

Unfolding a nascent entrepreneurial journey: An exploratory live case study of pre-incubator supported university graduates' opportunity emergence process

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Abstract

Opportunity is the core construct in the field of entrepreneurship. The recent debate on 'opportunity wars' shows the construct lacks consensual clarity. A growing consensus among scholars is that the investigation of venture emergence may reveal new insights into the process by which an individual comes up with an idea and enact it as an opportunity. To address this startling knowledge gap, this study asks: how do nascent entrepreneurs come up with ideas and how do they clarify (refine and shape) those ideas as opportunities? A qualitative live case study was conducted on graduates with 13 ideas that were supported through business start-up programmes of a UK university's pre-incubator. Data were collected through semi-structured interviews, participants' mind mapping, and participant observations. Findings derived from an inductive thematic analysis show venture opportunity emergence from the conceptualisation of venture ideas to the transformation of opportunity artifacts. The process is driven by the socially mediated and moderated interplay between nascent entrepreneurs' cognition, motivation, and behaviour. The key contribution of this study is that it highlights that opportunity artifacts embody the different aspects of cognition, motivation and behaviour.

Keywords: nascent entrepreneurs, entrepreneurial opportunities, and pre-incubator.

1.0 Introduction

Opportunity is the heart of venture creation. Everything, including business functions (e.g. marketing, human resource, finance and strategy), emerges from creating a new venture. The ultimate goal of a venture is to create value for others. However, venture creation is not possible without an opportunity. This renders opportunity a critical component of the entrepreneurial process. Understanding the emergence of opportunity requires an investigation of the entrepreneur's heroic journey from early insight (initial idea) through the development of the venture concept (intermediate articulation of potential value creation) to the creation of a new venture (Dimov, 2007b; 2011; 2021; Vogel, 2016; Wood and McKinley, 2010; Wood, 2017).

This study investigates the journey of university graduates who are trying to start a new venture with the support of a university pre-incubator's business start-up programme but have not yet succeeded in making the transition to new venture ownership. Based on prior business ownership experience, the literature defines this particular type of individual as a nascent entrepreneur (Carter, Gartner and Reynolds, 1996). Nascent entrepreneurs are emerging entrepreneurs whose identity transition to novice entrepreneurs – an individual who lacks prior business ownership but has started a new venture (Westhead et al. 2005) – depends on the emergence of ventures (Dimov, 2010).

Opportunity is retrospectively clear but prospectively opaque (Dimov, 2016). To date, scholars relied heavily on retrospective studies that focused on entrepreneurs who already started ventures (Berglund et al. 2020). The limitation of retrospective studies is that they involve success bias (the study of surviving business) and hindsight/memory bias (the incorrect reporting or reinterpretation of events) (Davidsson and Honig, 2003; Davidsson, 2021; Delmar and Davidsson, 2000; Dimov, 2007a; 2007b; Gregoire, Bar and Shepherd, 2010; Gregoire, Shepherd and Lambert, 2009). Another limitation is that they produce analysis after the event (Sergeeva et al. 2021). Such analysis focuses on how individuals meet external conditions while overlooking how they create a world that fits their visions. Since retrospective studies are unable to capture the original cognitive, behaviour and intention of nascent entrepreneurs, theories regarding the emergence of opportunity become superficial. Prior studies veered away from the natural journey of ideas leading to positive outcomes (i.e., venture creation) or negative outcomes (i.e., idea abandonment or failure). To overcome limitations, it is crucial to shine a light on nascent entrepreneurs who spark the journey from idea to venture. Therefore, the unique advantage of this study is the real-time study of nascent entrepreneurs' opportunity emergence.

2.0 Opportunity in prospective nature

Before the emergence of the venture, opportunity remains a 'riddle' (Ramoglou and McMullen, 2022) or an 'elusive phenomenon' (Dimov, 2011; Wood, 2017). After the emergence of the venture, the opportunity becomes a visible social structure where products/services draw the relationship between entrepreneurs and their external world (Dimov, 2016). Prior to the venture emergence, opportunity or the invisible social structure resembles a design artifact. Since opportunity is prospectively opaque and retrospectively clear, recent studies have adopted a designed perspective to add clarity to the concept of elusive, unknowable opportunity (Berglund et al. 2020). If one dismantles the opportunity artifact, s/he can trace it back to its nucleus of it (i.e., idea).

Though the definition of opportunity is debatable, scholarly consensus exists on it. Opportunity is a venture idea (Davidsson, 2015), an artifact (Dimov, 2016; Berglund et al., 2020) or a blueprint of actions (Dimov, 2011) emerging from a stream of continuously

developed and modified ideas of the nascent entrepreneur (Dimov, 2007a, Vogel, 2016) about product or service that can be introduced profitably (Casson, 1982; Shane and Venkataraman, 2000) under multitudes of felicitous environmental conditions (Ramoglou and McMullen, 2022; Davidsson, 2021). The idea represents an entrepreneur's imaginative projection or vision that is intertwined with his or her belief or desire (Dimov, 2007a; McMullen and Shepherd, 2006). Therefore, the concept of opportunity encapsulates the culmination of motives, circumstances, events, and contemporaneous actions of individuals (Wood, 2017). The process of culmination ascribes a prospective nature of opportunity that accommodates idea generation, refinement, abandonment, failure, pivoting, and venture creation. In other words, opportunity is about what an individual trying to do and what outcomes are brought about.

2.1 Formation of venture idea

The emergence of opportunity emergence begins with a venture idea, but the formation of venture ideas begins with something more primitive that resembles software-level obstacles such as prerequisites of knowledge, cognition and creativity needed to introduce new products or services (McMullen and Dimov, 2013). Venture idea refers to the most incomplete mental representation (Vogel, 2016), fuzzy front image (Dimov, 2007a) or abstract artifact (Berglund et al. 2020; Berglund and Glaser, 2021) for a potential future venture. The fuzzy front image or abstract artifact represents a vague insight(s) or conjecture of customer needs, customer segments or resource capabilities from which an individual projects an abstract goal, i.e. to meet a practical need or give a utility of experience. So, both insights and goals are entrepreneurs' beliefs, assumptions or desires. Together they constitute idea content or propositional content (Dimov, 2021). Based on goals, entrepreneurs set the design task (i.e. the practical task of fulfilling customer needs), and then they use design object knowledge (i.e. the situational knowledge that arises at the interface between insights and goals) to complete the task (Packard et al. 2021; Seckler et al. 2021). The product or service develops at the interface between insights and the goal. This makes the study of venture idea formation relevant to the design science perspective.

Prior study has contended that unmet customer needs or resource capabilities function as triggers of demand- and supply-side idea formation (Vogel, 2016). To recognise such triggers (i.e., unmet needs or resource capabilities), one needs to have prior knowledge of it that comes up with experience. As inexperienced entrepreneurs differ from experienced entrepreneurs with regard to their cognitive (Baron and Ensley, 2006) or expertise development (Sarasvathy, 2021), their formation of incomplete mental representation requires empirical investigation. A recent study from a design science perspective contended that an idea is an artifact that develops at the interface between an individual and his or her environment (Berglund et al. 2020; Berglund and Glaser, 2022). This design perspective view suggests individuals are the active agent who use artifacts as cognitive scaffolds to augment their creative potential of limited mental capacities. We have a limited understanding of how the idea is formed and how its refine and developed within a cognitive scaffold. The formation of ideas may provide insight into the goal of nascent entrepreneurs and their external conditions.

2.2 Intention as a propeller of entrepreneurial action

A venture idea is a necessary condition but not sufficient enough for a venture opportunity to emerge (Vogel, 2016). It requires an entrepreneur's action (Dimov, 2021). "Entrepreneurial action refers to a behaviour in response to a judgemental decision under uncertainty about a possible opportunity for profit" (McMullen and Shepherd, 2006). What distinguishes an entrepreneurial action from a non-entrepreneurial action is the intention (Dimov, 2021; Dimov et al. 2021). Intention refers to "a state of mind that directs experience and action toward a

specific goal (or desired end) in order to achieve means” (Bird, 1988). It connects an action to the venture idea. In other words, it sets the motion of a venture idea through entrepreneurial action (McMullen and Dimov, 2013). In this light, intention makes an action rational whereby the optimum clarity of goals or intermediate goals are known (Schutz, 1967). Our understanding is limited on how intention links to a particular idea.

2.3 Duality of actions that elaborate ideas

Opportunity is about what entrepreneurs do. This reflects in the duality of actions: a) trying to create or settle in a world that fits with their vision and b) adapting or excelling in their visions that external condition favours (Dimov, 2021; Sergeeva et al. 2021). The former action resonates with nascent entrepreneurs’ journey in which they act on the present to deal with an unknowable future. Such a journey is heroic because the outcome lies in the success or failure of an individual. The later action resonates with a past journey in which an external enabler (Davidsson, 2015), felicitous environment (Ramoglou and Gartner, 2022, Ramoglou and McMullen, 2022) or condition of satisfaction (Dimov, 2021) enables the success of a venture idea, i.e., the creation of the new venture. Such a journey is non-heroic because it omits failure. The study of the non-heroic journey is retrospective as it focuses on how entrepreneurs satisfied external conditions. The duality of actions represents a bi-direction of opportunity emergence – one is anchored on the individual’s vision of the world (trying phase) and the other, is a favourable condition that enables the vision to become reality (achievement phase) (Dimov, 2021). This study focuses on the trying phase of entrepreneurial actions.

The possible entrepreneurial actions are the search for information, discussion with others, formal or informal planning, the establishment of relationships, and the development of new products or services (Cardon et al. 2012; Dimov, 2007b). These actions are driven by certain milestones or goals that nascent entrepreneurs aim to achieve, i.e., to determine the feasibility of product/service ideas as effective means (Dimov, 2021). Goals, in turn, drive entrepreneurs’ judgement that becomes embedded as the feature of products or services (Packard et al., 2021; Schutz, 1979). Unlike other social colonies (i.e. termites) that use artifacts (i.e. termite mounds), entrepreneurs set goals based on their subject interpretation of the situations (McMullen, 2015). So, no two entrepreneurs’ goals are the same even if they appear identical. Such difference is observable in the function and performance of products/services. The differences in goal interpretation are derived from different perspectives and are often determined by the value position of key stakeholders (i.e. regulators, investors or organisation support systems) (Garud, 2021). Thus, shaping and refining ideas becomes a crucial part of nascent entrepreneurs’ actions.

