.g., sequence of activities, tools used) and how they supported the emergence and development of opportunities *Enriching* the data available with a second round of interviews to search for deeper knowledge on the emergence and development of opportunities through Design Sprint
Secondary source material gathered	Email exchange with informants	**15** e-mails	*Triangulating* data from the interviews with the asynchronous responses to specific questions gathered
	Design Sprint webinars	**253** min	*Supporting and integrating* data and insights gathered during the interviews
	Web pages and Online articles	**26**	*Supporting and integrating* data and insights gathered during the interviews
	Online videos	**12** (108 min)	*Enhancing* the validity of insights by leveraging publicly available information

3.3.1 | Event analysis and open coding

We started the data analysis process by organizing the information according to the sequential view of the design (sprint) process we observed. The main aim was to highlight the activities performed and the sequence of their enactment, recognizing common patterns and recurring themes among the design sprints examined. The first two authors read each interview transcript and the textual secondary sources to generate a large dataset of in-vivo codes (Strauss & Corbin, 1990). This body of codes was then synthesized into a set of first-order codes (Gioia et al., 2013) (see Figure 1). In this process, the first two authors discussed any disagreements in the interpretation of the quotes, continuously moving back and forth between the in vivo and first-order codes.

3.3.2 | Axial coding

The second step aimed to build a more theory-driven explanation of the first-order codes and abstract them to a structured set of second-order themes (Strauss & Corbin, 1990). The second-order themes were then aggregated into a set of overarching dimensions (Gioia et al., 2013). This process was performed individually by the first two authors using the transcripts to iterate between the data and continuously interpret the high-level overarching dimensions. They then integrated and discussed the different interpretations to converge on a common interpretation of the evidence. Finally, they shared the interpretative coding tree's final version with the other authors to check and discuss any discrepancies in their interpretation (see Figure 1).

3.3.3 | Building a grounded model

The last step of the data analysis entailed linking the high-level overarching dimensions to conceptualize a model that enables understanding the routines, agents, temporal dimensions, and thus the entrepreneurial cognition of opportunities. See Figure 1 for an excerpt of the coding tree.

4 | FINDINGS

"Design sprints are a powerful shortcut from the idea to learning, reducing the uncertainty during the development of our MVP (minimum viable product)." With these words, the Head of Design at DAT unveiled the significance of the design sprint method in