Though various social sources provide key resources (advice, feedback, information, money, commitments or relationship), yet nascent entrepreneur acts as a key input provider until the emergence of the venture (Dimov, 2010). Thus, incomplete mental representation develops into a business model. So the fuzzy front-end image of the idea gradually becomes clearer, and it becomes a venture concept. The venture concept refers to the developed venture idea that represents a business model for a potential venture (Vogel, 2016). The venture concept represents an important milestone of opportunity emergence (Nair et al. 2022). With the development of venture idea to venture concept, an individual makes his/her transition from a potential entrepreneur to a nascent entrepreneur. The venture concept functions as the glue of the framework (Vogel, 2016) through which nascent entrepreneurs frame and model their venture ideas into venture opportunities (Dimov, 2021). Prior studies have suggested nascent entrepreneurs’ entrepreneurial experience is positively associated with venture emergence (Delmar and Davidsson, 2000). Their confidence in opportunity, called opportunity confidence, mediates entrepreneurial experience with venture emergence (Dimov, 2010).

The type of resource entrepreneurs seek is dependent on their experience. Inexperienced entrepreneurs tend to rely on advice and feedback due to the high level of uncertainty surrounding their ideas (Sarasvathy, 2021). However, we lack an understanding of how nascent entrepreneurs rely on various social sources and how they use different types of social resources to develop their venture ideas into venture concepts. Understanding the relationship between the actions and ideas of entrepreneurs at the nascent venturing stage is central to the understanding of opportunity emergence. This is because actions elaborate ideas (Dimov, 2011).

The above literature review reveals our understanding of the venture opportunity emergence is underdeveloped. To address the knowledge gap, I investigate the following questions: how do nascent entrepreneurs come up with ideas and how do they clarify (shape and refine) their ideas? The next section discusses the research methodology for the study of opportunity recognition.

3.0 Methodology

This study adopted a qualitative research methodology to explore the opportunity emergence process of first-time nascent entrepreneurs. Qualitative research is essential for revealing new insights into an under-studied phenomenon (Bluhm et al., 2011). Due to the paucity of research, very little is known about the emergence of opportunities by first-time nascent entrepreneurs. Exploratory research methods fit with the study of a phenomenon that is underdeveloped (Seckler et al. 2021). The methodological choices of the study were driven by my research paradigm position, and access to research organisation and types of data.

3.1 Case study research design

I employed a case study research design to support my qualitative research strategy. The main rationale for choosing a case study design is that it offers an in-depth understanding of the phenomenon within its natural setting (Yin, 2014). The studied phenomenon, an opportunity is ongoing, contemporary and bounded by contexts (i.e., entrepreneurs and their respective social world). The following elucidates the case boundary.

Bounding the case. Case study emphasises an intensive examination of cases in their natural settings (Bryman and Bell, 2011). The natural setting of my case study was bounded by place, actors, events, and time (Figure 1). The boundary of the case is important because individuals' actions and interactions in relation to opportunities occur within it. The description of natural settings is as follows:

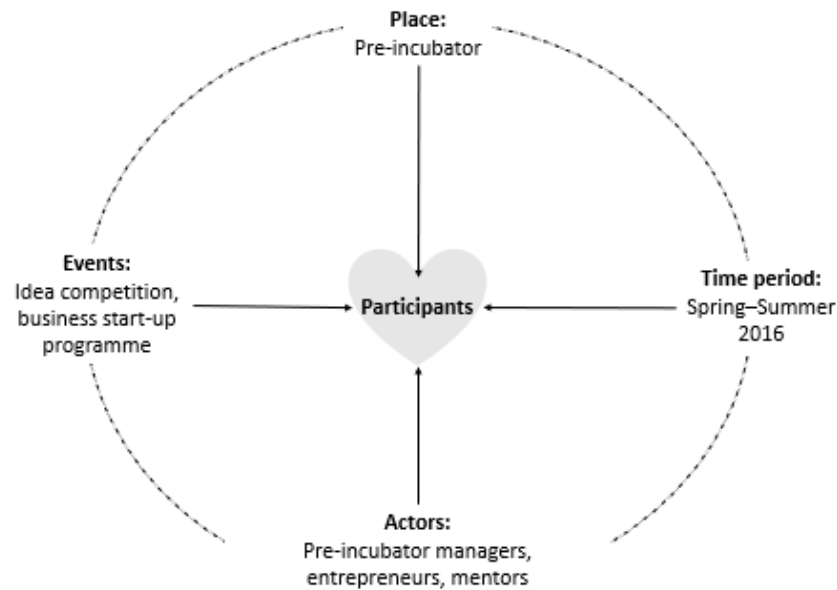


Figure 1 Case boundary (Author's own constructed)

Place. I selected the pre-incubator, one of the core functions of the business incubator, as my primary case study site because the process from idea refinement to venture creation takes place within it.

Actors. The integration incubation process supports the transition of individuals from would-be entrepreneurs through nascent entrepreneurs to novice or more experienced entrepreneurs. For this study, I selected pre-incubator-supported nascent entrepreneurs.

Events. I selected an idea competition event (called Big Idea Challenge) and a business start-up programme (called Launchpad) through which would-be entrepreneurs progress to the nascent venturing stage. These two events were important boundaries because of their focus on generating, communicating, and validating ideas.

Time. My case study was bounded by time because the idea competition event and business start-up take place annually, and these events sequentially follow one after another. My study commenced with the annual business idea competition event and ended with the completion of the business start-up programme. No data were collected beyond this period.

3.2 Selection of participants

To select participants for this study, I adopted purposive sampling – an approach that involves an intentional selection of participants that can provide insight into the study phenomena (Teddle and Yu, 2007). I selected participants who qualified for and participated in the pre-incubator's business start-up programme in 2016. These participants qualify as first-time nascent entrepreneurs because they had no prior business ownership experiences but were engaged in the process of starting new ventures through the business start-up programme. Participants were recent university graduates, and their age range was 23 to 33.

Getting access to contemporaneous data is a key methodological challenge acknowledged by several scholars (Grégoire, Shepherd, and Lambert, 2009; Dimov, 2011). The selection of business start-ups provided unique access to rich contemporaneous data that were not possible to obtain by other means. Business start-up programme annually supports 10 to 15 business ideas, which is an observable trend across all UK university pre-incubators. By

sampling participants through the business start-up programme, I ensured the theoretical transferability of the study findings to similar contexts (i.e., other pre-incubators).

In 2016, the pre-incubator supported 13 ideas throughout the programme. However, the number of ideas was not representative of the number of participants because some participants acted in a team, while others, alone. Since a particular idea is linked to a particular individual (Dimov, 2011), I further sampled participants who claimed to be the owner of their ideas. I called them ‘lead participants’. These lead participants could reproduce the accounts of idea emergence that were particularly linked to themselves. To achieve a broader understanding of the lead participants, I utilised the rest of the other participants as a context.

3.3 Data collection

Opportunity is a socially constructed contingent phenomenon (Dimov, 2016). The study of socially constructed phenomena is very complex. It requires a face-to-face ‘We-relations’ approach which depends on direct exchange and interaction with participants (Berger and Luckmann, 1966; Burrell and Morgan, 1979). Consonant with social scientists, entrepreneurship scholars have shifted their focus on studying entrepreneurs from their vantage point – an ‘We voice’ approach, second-person perspective, and insider perspective (Berglund, 2015; Dimov, 2016; Dimov and Pistrui, 2022; Dimov et al., 2021). Considering such an epistemic requirement, I adopted semi-structured interviews, mind mapping, and participant observation as primary data collection methods. These three methods offered face-to-face interaction with participants from different slants: purposive conversation, task-designed activity, and participation in naturally occurring activities. Together, these methods allowed the exploration of the ongoing journey as well as the past.

Semi-structured interview. I adopted semi-structured interviews as one of my data collection methods because this method allows face-to-face interaction while keeping the conversation in line with the research question (Mason, 2002). I interviewed 13 individual lead participants who participated in the business start-up programme with 13 ideas. I also interviewed pre-incubator managers to get an overall understanding of the programme and its supported participants. All interviews were conducted within pre-incubator premises during the first two weeks of the start-up programme. Both the physical setting (i.e., pre-incubator premise) and the timing of the interview were critical for reconstructing participants’ initial accounts of opportunity emergence without losing their originalities. During interviews, trust became an emergent issue. Despite the informed consent, the majority of participants seemed uncomfortable taking part in the interview. They asked, “How long would the interview be?”, “Can I see the interview questions you would ask?” These emergent questions revealed their concerns about exposing their ideas. As a result, the average duration of interviews was 35 minutes.

Mind mapping. My choice of mind mapping was guided by the following research objective: how do nascent entrepreneurs’ come up with particular venture ideas? Similar to the interview method, mind mapping offers face-to-face interaction with participants, but the interaction is facilitated by task-designed activity. The main purpose of mind mapping is to capture subjective data more meaningfully by showing associated concepts to the phenomenon (Davies, 2011; Eden, 1992). I conducted mind mapping immediately after the end of each interview. Prior to the interview, I noted participants were unwilling to discuss their ideas with outsiders. Considering this data collection challenge, I decided to conduct mind mapping immediately after each interview. Some participants revealed useful data that I could not capture in the interview and observation. For example, during the interview, participant C described her personal experience of the problem without specifying the actual problem.

However, through mind mapping (Figure 2), she revealed the constituting factors of her encountered a problem: complaints about dental books, traditional teaching methods, and inconvenient timing.

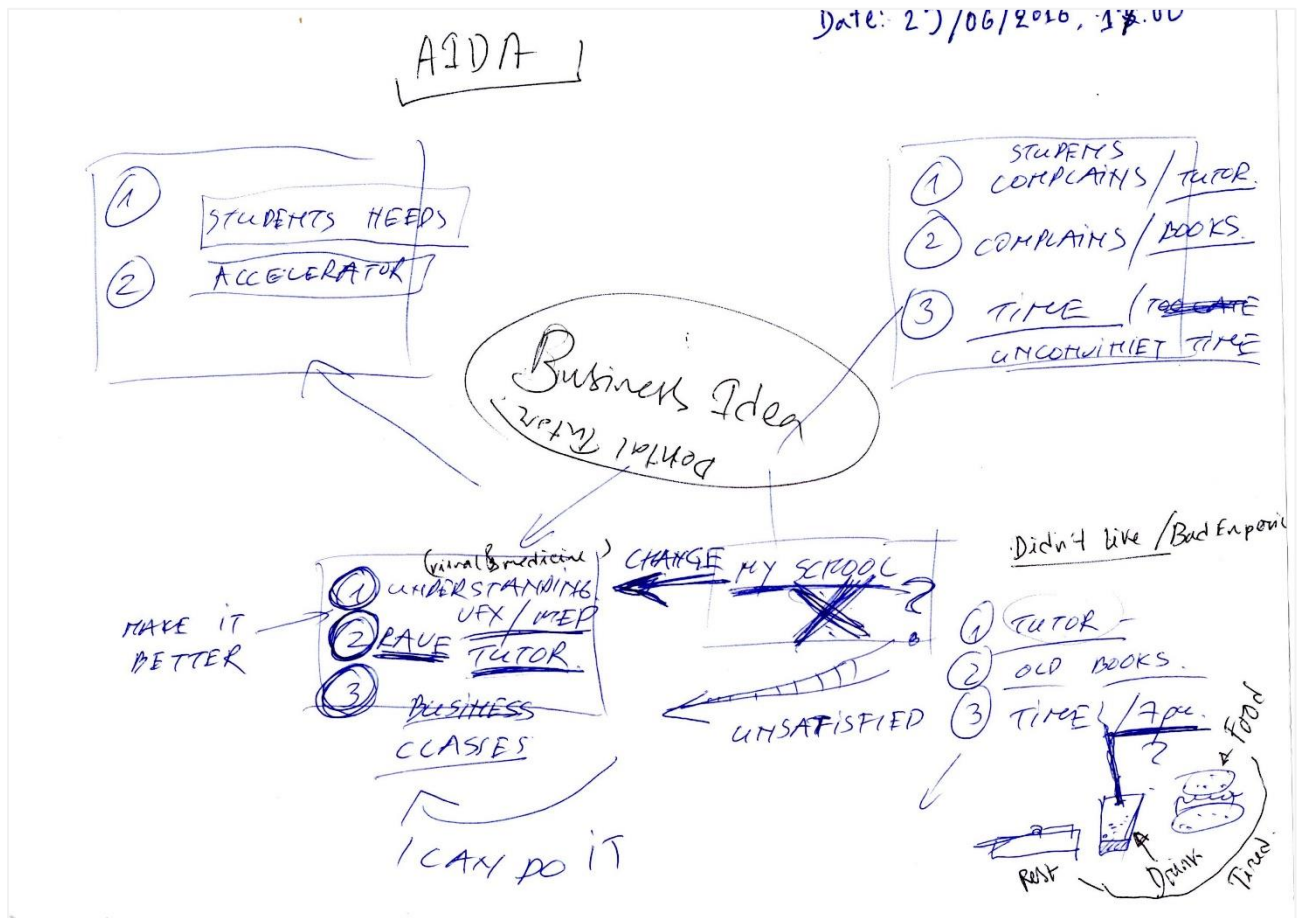


Figure 2 Mind map of Participant C

Participant observation. I adopted a participant observation method to understand participants' actions related to their idea refinement. Participant observation allowed me to engage with participants in a social relationship by participating in the activities that they performed as part of the business start-up programme. To understand the meaning of someone's behavioural action, one must be guided by their knowledge of that person, and that knowledge is only accessible through participation in the activity with that individual (Schutz, 1972).

I conducted a total of 79 hours of participant observation relating to 53 ideas, of which 13 ideas were supported through the business start-up programme. During observation, I interacted with managers, participants, and mentors and observed their interaction and their activities related to idea refinement. My observed activities include participant selection interviews, opportunity discovery training sessions, developing pitches, weekly market report presentations, customer discovery activities, product testing and validation, branding and marketing strategies, financial planning, and networking. These observed activities provided rich contemporaneous data.

3.4 Data analysis: Thematic analysis

For data analysis, I adopted an inductive thematic data analysis method. The thematic analysis focuses on the meaning interpretation of a phenomenon by identifying, reporting, and analysing themes or patterns in qualitative data (Braun and Clarke, 2006; Boyatzis, 1998). I particularly chose an inductive approach because of its focus on meaning interpretation from the frame of participants. My inductive nature of thematic analysis involved an iterative process of transcribing, coding, categorising data, and identifying themes.

I began coding by reading through transcripts line-by-line and breaking down the texts into meaningful segments. Line-by-line coding is useful for inductive theory generation because this strategy helps conceptualise data while avoiding pre-existing conceptual leaps (Charmaz, 2006). I conducted line-by-line coding with the research question and the unit of analysis (i.e., individual participant) in mind. The codable moment was captured when a basic segment of raw data represented a meaningful insight about the participants (unit of analysis) regarding the opportunities (phenomenon). To preserve participants' views and actions, I named coded data with the verbs (gerund form) used by participants. These are the first-order (or in-vivo) codes (Table 1).

To facilitate a systematic approach to coding data, I coded each participant's data set one after the other. This allowed comparisons between participants. By comparing line-by-line coding between data sets, I explored the conceptual meaning of data. To assess the conceptual meaning of data, I considered participants' verbal and non-verbal expressions and contexts (events, locations, and time) in which they occurred. Once I comprehended the conceptual meaning of a data segment, a code/conceptual name was given according to its representative meaning. These codes are the basic themes (Table 1). I ensured coding reliability by recording coding decisions and periodically reviewing the code book.

While developing codes, I categorised them according to their representative concepts. The process of categorisation began by clustering similar conceptual codes in circles. These conceptual codes combinedly represented one broad analytical concept that became the initial category. Similar to codes, the initial categories were given names according to their representative meaning. These categories are the organising themes (Table 1). Following category development, I explored conceptual connections among them. The conceptual connection among categories emerged as the main theme (Table 1). At the beginning of the theme development phase, I examined underlying ideas, assumptions, and nuances of participants' accounts and their behaviour. Themes emerged when categories individually and/or combinedly captured something significant about participants regarding phenomenon (i.e., opportunities). Also, some of the themes emerged from the sequence of events and actions that occurred during the process of opportunity recognition. In my analysis, themes became discernible when they were consistent, widespread, unusual, and emerged from multiple sources of data (interviews, participant observation, and mind mapping).

Main themes	Organising themes	Basic themes	First-order codes
The conceptualisation of venture ideas	Formation of ideas through experiential problems	Need awareness through experienced problems Projected goal/desired end as proposed value	1) Finding gigs difficult in the Netherlands – missing connections between promoters, musicians, and agencies. 2) Finding Excel as an inefficient tool for bet tracking and analysing – one has to know code rules and formulas to use it. 3) Experiencing learning difficulties with a dental course – complaints about tutors, traditional books and time. 4) Experiencing organising difficulty for socio-political events – existing social media platforms do not address the issue. 5) Being frustrated waiting in queues at bars and clubs – long waiting time. 6) Finding a good alternative therapist’s treatment is difficult – the market lacks quality reviews. 1.1) To bring efficiency in arranging live-music events. 2.1) To create a time-efficient analytical betting tool. 3.1) To create learners-friendly visual dental courses. 4.1) To bring effectiveness in organising events. 5.1) To save queuing time for bars and clubs. 6.1) To make alternative therapy treatment accessible and affordable.
	Formation of ideas through perceived gaps	Product/service awareness through perceived gaps Projected goal/desired end as proposed value	1) Having thought of introducing popular Gambian baobab juice in England. 2) Seeing the absence of American versions of pies and sweets in the American food market in London. 3) Being aware of coffee grounds’ alternative use [vegan cosmetics] ... that probably shows my chemistry side [education]. 4) Seeing UNICEF’s 360-degree video as a new donation method – applied through the Interaction Design [course] module. 5) Having thought of a jewellery design business while doing a jewellery and silversmithing degree course. 6) Noticing the need for cycling accessories. 7) Seeing Fintech’s shift from the USA to the UK. 1.1) To sell healthy and delicious juice. 1.2) To have own café and so support care-leavers [as employees]. 1.3) To sell guilt-free, cruelty-free, gender-neutral natural vegan cosmetics. 1.4) To create in-game donation impact. 1.5) To create my jewellery brand. 1.6) To create an online cycle marketplace. 1.7) To open the accessibility of the mass market to wealth managers.
	Entrepreneurial intention: self-determined career	Desire to start a business Employment uncertainty	1) Wanting to become my own boss. 2) Wanting to sell my own made things. 3) Having a desire to become an entrepreneur. 4) Wanting to create own organisation rather than working for others. 5) Having a desire to start an online business. 6) Setting up a business as a means to start a business. 7) Having low income from current employment. 8) Finding graduate jobs is difficult. 9) Experiencing a lack of autonomy and creativity in the current employment.

		Changes in perception (time lags)	10) Having planted the idea in my head for 6 or 7 years. 11) Having this idea since 2014 while making virtual surgery. 12) Having this idea at least 3 or 4 years ago while doing a jewellery foundation degree. 13) Thinking of the idea for more than one and a half years. 14) Coming up with the idea 6 months ago. 15) Having this idea from February 2016. 16) Having this idea last year, but mostly at the beginning of this year. 17) Trying hundreds of methods over the past 6-months.
Transformation of venture ideas as opportunity artifacts	Idea attachment	Persistence or perseverance	1) No intention of giving up. 2) Not considering failure as an option.
		Connectedness	3) Idea is like my baby. 4) Making an idea work rather than abandoning it. 5) Not expecting any major change.
		Dedication	6) Working 24/7 to make the idea work.
		Sacrifice	7) Declining an attractive job offer. 8) Living in a foreign country over the home country. 9) Quitting job, spending time and money.
		Insecure: protectiveness & avoidance	10) Disclosing ideas will expose us to some kind of danger. 11) Keeping ideas to myself. 12) Thinking of hiding ideas... 13) Trying to be very insular with my idea.
	Orientations	Secure: openness	14) Being encouraged to talk to random people.
		Reliance on personal networks	1) Chatting and sharing information with old employers and friends. 2) Sharing ideas with family members. 3) Talking to industry professionals whom I work with. 4) Talking to peers. 5) Discussing the idea with tutors.
		Reliance on business support organisations	6) Being approached by Active Capital. 7) Contacting Accelerator for support. 8) Participating in a competition for Innovate UK. 9) Applying the Launchpad programme for expert help. 10) Seeking support from solicitors.
	Reliance on social networks	Reliance on broader public networks	11) Communicating ideas to potential customers, suppliers, competitors, mentors, and general people.
		Encouragement of personal networks	1) Being encouraged by peers, family members, and tutors.
		Advice & feedback through business support organisation	2) Being advised to work on ideas and see what happens. 3) Getting good feedback. 4) Seeing their interest in our ideas.
	Social inputs	Related information from the broader public network	5) Creating new customer segments. 6) Identifying new product features, shelf-life, and substitute products. 7) Identifying new revenue streams. 8) Confirming market/customer problems.

Table 1 From first-order coding to basic themes to organising themes to main themes

4.0 The case study of London Metropolitan University's pre-incubator

Accelerator is the business incubator of London Metropolitan University, located in Shoreditch, London. Founded in 2005, the incubator aims to support the growth of digital technology start-ups through its physical infrastructures (i.e., subsidised flexible office spaces and shared resources), business support services (i.e., mentoring, marketing, recruiting, legal

advice, patent support, and so on) and network provisions (i.e., connecting with the ecology of start-ups both inside and outside of incubator). In 2009, the incubator extended its support to the creation of new ventures for its sponsored university's graduates and students under the name 'Student Enterprise'. Extant literature refers to this new form of organisation as a pre-incubator (Wirsing et al., 2002; Jansen et al. 2015), idea hatcher (Bergek and Norman, 2008), or early-phase venture creation support system (Nair et. al., 2022). Both forms of organisation are managed by a director, a student enterprise manager and a creative enterprise manager.