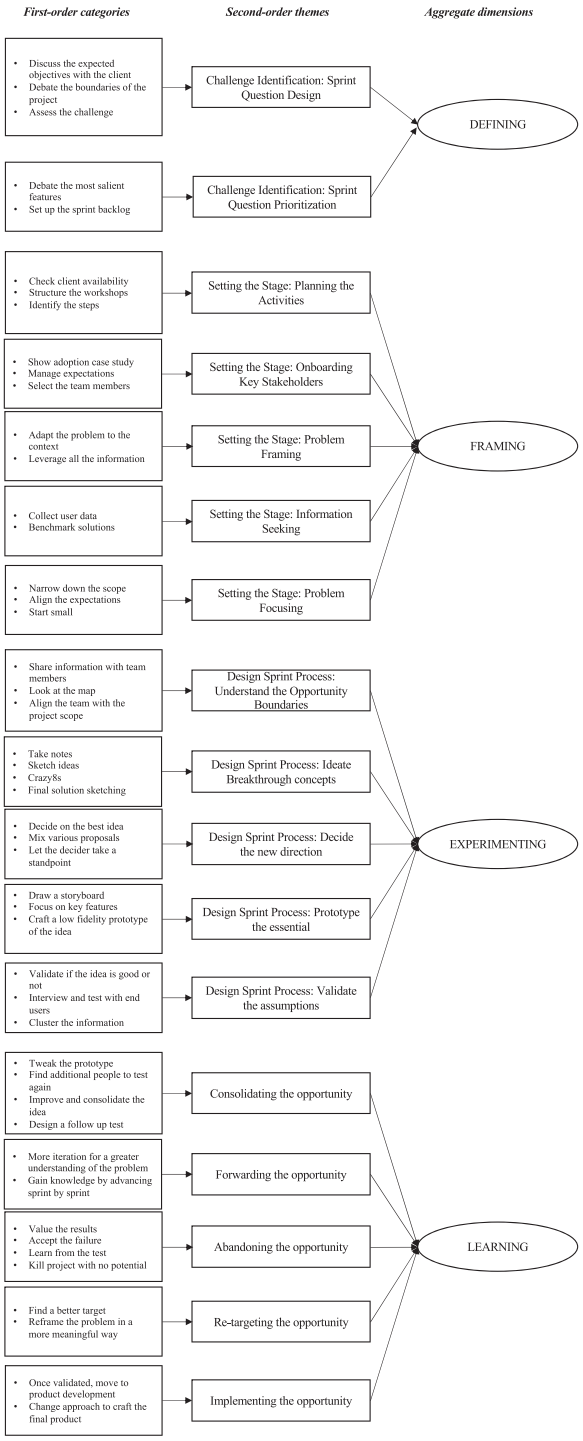

FIGURE 1 Excerpt of the coding tree

entrepreneurial endeavours. Design sprint, first introduced in the management world by Google Ventures in 2016, is recognized today as a methodology that supports innovators in testing ideas and opportunities. As per the above quote, its focus on learning illustrates the combination of design practices and an entrepreneurial approach in the emergence and development of entrepreneurial opportunities. The Founder of DAA stated, "Running a design sprint when there is uncertainty in the air" is a great way to reduce the uncertainty related to a project, and "to have something really clear and tangible" to reflect on. The design sprint method gained immediate traction in several firms due to its ability to support the emergence and development of opportunities triggered by an insight, and to assess whether there is the intention to transform it into a product, service, or new business model.

The literature argues that the debate on the dichotomous views of opportunity discovery or creation is not valuable if taken out of context (Alvarez et al., 2013), and researchers should instead consider the process through which opportunities emerge and develop (Dimov, 2007). Consistently, the process model of a design (sprint) for entrepreneurial opportunity emergence and development advanced in the following sections depicts how these perspectives are in reality intertwined. Firms adopting design sprint can create new opportunities by prototyping initial ideas. At the same time, they can test the opportunities created by interacting with end-users at later stages. Many informants mentioned that the opportunities were not discovered ex ante, but the design sprint process helped support their emergence and development. Moreover, they provided important hints that the process did not take place as a stand-alone practical sequence of steps, but as a more complex combination of activities going beyond the sequence of 5 days, as designed by Google Ventures in the original design sprint method (Knapp et al., 2016). Figure 2 depicts the antecedents and four main phases of the process the design agencies enacted, enabling them to translate insights into opportunities by supporting their emergence and development, and ultimately implementing actionable opportunities.

4.1 | Opportunity insight

"Sometimes they already have a pretty clear idea of what they want, other times, they're much more open," as DAT's CEO mentioned, everything starts with an idea in the client's mind. This idea triggers the process, "when kicking off a new initiative," as a design consultant at DAV reported, and the input can be "just a thought in their mind that was created by them, and they are willing to apply design sprint to craft it better." In this case, an abstract *opportunity insight* is a mere thought about something that the client intends to craft better. As DAT's CEO stated, "they spot an opportunity due to a trend, a technology, an insight from research and they want to learn and understand it better, so they approach us." Other times, the input can even be "an existing product and we simply have to improve it." In this case, the opportunity insight is a preliminary idea of a product or involves "a new breakthrough feature for an existing product, when you need to switch gears or iterate on a current product." Sometimes, clients might start off with an opportunity insight that needs to be translated into a business model and can benefit from "deploying design sprint to find a totally new way to solve its problem" (DAH's Partner).