In 2016, incubator managers screened 73 applications, 13 of which were selected for their business start-up programme. Among selected ideas, eight finalist ideas progressed from the idea competition event. Based on lean start-up methodology (Ries, 2011), the business start-up programme was organised in three primary planned activities. First, participants turned their ideas into testable assumptions or conjectures and mapped them onto the specific blocks of the business model canvas (i.e., value propositions, customer segments, revenue streams). Second, they tested their assumptions with potential customers by using the following techniques: interviews, surveys, sales, and digital advertising. Every fortnight, they discussed with a panel of managers, mentors, and fellow participants how they tested their assumptions, their findings, and the further courses of action. Such an approach keeps successive courses of action consensual and sequential. During the process, two lead participants withdrew themselves due to a disagreement with managers and personal reasons, and one lead participant pivoted his original idea to a new one.

Finally, on the final day of the programme, ten lead participants pitched their ideas as viable opportunities to a panel of evaluators: incubator managers and start-up founders. The panel accepted six ideas and granted them access to free incubation support services (e.g., physical infrastructures, business support services and network provisions) for the creation of new ventures. The unsuccessful participants continued to pursue their ideas without the pre-incubator's support. They achieved **one or more of the following milestones: legal registration of business, raised investments, or first sale of products or services**. No individuals abandoned their venture ideas as an outcome of the business start-up programme. Their decision to continue their ideas shows their confidence in their idea (Dimov, 2011). In other words, their evolving judgement is consistent with ideas. Thus the emergence of venture opportunity becomes the definitive outcome of the programme.

This case study investigated neither the process of the business start-up programme nor its merit on opportunity validation, but the process by which participants generated and refined ideas to establish venture opportunities. The study gives rise to two main themes that explain the process of opportunity emergence: 1) the conceptualisation of venture ideas, and 2) the transformation of opportunity artifacts. The next section presents these findings:

4.1 Conceptualisation of venture ideas

Venture ideas emerge from ideas in the mind of participants. Participants come up with their ideas in two different processes. Some participants described them as experiential problems while others, perceived gaps. The following sections present the findings of how ideas were formed and then conceptualised as venture ideas.

4.1.1 Formation of ideas through experiential problems

Almost half of the participants experienced discomforts or difficulties while performing regular tasks (i.e., arranging music events, betting for sports, studying a dental course, organising political events, queuing in bars and clubs, and searching for alternative therapy) as part of their hobbies or occupations. Their expressions '*we're suffering...*', '*I managed to find gigs...*',

'I find it difficult...', and '...the element of frustration which I'm not happy about...' signify negative rousing affect aroused from performed tasks. I refer participants' discomforts or difficulties to *experiential problems* that they encounter through first-hand completed actions. Participants perceived their experiential problems not only as their problems but as the problems of their social/reference group who perform similar tasks in similar situations or task environments. Thus, they became aware of *unmet needs* in a broader context, *projected goals* of desired solutions and *formed ideas* of product or service ideas as a means to achieve their goals. Participant A below explains this:

Let me tell you where my idea is coming from, at least from my side. Alessandro will tell you another side, but I can tell you mine. So, when I was 18, I just finished high school, and I had a band in Italy. We decided that we wanted to try and play around. **Myspace** was still bigger at that time. So, **I managed to find the band** that had around the same place as we had, the same views, yeah, as us, in Amsterdam. So, I talked to them and say, "Hey guys if we rent a band, can you find us a couple of gigs in the Netherlands?" So, they actually found us a couple of gigs in the Netherlands. So, we rented a band, went up there, and then did a couple of gigs. [sic]

...So, I've done this tour, yeah! from Italy. **I managed to book two gigs** in the Netherlands. **Nobody, without promoters or agency, manage to find gigs outside their own countries.** So, that is something very surprising to musicians. That's where the idea comes from. [sic]

Participant A above describes how his experience of arranging and performing live music led him to become aware of unmet musician need at the age of 18. His expressions, '*I managed to find the band...*', and '*I managed to book two gigs*', highlight inconveniences in arranging live music. He further relates his experiential problems to his reference group (i.e., musicians) by saying: '*Nobody, without promoters or agencies, manage to find gigs outside of their own countries. So, that is something very surprising to musicians.*'

4.1.2 Formation of ideas through perceived gaps

The other participants perceived a gap for known products and services in social trends of which they are part. Trends include the rise of a particular ethnic demography, lifestyle and market growth. The gap for new products or services is perceived when those trends are related to their personal contexts: culture, market, or specialist education. Participants borrowed the idea of successful products or services from their personal context and speculated their applicability to the trends. Thus, they became *aware of potential products or services*, *projected goals* as possible applications and *formed ideas* as means to achieve goals. Since the demand or the relevance of products or services is mere speculation, I refer them to as *perceived gaps*. Participant N below describe a perceived gap:

My business idea umm... so, we have pies – American-influenced dessert and pies. **We are two Americans living in London**, and we are kind of seeing that there is a rising, like, American food scene as well as other cultures and backgrounds you know this is like Malcolm Roberts – everything comes to life. And also, there is an **increase in American food cultures that's been growing in the last couple of years**. There is **one thing missing from the American market** and that was **our version of sweets, desserts, and pies which we consider a staple**. Umm so... pie is a staple in America, yeah. As any... any like dinner that serves dinners always, always pie served, it's a summer tradition, holiday tradition, that's sort of thing. So that's where we... that's where we started and that's like what we are doing right now. So that's where we... that's where we started and that's like what we're doing right now, we have long-term goals and assumptions about our own cafe so it will become like pie and coffee cafe but working with like young people from the community hopefully care leavers to help

them with their employability training, umm...through like baking and working in the cafe and helping them to secure future. That's where we would like to go with this. [sic]

Participant N above presents herself as an American expat residing in London. Here, she establishes the USA as her reference country and the UK (London) as her adoptive country. Her cross-cultural awareness is triggered by the rising trends of food culture, especially American. Having the reference country's (America) cultural knowledge, N can make comparison with her adoptive country's (London) food market and find a gap for the known product. This comparability is reflected through her statement: '*There is one thing missing in the American market that is our version of sweets, pies and desserts*'. Her expression: '*our version of sweets, pies and desserts*' signifies her dominant American food-culture knowledge.

4.1.3 Entrepreneurial intention

Participants demonstrated a strong intention to start business ventures. Their intention was driven by the choice of a self-determined career, and the choice was influenced by personal circumstances: low income, the lack of autonomy and creativity in their current jobs, or job search difficulties. Personal circumstances arose at a particular point in time – a time of graduation when one seeks graduate employment. Participants' intention to start their businesses is captured in their expressions: '*...to become own boss...*', '*...to be an entrepreneur...*' I refer this to as *entrepreneurial intention* where individuals desire to start new ventures to fulfil their personal goals, i.e., satisfying work. Participant N below describes this:

Yeah! That's been like Whitney... Whitney and I..., we are just... **we want to be in charge of our own lives really**. So, after the time you just kind of go along with this thing because **it's just what we kind of programme to do**. Umm ... and there is nothing wrong with that I just go to the point where I was like **sick of feeling like I wasn't the one in control of my life**, so I've done something. Whitney's done something to take that stuff, to **become our own boss, do something for ourselves** and this is it... [sic]

Participant N above reveals her need for an autonomous life. She perceives a self-determined career as a means to regain ownership of her life. This desire leads her to contemplate having her own business as the result of her self-determined career choice.

Conceptualisation of ideas as venture ideas. When participants experienced problems or perceived gaps, they did not have immediate entrepreneurial intention. Their accounts reveal a time lag between the formation of ideas and the formation of intention (Figure 2). Though ideas were formed in the distant or immediate past, the intention was formed at the time of graduation. These two independent occurrences at different points in time were contingent upon the situations and personal circumstances.

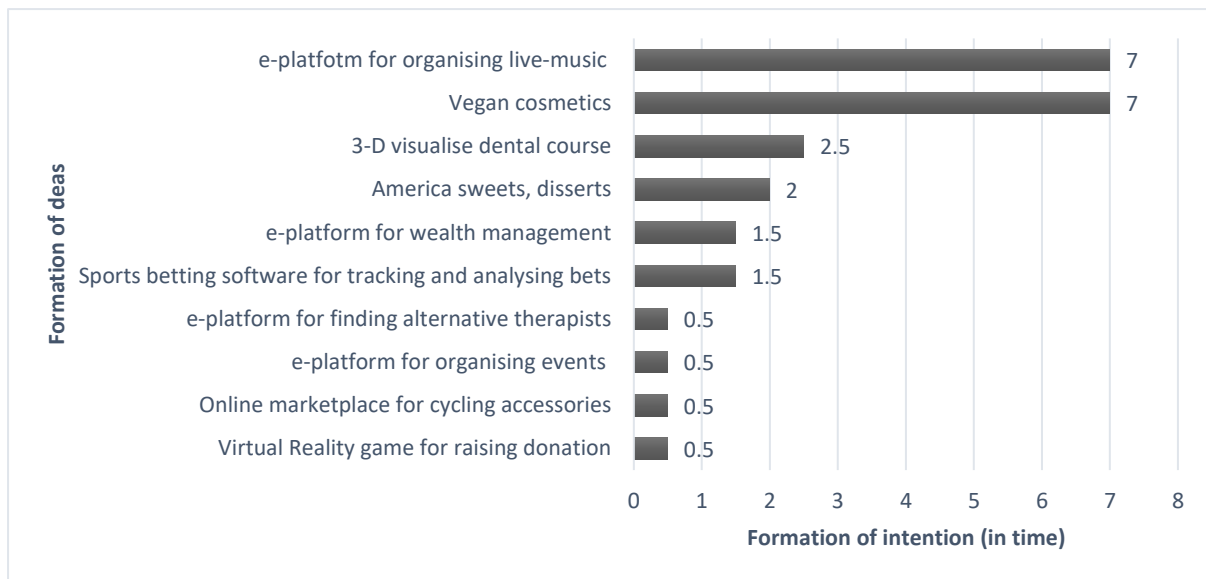


Figure 3 Time lags between the formation of ideas and the formation of intention

The time lag shows when participants had the intention to start ventures, they did not form new ideas but conceptualised previously formed ideas as venture ideas. Their ideas represented both economic and non-economic values (i.e., needs, wants, values, and lifestyles). Such change in perception from meaningful ideas to venture ideas shows an interplay between the cognition and intention of participants. Participant A below explains this:

I really didn't have the platform going app [sic]. That is the main idea. **In the beginning, when I was 18, I didn't care about making money.** I didn't have that platform, and I wanted to have it. So that is the main idea. It is a boo that's not out there, and people [musicians] need it. [sic]

Participant A above reveals his prior perception of his current venture idea – an online platform for arranging live music. Almost seven years ago (from the date of the interview), he did not consider it as an idea for starting a business venture. His expression clarifies this: *'...when I was 18, I didn't care about money.'* His desire to create a live-music arrangement platform for musicians signifies his passion for live music. At the age of 18, he perceived the idea of a platform as a desired solution to his experiential problem rather than a commercial product. At the time of the interview, participant A was 25 years old. The longevity of his situational awareness shows he did not previously consider starting his own business. During his mind-mapping (another data collection method), A reveals the change in his perception:

London's start-up scene made me go back to my initial idea.