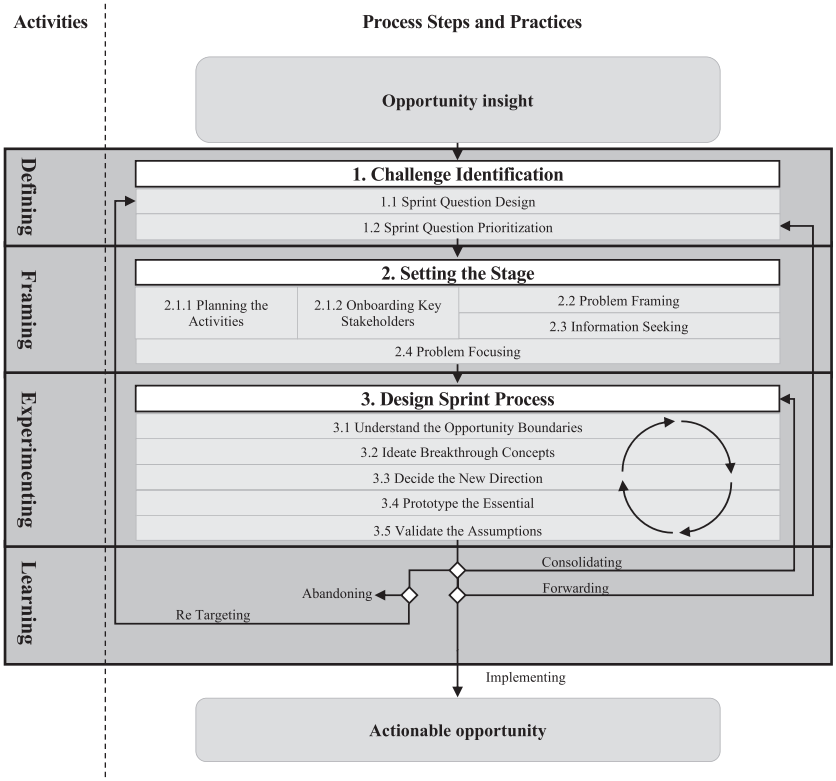

FIGURE 2 Process model of how design (sprint) supports the emergence and development of entrepreneurial opportunities

The shape of the opportunity insight as it enters the process might impact the overall project execution of the design sprint itself. On the one hand, DAH's Partner stated, "we don't really know what the solution will be, and we are going to use the sprint to find a totally new way to create a solution." On the other hand, DAT's CEO mentioned, "Sprint can provide clarity and focus around where the firm should devote resources," adopting a more concrete perspective of opportunity development. As our informants reported, opportunities emerge at the beginning of the design sprint as opportunity insights, be they abstract or concrete. The subsequent steps of the design sprint process involve the intentional transformation of the opportunity insight that is then developed to reach its full potential and become an actionable entrepreneurial opportunity.

4.2 | Defining

When talking about the first steps of each design sprint, a Partner at DAV said, "if you don't arrive on day 1 with a clear idea of the challenge, it is going to be hell." This statement shows that innovators do not always have a clear understanding of the reason they are asking a design agency to run a design sprint. Indeed, they do not always have a defined challenge in mind. As the Head of Design of DAA mentioned, "we found this problem, we think it is important, we don't really know what the solution is." Thus, the design agencies need to support them in the *challenge identification* process before entering the actual design sprint. As DAV's Founder said, "usually customers say 'hey, we are trying to do this'," clear evidence that the challenge is not defined and that is very broad, so that dialogue with the client is needed to understand the expectation. A design consultant at DAA shared that, "during this process you would come up initially with a long-term goal and then you are also supported in framing this long-term goal in a set of sprint questions." By debating the boundaries of the project, the design agency can move from "a broad challenge that can hinder the entire design sprint" to the *sprint question design*. DAT's Founder said that the sprint question design is a moment when the sprint's challenge is untangled and allow teams "to understand if the challenge is too big or too small." This act of sizing the challenge is crucial. Small challenges require fewer questions and sometimes reframing, whereas bigger challenges need more questions.

After the sprint question design, informants shared that the focus moves to debating the salient features by "landscaping the opportunities, problems, or challenges and then you use this prioritization process to whittle it down to the most urgent questions" (DAH's Founder). This step is crucial in understanding what the starting point might be. "What the business model could be and the specific features that people would be able to pay for" is something that is debated among team members, as shared by DAA's Head of Design. DAV's Founder reported that "when looking for new breakthrough features for a product, when you need to switch gears and prioritize" time and resources are not infinite but "sprint can provide clarity and focus around where the firm should devote resources." Understanding this allows creating a "list, a sort of backlog of actions needed to answer the challenge." Thus, the *sprint question prioritization* is enacted throughout these activities.

4.3 | Framing

Setting the stage of the design sprint starts with "how many hours a day they can work," as DAT's CEO reported. According to the participants' availability, "we customize the design sprint (…) and then we do the process." Thus, "we prepare the presentation, the deck that we will use in the design sprint every single time for every client. We do this because every project is different and requires a tailored version of the process in terms of schedule and exercise." This part is complemented by *planning the activities* to be followed with a real project management meeting. DAA's Design consultant shared that one of the crucial activities is "internal project management, things like preparing our own team, staffing the project (…) we are already creating some parts of the workshop material, like something of the map."

Every time a design sprint is set up, the design agency "needs to explain exactly what it is, showing case studies to really let them understand the value," said DAT's Founder. This moment is essential to express the need to "tell participants that they must remain throughout the design sprint, we cannot have people coming in and out onboarding, managing expectations of people about what is going to happen, and preparing the project" (Design consultant at DAA). In fact, crucial to the success of the project is *onboarding the key stakeholders*. In this phase, as reported by DAT's Founder, it is also fundamental to "help the customer in the selection of participants." Design sprint is grounded in a specific type of team, as DAV's Partner disclosed, "so to identify the members to include, find the decider – which is harder than you expect – scheduling the interviews" requires time and is at the root of properly framing the sprint.

"A broad challenge is the most common failure of the design sprint (…) it is about problem framing, re-framing, sometimes you can do a canvas exercise" (DAV's Partner). In fact, before beginning the real sprint you need to go through a *problem framing* moment. This can be structured thanks to a canvas and exercises, or a freer discussion, what is crucial is that by interacting, "we are changing it, we are adapting it to the context" (Design consultant at DAA). The problem cannot be framed without the influence of the context, so that teams "reframe the problem using all that information possible (…) it is a specific reframed problem statement (…) addresses who is experiencing the problem, what is it about, why it is happening, why it is important to be solved, and how to measure success" (DAH's Partner). Leveraging information and evaluating it within the client team allows framing the problem statement better and setting the stage to kick-off the project.

To support planning and onboarding, two design consultants at DAA disclosed, "we are also doing internal research, for example looking at other products from that industry, we are looking at the firm itself." This *information seeking* procedure sets the stage of the design sprint by leveraging "benchmark research trying to look at a problem and how competitors try to solve the same problem" (DAB's Founder). Benchmarking and searching for information support all the different activities from day one. "We strongly recommend on the first day to bring data" (DAT's Partner) to support reflection and the discovery of different potential perspectives.

"The client wants to solve a very big problem, or a lot of related problems, so we try to put the problem in a frame with the focus on only one important thing," said DAB's UX Design Lead. As reported above, the final *problem focusing* on one single important element is crucial to set the stage for the project. As DAH's Founder said, "I would set up a problem focusing workshop (…) The first three steps are to discover and prioritize the problem (…) to see which is the right one they want to take on." The centrality of narrowing down the problem and focusing it emerged from all the informants and their interactions.

4.4 | Experimenting

"We start by sharing information" (DAT's CEO). The first task of the original design sprint method is openly sharing information because "sometimes the client adds new people in the team," as DAB's Founder reported, and so the information must be conveyed again to all the team members. Indeed, according to DAD's CEO, "the sprint's 'day one' embodies the rising awareness of the problem boundaries among the team members." The sharing of information and consequently *understanding the opportunity boundaries* enable team members to start experimenting thanks to the alignment of what is in-scope and what is out-of-scope for the project they are working on. Everything begins by "looking at the map, and that is the starting point of the conversation," as shared by a design consultant at DAH. The map is the starting element of the sprint, allowing the team to align on the scope because, "nobody knows everything so you'll share information, but having a map will guide us in the uncertainty" (DAV's Partner).

After understanding the opportunity boundaries, experimentation continues with the practice of sketching. "Sketching is a four-step process (…) you take notes, you sketch some ideas, you do Crazy 8s, and then you do the actual sketch" (DAA's Head of design). The four-step process is managed "with the same process of the book, with some individual warming up exercises, to start to open the mind, for example with Crazy 8s, and then we start sketching the concept" (UX Design Lead at DAB). These ideation steps are designed for a specific objective, "all of this stuff is a ramp-up to the last part, which takes 45 minutes, and it is the actual creation of the breakthrough concept" (DAB's Founder).

The *ideation of breakthrough concepts* is carefully conducted within the sprint by crafting the process that moves from "inspiration beginning with 'lightning demos' to the next step of 'ideas', when you individually start sketching a bit (...) then the 'Crazy 8s', and finally the 'detailed solutions'" (DAV's Founder). This sequence of practices enables team members to experiment individually with new potential concepts.