Participant A has now realised his idea's commercial viability based on the start-up scenario in London. Since he has developed an intention to start a business venture, London has become an attractive place for doing business. This is a retrospective effect on his perception. This pattern is noticeable in the majority of participants.

The above findings reveal a process by which participants conceptualise venture ideas. The process shows ideas were formed by consciousness (meaningful experiences) and then conceptualised as venture ideas when relationality combines intention with meaningful ideas.

4.2 Transformation of venture ideas as opportunity artifacts

Once conceptualised venture ideas, participants relied on various social networks to clarify their ideas. Idea clarification involves discussing, verifying, refining and shaping ideas. Through the process of clarification, ideas attain characters of artifacts or objects in the form of belief reinforcement and social acceptance. In other words, ideas become artifacts that relate participants to their respective external environment. Below, I present the findings.

4.2.1 Consensus building through reliance on personal networks

Reliance on personal networks. At first, participants turned to family members, friends, tutors, employers, and colleagues to discuss their ideas of solving experienced problems or filling up perceived gaps. These are people with whom participants had strong informal social ties. Because of the strength of the tie, I refer them to *personal networks*. Reliance on personal networks emerged as the first social source across the data set.

Insecure attachment: protectiveness and avoidance. Data further reveal participants relied on personal networks not just to discuss their ideas, but to minimise their (ideas) exposure to outsiders. No individual participant discussed their ideas beyond their personal ties at this stage. Such behaviour signifies a bond or an attachment to an idea that is oriented towards a protective and avoidance attitude. I refer to this orientation as an *insecure attachment* where an individual is concerned about protecting his or her ideas regardless of their proven commercial potential. The influence of insecure attachment on personal network reliance is consistent across data sets. Below, Participant S illustrates this:

Yeah, we recognise that **we don't let anyone get this idea, we realise it was such a good idea**. So, we just thought we gotta be protective about it. So, we only meant to like **very, very close persons such as my family** one each of us.... [sic]

Participant S above explains the rationale for concealing his opportunity idea from outsiders. Because of its perceived value, he views outsiders as a potential threat. His protective attitude over the opportunity idea signifies an attachment oriented to an insecure state. Family members are viewed as a trustable source for idea clarification as well as protection. The expression: 'very, very close person, such as my family...' implies strong informal social ties.

Encouragement as social input. Participants reported their personal networks encouraged them to act on ideas. However, no individual participant reported discouragement from their networks. This one-sided favourable input led me to investigate the nature of the relationship participants had with their personal networks. The pattern revealed they unwittingly relied on like-minded people – people who shared similar opinions or beliefs – within their networks. This naturally resulted in sheer encouragement. Just encouragement from personal networks shows a higher level of consensus or approval on ideas – a character of objectivity. The character of objectivity in the sense that consensus or approval expresses a micro-social acceptance of ideas. Thus, ideas begin to emerge as artifacts. This theme is heavily dominant across the data set. Participant A below explains this:

All of my friends are musicians. So, I simply talked to them; I told them what I did, and **they replied to me why didn't I do it**. So, 2+2 was like wow you didn't do, it because there is not a platform that allows you to do that. So, let's just make a platform. [sic]

Participant A turns to musician friends to clarify his thoughts on his experienced problem (the content of his idea). His expression '2+2' implies that friends' feedback confirms his assumptions. In this excerpt, participant A demonstrates how his peer group's

encouragement reinforces his existing opportunity ideas (i.e., introducing a gig organising platform as a solution to the problem). As a musician, A's reliance on musician friends only produces reconfirmation and encouragement. Surprisingly, like Participant A, the rest of the other participants did not report any discouragement from their peer groups.

In summary, personal network reliance is driven by the necessity to safely clarify ideas. This process resulted in consensus among personal network members.

4.2.2 Establishing veracity of ideas through the reliance on business support organisations

Reliance on business support organisation. Subsequent to personal network reliance, participants extended their reliance primarily on university-sponsored pre-incubator. This extended reliance was enticed by the pre-incubator's free offer to develop ideas into viable ventures through their prized idea competition event and business start-up programme. Prior to pre-incubator reliance, three participants sought support from other institutional stakeholders (i.e., law firms and venture capital firms). Unlike personal networks, the nature of relationships is weak yet formal social ties (expert-client) because of less frequent contact. I refer these networks of organisations to *business support organisations*. Participants perceived them as experts because of their speciality in converting ideas into ventures. The reliance on institutional stakeholders immediately after the personal networks makes it the second social source. This theme is recurrent and widespread across the data set. Below, I present Participant S's interview excerpt as representative of others to illustrate this:

S: I mean the actual idea stays the same itself, the concept remains the same. So, it hasn't really changed, we just need to... we started approaching business development one way. The process we need to do: we need to register; we need to do all the legal things first. Umm... and then reached a point, we realised that there are other factors we need to do. We realise that we notice this gap, so bit of information we needed to help our business up. Then we started to look for business help. So, **we contacted a few organisations one is called Business Support Help Line and another one is called... Spark. Then we joined other business for business advice and then this one is the best organisation to help us.** [sic]

Interviewer (me): You mean Accelerator?

S: Yeah!

Participant S above clarifies that he relies on a business support organisation for business advice. Here, he depicts these business support organisations as business development experts. The need for operationalising his idea drives him to seek support from the pre-incubator. His way of constructing an explanation suggests the business support organisation as a second information source.

Positive advice and feedback as social inputs. At the early stage of pre-incubator reliance, participants viewed their successful placement at the business start-up programme (selection success), favourable advice from managers, and positive feedback from idea competition as key inputs to their ideas. They were exposed to these positive inputs when they made the first contact with pre-incubator managers for advice, participated in their idea competition event, and went through their start-up programme's selection process. These inputs express an ongoing social acceptance of ideas – a character of objectivity. Thus, ideas start functioning as artifacts.

However, not all participants equally reported all these inputs. Some participants highlighted their successful placement, others positive advice and/or feedback. These

variations show participants' unwitting selectivity in the acquisition and interpretation of input that is consistent with their ideas. Such favourable interpretation was partially contributed by the pre-incubator's selection, advice and facilitate-networking. Interpreting the pre-incubator's input favourably is dominant across the data set. Below, I present Participant A's interview excerpt as representative of others to illustrate this:

I think even before that. Becoming an industry standard is gonna take some time. Well, already... **getting accepted at Accelerator [pre-incubator] for me is a good sign and good feedback.** Because this idea is actually interesting because some other people are interested. Emm ... [sic] (Participant A)

Ahh... definitely participants because the thing is you can shape a bad idea. If the participant though or the team doesn't have the ..., ..., or the passion you can't do anything with that. I mean that's if you ask anybody ... in this space [incubator] you know **they will always invest in a quality team with a bad idea ahead of the killer idea with a bad team. Yup, it's all about people.** [sic] (Incubator manager)

Participant A above interprets the pre-incubator's acceptance as a good validation of his opportunity idea. Securing a place at the pre-incubator is perceived as a 'good sign', or 'good feedback' on an idea. However, the incubator manager's interview excerpt shows he interpreted selection success in favour of quality participants over ideas. Participant A's interpretation only leads to the confirmation of pre-existing beliefs on opportunity ideas. Such biased interpretation is influenced by the outcome of selection – low acceptance accompanying higher rejection.

4.2.3 Confirming and extending ideas through the reliance on broader public networks

Reliance on broader public networks. Upon joining the pre-incubator's business start-up programme, managers guided participants to test and validate their ideas with potential customers, suppliers, entrepreneurs, and competitors. The reliance on this new group of people was a further extension of current networks, mediated by incubator managers. Participants had no social ties with these new networks of people. I refer to them as broader public networks. Because of the consistency of reliance immediately after pre-incubators, broader public networks emerge as a third social source.

Secure attachment: openness. Despite having no social ties, participants perceived this newly extended group as critical informants whom they previously avoided interacting with. Such behaviour signifies a secure attachment that is oriented towards openness as opposed to avoidance and protectiveness. I refer to *secure attachment* as an attachment orientation where individuals are no longer concerned with protecting their ideas beyond their social networks. Pre-incubator managers play a crucial role in facilitating participants' reliance on public networks. Not only do they act as moderators in changing participants' attachment orientation, but they also act as mediators in guiding participants' reliance on broader public networks. This pattern is observable across the data set. Below, I present Participant D's interview excerpt as a representative to illustrate this:

Interviewer: Yea, so when did you overcome your protectiveness over your idea?

D: Last week probably

Interviewer: After coming to the incubator?

D: Yeah, as an...I'm still working on it umm... still working on it. Umm...**I mean this sort of ...kind of coming out a bit more.** Umm... I've done some interviews like yesterday. **I was talking to strangers for the first time.** Umm... yeah that was...that

was fine actually umm...**I don't know why I was so worried about it.** Let's see how that goes as well. [sic]

Participant D describes the changes in his protectiveness over his opportunity idea. His behavioural transition from protectiveness to openness is reflected through his expressions: *'I'm working on it...'*, *'...coming out a bit more...'*, and *'I was talking to strangers for the first time'*. These expressions also show a gradual transition from insecure to secure attachment. Furthermore, his expression: *'I don't know why I was so worried about it'* implies that his earlier protectiveness over his idea was a natural instinct. At the beginning of the business start-up programme, I encountered Participant D's protective attitude. He explicitly refused to participate in my study, saying: *'I am not sure whether it is appropriate to share my idea with you'*. However, as the incubator programme progressed, he participated in our research.

Related information as social inputs. Every fortnight of the business start-up programme, participants presented their market research to the panel of pre-incubator managers, mentors, and fellow participants. The action plans for the following week were based on the findings of the preceding week. **This search pattern is sequential/linear, dependent on the outcome of the immediate prior search.** However, I noted their fortnightly market research findings as well as their final pitch consistently supported their assumptions. The lack of contradictory results led me to investigate the way assumptions were formulated, verified and findings were presented. The pattern shows participants formatted their assumptions to confirm their assumptions, not to refute them. Such confirmatory search is influenced by selective search and favourable interpretation. This theme is heavily dominant across the data set, except for one who wanted to refute the assumption instead. Below I present Participant A's weekly report presentation excerpts to support this:

Assumptions: People are willing to pay to use our app

Experiments: We've asked bands who were interested [in using our app]

Findings: We've found that they are willing to pay up to 5%

The above excerpts show how Participant A conducts his market research. He assumes music bands, who are willing to use their app, are also willing to pay for it. Such an assumption leads him to interview those who are already interested in using the service. This positive verification of the idea would be different if the participant searched for those who may be willing to use the app but do not want to pay for it.