When the concepts are consolidated and shared, then comes the moment to make the decision. According to DAT's CEO, "The decision is never 'this or that' proposal, it is always a mix of various proposals (…) and it moves at the team level; everyone has given their own interpretation of how the idea should be designed." Thus, the decision is

not a go-no-go decision over every single proposal, but rather a juxtaposition of different elements. DAV's Founder also reported that "the decision-maker, saying 'I really like this one, but I want that part of that sketch to come in'." Thus, letting the decider take a standpoint and express his/her *decision over the new direction* are crucial to advance. Indeed, "the decider, most of the time, already has their own idea that they want to test, but sometimes a new idea comes, and it is very interesting to test, and so they end up taking part in that idea." This way, the decision moment within the design sprint allows introducing novel and unexpected perspectives.

"In this phase (prototyping), it is important to be very careful not to add any new ideas while drawing the storyboard, or to draw unnecessary things" (Design Consultant at DAA), and it is crucial not to over-scope the initial prototyping phase when storyboard and user journey are created. "We create an entire user journey (…) everything that would take more effort than clicking a few screens together would be a waste of time and effort" (Design Consultant at DAA). Introducing new features is not always the case. In fact, it may end up being a waste of time and effort for the team. "The prototype day is very intense – thus, you really need to make it low fidelity, focused on the idea, presented in a way that could be the real deal for the client, and then you are going to have some insights" (DAB's Partner). In fact, teams just need to *prototype the essential* to then move on to testing. This is because facilitators always need to ask the team, "What is the minimum effort you want to put into the prototype to get an answer? (DAV's Partner), so that the team does not over-invest in the process, but focuses on the bottom-line objective, namely learning.

"The goal of the last day is to validate if the idea is good" (DAT's CEO), so the endpoint of the experimentation phase with the sprint is to *validate the assumptions*. This phase consists in assessing whether the final prototype "is a good solution to the challenge" framed at the beginning or not. As the informant also mentioned, "in every design sprint there is one day of testing, each with five people and usually one person does the interview, the others look at it." This happens so teams can cluster the information while "watching live and putting comments on the boards on what worked and what didn't work" (Design Consultant at DAH). Clustering is important to ensure the interviews support the team in getting answers to the sprint questions.

4.5 | Learning

DAH's Founder reported that "a lot of the times, it is about iterating the prototype, finding additional people to test the next iteration of the prototype." This is because all the informants agreed that the design sprint is an iterative process, "there should absolutely be a follow-up, a change in the prototype, another test" (Design Consultant at DAV). Iterations occur because, "we are not creating completely new ideas, but rather improving and consolidating the once that we have defined in the first sprint" (DAA's Head of Design). The *consolidation* moment of the entrepreneurial initiative is one of the possible outputs of the design sprint. Consolidation takes place when "we might make some changes in the prototype (...) you do not need to revise the challenge, you just need to tweak that prototype and test it again" (DAB's Partner).

On the other hand, "if it is a brand-new product that doesn't exist yet, you must do more iteration sprints to really validate if your idea is worth pursuing" (DAA's Founder). This will force the team to move *forward* to a new set of sprint questions. In fact, "if the problem is completely new and different, and if we don't have any knowledge about it, you discover it along the process" (Partner at DAB). As a matter of fact, "in my experience it takes more than a couple of sprints to validate a portion of that problem to make sure that you can solve the challenge" (Design Consultant at DAH), highlighting how moving forward to the next sprints helps in exploring and learning everything that needs to be known about the challenge.

"If everything fails, that happens a couple of times, the good news is that you just saved hundreds of thousands of dollars" (DAV's Partner). With this statement, our informant underlined that experimentation could lead to a learning moment where clients realize that the investment is not worth making, and they should *abandon* the endeavour completely. "If the product seems to fail with customers, you should ask yourself: are we off-track?" (DAH's Founder). If the answer is yes, it will most likely prove better to terminate the design sprint at that point. In the words of DAD's CEO, every sprint closes with the "judgement day, which is the go/no go decision where we might kill the project because there is no potential." This moment allows the team to acknowledge whether the project's potential is insufficient, and eventually move on.

In different circumstances, DAB's Founder reported that "we may need to iterate the prototype, because we discover some new questions, or the target is not the best." In this case, the team makes the decision to revise the target. *Re-targeting* may also happen because "there are instances where you completely fail and have to go back to the drawing board to reframe your problem in more meaningful ways based on what you learned, and then repeat" (DAV's Design Consultant). In other cases, re-targeting may happen because "you have progressed on your project, and you realized, oh, we made this assumption, but we need to drastically rethink the product" (DAD Design Consultant). In this case, the team will need to re-target the sprint and go back to the sprint question design, given that new assumptions have been introduced.

According to DAH's Founder, another potential output of the learning activity is that "once you obtain that validation, we implement a 4-step approach that allows us to take all of the insights gathered during the sprint into the actual execution performed during product development." This happens when teams move to the *implementation* of the entrepreneurial endeavour. In some cases, as in DAA's Founder's experience, "it could be that the results from one-week sprints are immediately implementable, so you can go from the end of the sprint to production directly (...) you have to start building the actual product/service using Agile." In fact, when teams move to implementation, they often "start building the product, using another methodology called Lean UX" (DAB's UX Design Lead). The shift from design sprint to a different method takes place because "most of the

time, if you can get one part right, you're better off shifting into normal execution mode, rather than running endless sprints" (Head of Design at DAA).

5 | DISCUSSION

Our findings illustrate a process model of how design (sprint) can support the emergence and development of entrepreneurial opportunities through a set of four activities (i.e., defining, framing, experimenting, learning), facilitated by design agencies to support client teams in their entrepreneurial endeavours, moving from opportunity insights to actionable entrepreneurial opportunities. These findings have important implications for the ongoing theoretical debate on entrepreneurship as design (e.g., Berglund et al., 2020), and the role of entrepreneurial opportunities in this perspective (Dimov, 2021).

In particular, our study's primary contribution extends the debate on opportunities in the entrepreneurship literature by unveiling how the practice of design (Verganti et al., 2021) can support the translation of entrepreneurial insight into actionable entrepreneurial opportunities (Dimov, 2007). Our study illustrates how to enact the entrepreneurship as design perspective (Berglund, 2021; Berglund et al., 2020) in the emergence and development of entrepreneurial opportunities.

Furthermore, our work contributes with insights on the agents involved in this process. Our findings show that design agencies can act as facilitators in entrepreneurial endeavours, enriching the established view of entrepreneurs as primary agents exerting intentionality on the emergence and development of opportunities (Cornelissen & Clarke, 2010; Dimov, 2011, 2021; Klenner et al., 2022). In this sense, our study introduces the possibility for a third party (i.e., design agencies) supporting clients in making sense of insights and translating them into entrepreneurial opportunities.

Finally, building on the recent debate in the entrepreneurship literature (Wood et al., 2021), our article also provides cues on the timing of entrepreneurial endeavours. Indeed, our process model illustrates the sequence of entrepreneurial actions (i.e., defining, framing, experimenting, and learning) chronologically enacted by design agencies to lead the emergence and development of entrepreneurial opportunities.

Our study informs the theoretical debate on entrepreneurship as design (Berglund et al., 2020) with an empirical investigation of the phenomenon. The four activities identified in our process model (i.e., defining, framing, experimenting, and learning) leverage the practice of design (Verganti et al., 2021) to support the emergence and development of entrepreneurial opportunities. This formal model is grounded in design practices, such as user focus, prototyping, and iteration (Magistretti, Ardito, & Messeni Petruzzelli, 2021), and can support firms in experimenting with different assumptions and gaining an understanding of their validity. In studying opportunities as expressed by actions (Dimov, 2011), our process model proposes a clear integration of the interplay between a design and entrepreneurial approach. The ability to frame the challenge and reframe the opportunity by leveraging design (sprint) also contributes to the growing debate on entrepreneurship as design (Berglund et al., 2020). In this sense, our process model depicts how design practices (e.g., problem framing, understanding, sketching) blend with entrepreneurial practices (e.g., sprint questions, prototyping, testing), giving rise to a process that enables transforming opportunity insights (concrete or abstract) into actionable entrepreneurial opportunities. Our study also contributes to the entrepreneurship literature on opportunities (Dimov, 2007) by identifying an actionable process through which firms can adopt a design (sprint) approach to support the emergence and development of opportunities. This enables foreseeing and assessing the value of an insight "in the making," conceptualizing a concrete process to transform it into an opportunity (Dimov, 2011). Moreover, we contribute to recent calls from design and innovation scholars (Klenner et al., 2022) on the role that design and design thinking-related approaches (Dell'Era et al., 2020) might play in entrepreneurial endeavours.