During the market research, participants' interaction with market actors helped them construct new customer segments, product features, production cost, product shelf-life, market demand and revenue stream. The new information complemented the content of current ideas. As a result, ideas were further extended or augmented same as artifact refinements. Below, I present Participant H's panel discussion excerpt to illustrate this:

H: Recently, we took 52 bottles at a festival, and we sold 51 bottles. We also discovered that smoothies made from the baobab base are much cheaper than the orange base. So, we can save approximately sold 30%. One of the chain retail stores was interested to sell their baobab smoothies so they asked for 12 bottles of smoothies each week.

Panel: How have you tested your idea? Have you adjusted your product based on the feedback?

H: We remove the honey content from the product based on customer feedback.

Panel: What is the shelf-life of the product?

H: One month. We use cold-water pressure (HPP) instead of pasteurisation to extend the life shelf of the product.

The above excerpt shows Participant H's idea is augmented because of the complementary new knowledge i.e., the lower production cost of the baobab base, product shelf-life, and adjustment of product features by removing honey content.

The above findings show participants' reliance on social networks from strong ties through weak ties to absent ties is sequential and intermittent. Their reliance exposes them to positive social inputs (i.e., encouragement, positive feedback and opportunity-related information) that reinforce and extend existing ideas. Collectively, these social inputs express an ongoing social acceptance of ideas from the micro-level to the macro-level. These are characters of an object or artifact. In this light, an opportunity emerges as an artifact from a venture idea as it becomes modified and shaped.

4.2.4 Idea attachment

Apart from insecure and secure attachment orientations, all participants demonstrated a strong attachment to their ideas. Their attachment to ideas became an emergent pattern when their behaviour revealed their persistence, devotion, and connectedness to their ideas. I refer this to as *idea attachment* where individuals identify themselves with their ideas. This theme corroborates my field observation notes. Participant B below explains this:

To be honest, **I really don't want to change my idea, I just want to make it work. I want to build the product.** Like the best-case scenario, **it's not to change the idea** which means we were right from the beginning, but that doesn't mean that I am not flexible if I see that my idea is not right. **I am not gonna change it.** Of course, I am gonna change it, but before answering that question, I have to see whether my idea can be validated. If validate my idea successfully... our idea successfully, I am just gonna proceed to execution. **I don't expect to change the idea**, although I am to change it if I see better opportunities. [sic]

Participant B demonstrates his close connectedness with his idea. He reveals his connectedness in response to the query of abandoning his idea at the end of the business start-up programme. His expressions: '*I don't want to change my idea...*' '*I want to make it work...*' signifies his strong connectedness with his idea.

During the reliance on the pre-incubator and subsequent reliance on market actors, participants were willing to refine a specific aspect of their ideas. Some participants were flexible to change customer segments (buyers or users) whereas others were willing to change their products or service offerings. Such preference reveals the aspects of the idea (i.e., customer segments or products/services) to which participants have an attachment. Participants who experienced problems were less willing to change their target customers, but they preferred to adjust the features of the product or service. In contrast, participants who perceived gaps were reluctant to give up their product or service ideas, but they explored them with different customer segments. Below Participant N and V's interview excerpts present such comparative attachment:

Yeah, the idea comes up with snowball effects. So, the might get bigger or it might go down a certain part to get there, but the general core is still there, and **that is about increasing efficiency, I think in bars, increasing the customer experiences.** (Participant N)

Umm... yeah certainly! I mean details I have to change, I guess. After talking to charities, **I still have a lot of things to discuss with them: the user groups and buyers. And of course, it will change I don't ...the core idea is very strong, and it's just aspects of it I need to change.** (Participant V)

The above excerpts show Participant N focuses on his target customers helping them achieve efficiency whereas Participant V is flexible to changing target customers.

5.0 Discussion

5.1 A model of nascent entrepreneurs' venture opportunity emergence process

The above finding shows the process of venture opportunity emergence from the conceptualisation of venture ideas to the transformation of opportunity artifacts. The process captures **the complex socially mediated and moderated interplay** between cognition, motivation (intention and attachment), and behaviour of nascent entrepreneurs. In this section, I propose an integrative theoretical model to reveal the process of venture opportunity emergence (Figure 3). Below, I discuss the model under these three components to explain their role in driving the process.

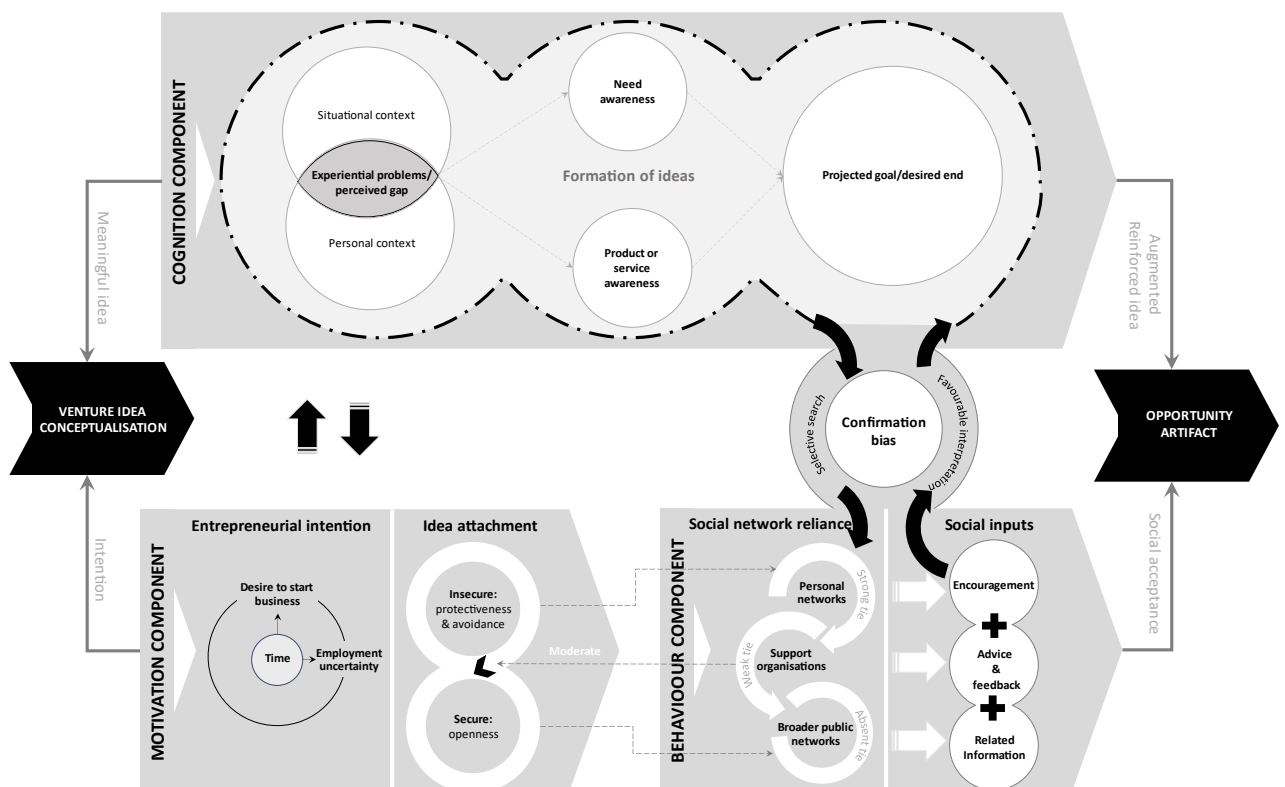


Figure 4 A model of nascent entrepreneurs' venture opportunity emergence process

5.1.1 Cognition

My finding shows participants formed their ideas as a result of their experiential problems or perceived gap. A problem or gap (also called felt uneasiness) as a source of an idea is consistent with extant literature (Autio et al., 2013; Packard et al., 2021). However, the finding further reveals both experiential problems and perceived gaps are meaningful to participants because these provide insight into the unmet needs of their reference groups or the potential product/services. Extant literature refers to unmet needs (also called market pull) and potential products or services (also called resource push) as the triggers of demand-side and supply-side idea generation, respectively (Dimov, 2007a; Vogel, 2016).

Our understanding of how an individual is aware of a particular trigger (market pull or resource push) is limited. The prior study suggests a desire to start a business venture may lead to such a trigger (Vogel, 2016). Contradicting with the prior study, my analysis shows

participants' became aware of unmet needs or products/services when their experienced problems or perceived gaps arose at the intersection of encountered situations (i.e., task environment or social trends) and their personal contexts (i.e., reference groups, culture, lifestyle, work and education). This finding supports the notion that idea is relationally constituted (Fletcher, 2006). Consistent with person-situation learning match (Dimov, 2007b), the relatedness enables participants to apply their context-specific knowledge to their encountered situations. For example, having experienced difficulty in arranging a live-music event in a foreign country (situational context), a musician became aware of the problem of other musicians of his category (personal context).

Using problem and gap interchangeably, scholars have focused on the study of problem-finding (Hsieh, Nickerson and Zenger, 2007), problem-designing (Bianchi and Verganti, 2021) and problem-solving (von Hippel and von Krogh; 2016; Weinberger et al. 2018). Such focus has overshadowed how problem or gap embodies the mind of individuals. My finding shows participants are not detached from problems or gaps. They are part of the problems or gaps from which they construct the content of ideas: potential customers, their needs, possible products or services as **solutions**, and goals as **proposed values** to the solution. The content of an idea is the content of belief, called propositional content (Dimov, 2021). Problem or gap functions as the dimension of the mental representation of participants. This supports the notion of a problem as an alternative mental representation (Csaszar and Levinthal, 2016), a cognitive scaffold (Berglund et. al. 2020) by which an individual forms belief and desire about her idea – a propositional content (Dimov, 2021).

The significance of the finding is that it explains the way individuals generate the content of ideas (future customers, their needs or potential products/services, and desired ends) without recognising them as the content of venture ideas. The implication of the finding is that not all experiential problems or gaps may not be translated into meaningful ideas unless individuals find their relatedness between their personal contexts and their external environment. The finding of relatedness suggests individuals may come up with ideas in a heterogeneous way. This may have further implications for entrepreneurship practitioners (e.g., business incubator managers) of organisation support systems that help the would-be entrepreneur to generate ideas through a problem-solution approach. Therefore, the formation of an idea is contingent upon a person-situation relational match.