Following this reasoning, our study also elaborates on the opportunity emergence and development literature (e.g., Dimov, 2007) by offering a novel perspective on how opportunities may be acted on throughout a process that borrows from design. Indeed, our study taps into the growing interest in understanding entrepreneurship as an act of design, treating entrepreneurial opportunities as artefacts (Berglund et al., 2020) that act as the interface between an entrepreneurial venture and its surrounding environment (Garud, 2021). In this sense, our paper conceptualizes a design (sprint) process that can inform future research on *how* entrepreneurs, innovators, and managers, might implement entrepreneurial endeavours by adopting a design approach. This change in perspective entails an epistemological shift, moving from considering a given entrepreneurial opportunity as valid as its market viability (e.g., Eisenmann et al., 2012; Shepherd et al., 2019) to viewing entrepreneurship as a collective effort towards making and shaping an entrepreneurial opportunity into a desirable future endeavour (Rindova & Martins, 2022; Wenzel, 2022). This shift can contribute to turning the attention of entrepreneurship scholars from seeking knowledge about entrepreneurial opportunities to actions and interactions (Sarasvathy, 2021), following an effectual approach to entrepreneurial endeavours (Sarasvathy, 2001). Building on this thought, our entrepreneurial opportunity emergence and development perspective is also consistent with the performative view of entrepreneurship (Garud et al., 2018; Garud & Gehman, 2016) that presents entrepreneurial endeavours as iteratively constructed by multiple narratives and actors throughout a performative design process (Garud, 2021).

In fact, our investigation also provides cues of the multiplicity of agents involved in the process of translating insights into actionable entrepreneurial opportunities, overcoming the established individual-centric view of entrepreneurial endeavours. The literature on entrepreneurial opportunities frequently proposes a procedural view of the steps and actions that entrepreneurs should follow to develop opportunities (Bergman & McMullen, 2020). However, this perspective oversimplifies the role that different agents have in the process, often

focusing only on entrepreneurial sensemaking as an individual activity (Cornelissen & Clarke, 2010; Dimov, 2021). Contrarily, recent studies have called for a deeper investigation of the agents involved in the entrepreneurial process (Volery et al., 2015). The particular setting of our study (design agencies) contributes to this debate by providing a novel perspective of how different roles, mediators, facilitators, entrepreneurs, innovators, and client teams come together in the process of supporting the emergence and development of entrepreneurial opportunities. The literature addresses the role of mediators as crucial agents in the sensemaking process in innovation, supporting client firms in better framing the challenge ahead by instilling doubt (Strike & Rerup, 2016) and providing identity-sharpening feedback (Grimes, 2018). Our findings extend this view with a third-party that mediates the act of sensemaking (Strike & Rerup, 2016), illustrating that this aspect is relevant also when adopting an "entrepreneurship as design" approach to entrepreneurial endeavours. By following a paced process of translating opportunity insights into actionable opportunities, design agencies constantly instil doubt in their clients' minds, asking them to enact reflective design practices (Verganti et al., 2021). This enriches scholarly understanding of the actors involved in entrepreneurial endeavours, overcoming the view of the individual entrepreneur (Cornelissen & Clarke, 2010; Dimov, 2021), and introducing the value of a mediator (i.e., the design agency).

Our study provides an original perspective on how to enable the presence of different agents (i.e., design agencies and client firms) at the front-end of the opportunity emergence and development process. Through the four activities (i.e., defining, framing, experimenting, learning), design agencies support clients in enacting developmental criticism and reflective design practices (Verganti, 2016) that may not occur in entrepreneurial endeavours without the support of a mediator. Thus, our contribution advances current understanding of the role that different agents have in different stages of an entrepreneurial endeavour (Magistretti, Allo, et al., 2021). This enables more effective sensemaking of the opportunity through the mediation role of design agencies (Strike & Rerup, 2016). By providing an empirical account of how the practice of design and related activities enacted by different agents (i.e., design agencies as facilitators, and client teams as entrepreneurs) lead to intra-group collective sensemaking (Simsek et al., 2003) of entrepreneurial opportunities. Our findings may thus also enrich current understanding of entrepreneurial sensemaking (Cornelissen & Clarke, 2010).

Finally, our model provides insights on the role of time in entrepreneurial endeavours at the core of the current debate on process studies (Tsoukas, 2017). Building on the evolving view of temporality in organizations (Langley et al., 2013; Schultz & Hernes, 2010), our model emphasizes the importance of timing in entrepreneurial endeavours, identifying a sequence of actions that lead to the emergence and development of entrepreneurial opportunities.

Furthermore, our findings contribute to the literature on the three dimensions of time in entrepreneurial endeavours—that is, initialization, pace, and chronology (Wood et al., 2021). However, in this sense, our process model contributions are limited to the latter. Our process model shows a sequence of actions (i.e., defining, framing, experimenting, learning) that enable temporally ordering the sequence of activities—that is, defining the chronology of the entrepreneurial endeavour (Wood et al., 2021)—enriching scholarly understanding of time-calibrating entrepreneurial endeavours (Cornelissen & Clarke, 2010; Miller, 2007; Shepherd & Gruber, 2020; Wood et al., 2021). By proposing an order of the actions, the model also contributes to the literature on temporal positioning (i.e., initialization), defined as when an entrepreneur should start an entrepreneurial endeavour (Miller, 2007). Our model proposes reducing the emphasis on finding a specific time to initialize, and instead highlights the value of following a sequence of iterative actions that lead to a better understanding of the opportunity by defining, framing, experimenting, and learning about the opportunity itself.

6 | CONCLUSIONS, LIMITATIONS, AND FUTURE RESEARCH DIRECTIONS

Our study conceptualizes a process model that illustrates how design (sprint) can support the emergence and development of entrepreneurial opportunities. The theoretical contributions of our study are fourfold. First, we contribute to the design thinking literature by highlighting the role of a specific design approach (i.e., design sprint through defining, framing, experimenting, and learning) in fostering entrepreneurial endeavours. Second, our study discloses how design agencies mediate the emergence and development of entrepreneurial opportunities by imbuing design practices (e.g., user focus, prototyping, visualization) in the entrepreneurial venture creation process. This second contribution expands scholarly recognition of the value of mediation from the sensemaking process to entrepreneurial sensemaking and venture creation. Third, it contributes to the ongoing debate on entrepreneurship as design, with an original view of how design can support the emergence and development of entrepreneurial opportunities. The process model based on the four defining, framing, experimenting, and learning activities provides precise guidelines in assessing and then performing the entrepreneurial endeavour independently of the nature of the initial opportunity (i.e., created or discovered). Finally, our study provides insights on timing in entrepreneurial endeavours by proposing a sequence of activities enacted to translate opportunity insights into actionable entrepreneurial opportunities.

Besides our theoretical contributions, our study also makes important contributions to practice. Our model provides practitioners with guidelines that can support them in the emergence and development of entrepreneurial opportunities. The sequence of actions (i.e., defining, framing, experimenting, and learning) can inform them on how to structure their activities while stimulating—rather than constraining—creativity. Our study enriches the established and diffused design sprint methodology, informing facilitators and participants on the role of each phase in the emergence and development of entrepreneurial opportunities. The process model can increase the awareness of facilitators and participants of alternative tools and techniques aimed at nurturing the defining, framing, experimenting,

and learning activities. In this sense, the process model supports facilitators in properly assessing the effort required of participants in applying the design sprint methodology.

Nevertheless, our study is not free from limitations. First, we conducted interviews with six design agencies located in different countries. Although the choice of design agencies was motivated by their value to our specific research setting, looking at rather particular agents in the process of crafting entrepreneurial endeavours may also limit the generalizability of our findings. In this sense, we hope that this initial attempt to investigate design agencies as agents of entrepreneurial endeavours might inspire new contributions related to entrepreneurship as design by considering a broader set of agents and stakeholders. Future research might tap into this gap by, for example, investigating the interactions between the design agencies' approach to entrepreneurship and their clients' orientations, perceptions, and desires. Furthermore, although we selected design sprint as the optimal method to observe the intersection between entrepreneurship and design practices in an exploratory setting, future studies might assess how different design practices, or combinations of different approaches to design, contribute to and affect the emergence and development of entrepreneurial opportunities. Finally, our study hints at the role of time in entrepreneurial endeavours, providing insights on the sequence of activities that could lead to the emergence and development of entrepreneurial opportunities through design. However, future research might inquire into how design practices specifically support other dimensions of the timing of entrepreneurial endeavours, such as their initialization and pace.

We hope our contributions to the growing body of research that views entrepreneurship as design will spur future studies in this direction.

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DATA AVAILABILITY STATEMENT

Research data are not shared.

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ENDNOTES

[1] Google for Entrepreneurs, the Hangout featured Eric Ries (The Lean Startup), Tim Brown (CEO of IDEO), and Google Ventures Design Partner Jake Knapp, see https://youtu.be/bvFnHzU4_W8

[2] https://designsprintkit.withgoogle.com/

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