5.1.2 Motivation: Intention

Participant's experiential problems or perceived gaps did not lead them to have a desire for starting a venture nor their desire led them to experience the problems or perceive the gaps. My finding shows their desire intention (i.e., business ownership) is driven by their choice of self-determined career. This finding is consistent with prior studies that have shown self-determined career choice – perceived desirability – is one of the antecedents of entrepreneurial intention (Fitzsimmons and Douglas, et al. 2021; Kruger et al. 2000; Segal, Borgia and Schoenfield, 2005). However, the intention to start a venture crops up at the time of graduation – a particular point in time – when personal circumstances (i.e., low income, lack of autonomy and creativity, and difficulty finding graduate employment) drive the choice of a self-determined career. Consistent with the push theory of entrepreneurial motivation (Gilad and Levine, 1986), circumstance-driven intention shed light on a point in time that prior studies overlooked.

Time lags analysis shows intention did not lead participants to form or search for new ideas but to conceptualise previously formed non-economic ideas as potential venture ideas. In other words, it retrospectively set the directness towards meaningful ideas. In the absence of

intentionality, an idea would remain stored just as a non-economic arm-chair idea in the stream of participants' consciousness. Similarly, without an idea, an intention is merely a desire; it has no goal to direct experience and action (Bird, 1988). While cognition holds the content of a lacklustre idea, intention provides motion or purpose (i.e., an economic prospect) to that idea. The interplay between cognition and intention shows the conceptualisation of venture ideas. The term conceptualisation refers to what an individual aims to do with an idea – that is to start a new venture. It is, in fact, a goal intention (McMullen and Dimov, 2013) or opportunity intention (Dimov, 2007a) that combines desire intention (i.e., business ownership) with an idea or propositional content (i.e., satisfying unmet need or gap) (Dimov, 2021).

My analysis reveals what initiates the interaction between cognition and intention is relatedness. Participants are related to their ideas in the following manners – (1) ideas represent solutions to problems of their reference groups or social environment, (2) ideas represent their values, wants or lifestyles, and (3) ideas function as means to pursue self-determined careers. These factors make their ideas meaningful and thereby personal to them. As a consequence, participants intended to act on those meaningful ideas. Such venture ideas resemble McMullen and Shepherd's (2006) first-person ideas, but the distinction is that these are yet to be judged or evaluated (Dimov, 2021). My finding shows venture ideas emerge **relationally** by the interplay between cognition and intention. Intention specific to ideas adds further meaning – that is, **an opportunity to pursue goals** (i.e., personal causes or values) through the means of new business ventures. The implication of my finding is that first-time nascent entrepreneur, as they lack a mental image of opportunity, may not be able to conceptualise (non-economic) ideas as (economic) venture ideas in the absence of relationality. In other, they may not know what to do with the idea.

5.1.3 Behaviour

Once participants conceptualised their venture ideas, they relied sequentially on social networks to clarify their ideas. Clarification involves discussing, refining and developing ideas. First, they discussed their ideas with personal networks (friends, family members, tutors, colleagues, and employers) with whom they had strong informal ties. Then driven by the need for developing ideas and enticed by the free venture creation support, they extended their reliance to business support organisations (mainly university pre-incubator) with whom they had weak yet formal ties (i.e., expert-client relationships). Finally, to refine and verify ideas, they extended their reliance on broader public networks with whom they had absent ties. Reliance on second social networks supports the notion of trust that the early phase entrepreneur place on organisation support systems (Nair et al. 2022).

The reliance on social networks is an important behavioural component (Baron, 2007). Participants' sequential reliance on strong social ties through weak ties to absent ties shows the importance of social relationships and the role of the pre-incubator as a critical social mediator in facilitating the transition to absent ties. This finding is revelatory. It advances prior studies by revealing the sequence of behaviour through which individuals externalise their ideas beyond their personal ties (Bird, 1988; Wood et al., 2021). The finding is significant for two reasons. First, it shows nascent entrepreneurs' natural tendency to rely on strong ties. The other shows the mediator role of a pre-incubator that connects nascent entrepreneurs to absent ties. The implication of the finding is that nascent entrepreneurs may not externalise their ideas beyond personal ties without the intervention of a mediator (i.e., a pre-incubator).

The reliance on social networks resulted in social inputs: encouragement, positive advice and feedback (selection success, advice, and public interest), and opportunity-related information. While encouragement, advice and positive feedback are consistent with emotional

support, opportunity-related information is in line with instrumental support (Klyver, Honig and Steffens, 2018). Emotional support helps entrepreneurs adapt to the early phase of their venture emergence when its predictability and controllability are uncertain (Sarasvathy, 2021). On the other hand, instrumental support helps entrepreneurs to integrate new information into the current idea (McMullen and Dimov, 2013) at the late phase of venture emergence when its predictability is high, but control over the relationship with actors is low (Sarasvathy, 2021). Prior studies heavily emphasised instrumental support (Baron, 2007; Ozgen and Baron, 2007; Ramos-Rodriguez et al. 2010; Song et al. 2017) while overlooking the importance and relevance of emotional support. My finding shows both emotional support and instrumental support are equally important, and their perceived values are determined by the nature of social relationships. The sequence of support reconciles prior studies (Klyver et al. 2018; Sarasvathy, 2021) by showing their consistency with the aspect of uncertainty: predictability and controllability.

Social inputs finding is significant because they express ongoing social acceptance. Social network reliance and social inputs allow an iterative process of idea refinement and adjustment in response to new information. Such a process is consistent with artifact-centred design (Packard et al., 2021).

5.1.4 Motivation: Attachment

Participants' sequential reliance on social networks is regulated by and moderates their idea attachment orientations. They relied on personal networks not just to discuss their ideas but to protect them from outsiders. Such reliance is driven by a protective and avoidance attitude – an insecure attachment orientation. However, their insecure attachment gradually shifted to a secure attachment as they relied on a broader public network through the pre-incubator's business start-up programme. The existence of both secure and insecure attachment orientations of nascent entrepreneurs and the role of the pre-incubator as a moderator of attachment orientations not only extends the study of entrepreneurial bonding (Lahti et al. 2019) but also the study of organisation support systems (Nair et al. 2022) by shedding light on the internal aspect of moderation that embody attachment. Pre-incubator as a moderator facilitates the interplay between the attachment (motivation component) and action (behaviour component) of nascent entrepreneurs. This explains the sequential reliance from strong ties to weak ties to absent ties. The implication of the finding is that an insecurely attached individual may not readily interact with external actors without the intervention of a moderator.

The finding of idea attachment reinforces when participants' behaviour further reveals their persistence, devotion, and connectedness to the aspect of their ideas: target customers or products/services. Participants, who came up with ideas through experienced problems, were flexible to refine their product features or even change recognised reference group needs without compromising their focus on reference groups as target customers. On the contrary, participants, who come up with ideas through perceived gaps, were flexible to changing their target customers instead of their product or service ideas. These two distinct preferences reveal the aspects (**target customers** or **product/services**) to which participants identify themselves. Such identification is determined by the way experiential problems or perceived gaps relate to their personal contexts or vice-versa. Attachment finding not only explains why entrepreneurs become attached to their venture ideas (Lahti et al. 2019) but also supports the notion of intra-action dynamics (Garud, 2021) where nascent entrepreneurs are willing to change their actions.

Prior studies studied attachment at the post-emergence of venture focusing on venture attachment (Cardon et al. 2005; Lahti et al. 2019), place attachment (Kibler et al. 2015), and general attachment (Zelekha et al. 2018). Attachment to the pre-emergence of the venture is

not evident in the extant literature. To my best knowledge, my finding reveals for the first time the existence of attachment and its influence on nascent entrepreneurs' behaviour during their venture idea refining stage. This is a new finding. The finding is significant for two reasons. Not only does it extend Bowlby's (1969) attachment theory to the study of entrepreneurial behaviour at the phase of opportunity emergence, but it also provides an alternative explanation of personality traits (protectiveness and open-mindedness) that are responsible for externalising ideas with social networks.

5.1.5 Confirmation bias

During social network reliance, participants unwittingly sought, interpreted, and were exposed to social inputs (i.e., encouragement, selection success, advice, feedback, and information) in preferential, sequential, and intermittent ways that not only reinforced their ideas but also extended them. Psychology literature refers to such unwitting selectivity in acquiring and using evidence as *confirmation bias* (Nickerson, 1998). My analysis shows confirmation bias is the result of the interplay between cognition, motivation and behaviour of participants, and the interplay is mediated and moderated through sequential and intermittent social networks reliance over time. This finding is consistent with psychology literature that shows sequential and intermittent exposure to information search increases stronger confirmation bias (Jonas et al., 2000; Nickerson, 1998).

Entrepreneurship scholars have contended consensus building (Wood and McKinley, 2010) and confirmation information (Shepherd et al. 2012) as objective outcomes of opportunity. They have viewed actions (such as choice of social networks reliance, search and exposure of social inputs and interpretation of them) behind those objective outcomes are purely rational or logic-driven. My finding shows when rational thoughts (i.e., cognition) and actions (i.e., behaviour) tangle with emotion (i.e., attachment), they produce similar objective outcomes (i.e., social acceptance, belief reinforcement). This finding advances prior studies that called for the investigation of hot cognition (i.e., the interaction of cognition and emotion/affect) (Shepherd, Williams and Patzelt, 2015) and hot action (affect-driven action) (Foo, 2011) to the emergence of opportunity.

In the field of entrepreneurship, confirmation bias is an unstudied phenomenon (Zhang and Cueto, 2017; Thomas, 2018). To date, entrepreneurship scholars have found that over-confidence bias, representativeness bias, and status quo bias affect opportunity recognition (Busenitz and Barney, 1997; Cassar and Craig, 2009; Dyer, Gregersen and Christensen, 2008). My finding illuminates the relevance of confirmation bias to the study of opportunity emergence. The implication of the finding is that confirmation bias may help sustain the emotional energy that an individual needs for continuing to act on their ideas at the nascent venturing stage.

6. Conclusion

This study advances our understanding of the venture opportunity emergence of first-time nascent entrepreneurs by answering the question of how they come up with ideas and how they clarify (refine and shape) their ideas as opportunities.

This study makes three distinct contributions to knowledge and practice. First, the process of opportunity emergence is non-linear which shows how individuals conceptualise venture ideas and then transform them into opportunity artifacts. This process is driven by the complex socially mediated and moderated interplay between cognition (idea or belief), motivation (desire, attachment) and behaviour (action). Hence, opportunity artifacts embody nascent entrepreneurs' cognition, motivation, and behaviour. Second, the process model zooms

in on Vogel's (2016) conceptual framework by revealing the internal mechanisms between venture idea generation and venture concept development. Third, the process model contributes to the implementation of design object knowledge introduced by Seckler and colleagues (2021). Using the knowledge of relationally constituted ideas, the support system can use Ven diagram to help nascent entrepreneurs to generate and clarify their ideas. Knowledge of confirmation bias unintentionally contributed by the support system can be used to manage the expectation of themselves and participants.

Although the findings of the study extend prior studies on first-time nascent entrepreneurs' opportunity recognition process, this study has its own limitations. I collected and analysed data of first-time nascent entrepreneurs who were being supported through the business start-up programme by a UK university-sponsored incubator. Therefore, I cannot claim that some of my findings (i.e., the sequence of social network reliance and moderation of attachment orientations) apply to other nascent entrepreneurs who were not supported through organization support systems (e.g., pre-incubator). However, the findings can be used for 'naturalistic generalisation,' whereby one recognises similarities between the findings of research and the induced theoretical model and that of other cases without making statistical inferences. Future studies could undertake a comparative case study of pre-incubator-supported and non-supported first-time nascent entrepreneurs. This could illuminate new insights into the process of opportunity emergence.

Reference

- Autio, E., Dahlander, L. and Frederiksen, L. (2013). Information exposure, opportunity evaluation, and entrepreneurial action: An investigation of an online user. *Academy of Management Journal*, 56(5), 1348-1371.
- Baron R. (2007). Behaviour and cognitive factors in entrepreneurship: Entrepreneurs as the active element in new venture creation. *Strategic Entrepreneurship Journal*, 1 (1/2), 167-182.
- Baron, R.A. and Ensley, M.D. (2006). Opportunity recognition as the detection of meaningful patterns: evidence from comparisons of novice and experienced entrepreneurs. *Management Science*, 52 (9), 1331-1344.
- Berger, P. and Luckmann, T. (1966). *The Social Construction of Reality*. New York: Penguin Books.
- Berglund (2015). Between cognition and discourse: Phenomenology and the study of entrepreneurship. *International Journal of Entrepreneurial Behaviour and Research*, 21(3), 472-488.
- Berglund, H. and Glaser, V. (2022). *The Artifacts of Entrepreneurial Practice*. In Thompson, N., Byrne, O., Teague, B., and Jenkins, A. (Eds.). *Research Handbook on Entrepreneurship as Practice*. pp. 168-186. Edgar Elgar, Cheltenham, UK.
- Berglund, H., Mansoori, M. and Bousfiha, Y. (2020). Opportunities as artifacts and entrepreneurship as design. *Academy of Management Review*, 45 (4), 825-846.
- Bianchi, M. and Verganti, R. (2021). Entrepreneurs as designers of problems worth solving. *Journal of Business Venturing Design*, 1 (1/2), 1-11.
- Bird, B. (1988). Implementing entrepreneurial ideas: the case for intention. *The Academy of Management Review*, 13 (3), 442-453.

- Bluhm, D., Herman, W., Lee, T. and Mitchell, T. (2011). Qualitative Research in Management: A Decade of Progress. *Journal of Management Studies*, 48(8), 1866-1891.
- Bowlby J (1969) Attachment and Loss: Attachment. New York: Basic Books.
- Boyatzis, R.E. (1998). *Transforming Qualitative Information*. London: SAGE.
- Braun, V. and Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101.
- Bryman, A. and Bell, E. (2011). *Business Research Methods*, 3rd edn. New York: Oxford University Press.
- Burrell, G. and Morgan, G. (1979). *Sociological Paradigms and Organisational Analysis*. London: Heinemann.
- Busenitz, L.W. & Barney, J.B. (1997). Differences between entrepreneurs and managers in large organizations: Biases and heuristics in strategic decision-making. *Journal of Business Venturing*, 12(1), 9–30.
- Cardon, M., Foo, M., Shepherd, D., and Wiklund, J. (2012). Exploring the Heart: Entrepreneurial emotion as a hot topic. *Entrepreneurship: Theory and Practice*, 36 (1), 1-10.
- Carter, N., Gartner, W. and Reynolds, P. (1996). Exploring start-up event sequences. *Journal of Business Venturing*, 11(3), 151-166.
- Cassar, G., & Craig, J. (2009). An investigation of hindsight bias in nascent venture activity. *Journal of Business Venturing*, 24, 149-164.
- Casson, M. (1982) *The Entrepreneur: An Economic Theory*, 2nd ed. Oxford: Edward Elgar.
- Charmaz, K. (2006). *Constructing Grounded Theory: A Practical Guide Through Qualitative Analysis*. London: Sage
- Csaszar, F. and Levinthal, D. (2016). MENTAL REPRESENTATION AND THE DISCOVERY OF NEW STRATEGIES. *Strategic Management Journal*, 37, 2031-2049.
- Davidsson, P. (2015). Entrepreneurial opportunities and the entrepreneurship nexus: A re-conceptualization. *Journal of Business Venturing*, 30(5), 674-695.
- Davidsson, P. (2021). Ditching Discovery-Creation for Unified Venture Creation Research., *Entrepreneurship Theory and Practice*, 47(2), 594-612.
- Davidsson, P. and Honig, B. (2003). The role of social and human capital among nascent entrepreneurs, *Journal of Business Venturing*, 18(3), 301-331.
- Davies, M. (2011). Concept mapping, mind mapping and argument mapping: What are the differences, and do they matter? *Higher Education*, 62(3), 279-301.
- Delmar, F. and Davidsson, P. (2003). Where do they come from? prevalence and characteristics of nascent entrepreneurs. *Entrepreneurship and Regional Development*, 12(1), 1-23.
- Dimov, D, Schaefer, R. and Pistrui, J. (2021). Look Who Is Talking ... and Who Is Listening: Finding an Integrative “We” Voice in Entrepreneurial Scholarship, *Entrepreneurship Theory and Practice*, 45(5), 1176-1196.
- Dimov, D. (2007a). From Opportunity Insight to Opportunity Intention: The Importance of Person-Situation Learning Match. *Entrepreneurship: Theory and Practice*, 31 (4), 561-583.

- Dimov, D. (2007b). Beyond the Single-Person, Single-Insight Attribution in Understanding Entrepreneurial Opportunities. *Entrepreneurship and Regional Development*, 31 (5), 713-731.
- Dimov, D. (2010). Nascent Entrepreneurs and Venture Emergence: Opportunity Confidence, Human Capital and Early Planning. *Journal of Management Studies*, 47 (6), 1123-1153.
- Dimov, D. (2011). Grappling with the unbearable elusiveness of opportunity recognition. *Entrepreneurship Theory and Practice*, 35 (1), 57-81.
- Dimov, D. (2021). From "Opportunity " to Opportunity: The design space for entrepreneurial action. *Journal of Business Venturing Design*, 1, 100002.
- Dimov, D. and Pistrui, J. (2022). Entrepreneurship Education as a First-Person Transformation. *Journal of Management Inquiry*, 31(1), 49-53.
- Dimov, D. (2016) 'Toward a Design Science of Entrepreneurship', *Models of Start-up Thinking and Action: Theoretical, Empirical and Pedagogical Approaches (Advances in Entrepreneurship, Firm Emergence and Growth, Vol. 18)*, Emerald Group Publishing Limited, Bingley, pp. 1-31.
- Dimov, D; Schaefer, R. and Pistrui, J. (2021). Look Who Is Talking ... and Who Is Listening: Finding an Integrative "We" Voice in Entrepreneurial Scholarship. *Entrepreneurship Theory and Practice*, 45 (5), 1176-1196.
- Douglas, E. J., Shepherd, D. A. and Venugopal, V. (2021). A multi-motivational general model of entrepreneurial intention. *Journal of Business Venturing*, 36 (4), 106-107.
- Dyer, J., Gregersen, H. and Christensen, C. (2008). Entrepreneur behavior, opportunity recognition, and the origins of innovative ventures. *Strategic Entrepreneurship Journal*, 2 (4), 317-338.
- Eden, C. (1992). On the nature of cognitive maps. *Journal of Management Studies*, 29(3), 261-265.
- Fitzsimmons, J. and Douglas, E. (2011). Interaction between feasibility and desirability in the formation of entrepreneurial intentions. *Journal of Business Venturing*, 26 (4), 431-440.
- Fletcher (2006). Entrepreneurial processes and the social construction of opportunity. *Entrepreneurship & Regional Development*, 18(5), 421-440.
- Foo, M.D. (2011). Emotions and entrepreneurial opportunity evaluation. *Entrepreneurship Theory and Practice*, 35(2), 375-393.
- Garud, R. (2021). A performative perspective on entrepreneurship as design. *Journal of Business Venturing Design*, 1(1/2), 100005.
- Gilad, B. and Levine, P. (1986). A Behavioral Model of Entrepreneurial Supply. *Journal of Small Business Management*, 24 (4), 45-53.
- Grégoire, D. A., Shepherd, D.A. and Lambert, L. S. (2009). Measuring Opportunity-Recognition Beliefs Illustrating and Validating an Experimental Approach. *Organizational Behavior and Human Decision Processes*, 13 (1), 114-145.
- Grégoire, D., Barr, P. and Shepherd, D. (2010). Cognitive Processes of Opportunity Recognition: The Role of Structural Alignment. *Organization Science*, 21 (2), 413-431.

- Hsieh, C. Nickerson, J. and Zenger, T. (2007). Opportunity Discovery, Problem Solving and a Theory of the Entrepreneurial Firm. *Journal of Management Studies*, 44 (7), 1252-1277.
- Jonas, E., Schulz-Hardt, S., Frey, D., and Thelen, N. (2001) 'Confirmation Bias in Sequential Information Search After Preliminary Decisions: An Expansion of Dissonance Theoretical Research on Selective Exposure to Information', *Journal of Personality and Social Psychology*, 80(4), 557-571.
- Kibler, E., Fink, M., Lang, R. and Muñoz, P. (2015). Place attachment and social legitimacy: Revisiting the sustainable entrepreneurship journey. *Journal of Business Venturing Insights*, 3, 24-29.
- Klyver, K., Honig, B., and Steffens, P. (2018). Social support timing and persistence in nascent entrepreneurship exploring when instrumental and emotional support is most effective. *Journal of Small Business Economics*, 51(3), 709-734.
- Krueger, N., Reilly, M., and Carsrud, A. (2000). Competing models of entrepreneurial intentions. *Journal of Business Venturing*, 15(5), 411-432.
- Lahti, T., Halko, M., Karagozoglu, N. and Wincent, J. (2019). Why and how do founding entrepreneurs bond with their ventures? Neural correlates of entrepreneurial and parental bonding. *Journal of Business Venturing*, 34 (2), 368-388
- Mason, J. (2002). *Qualitative Researching*, 2nd edn. London: Sage.
- McMullen, J. and Dimov, D. (2013). Time and the entrepreneurial journey: The problems and promise of studying entrepreneurship as a process. *Journal of Management Studies*, 50 (8), 1481-1512.
- McMullen, J. and Shepherd, D. (2006). Entrepreneurial action and the role of uncertainty in the theory of the entrepreneur. *Academy of Management Review*, 31(1), 132-152.
- McMullen, S. (2015). Entrepreneurial judgment as empathic accuracy: a sequential decision-making approach to entrepreneurial action. *Journal of Institutional Economics*, 11(3), 651-681.
- Nair, S., Gaim, M. and Dimov, D. (2022). Towards the emergence of entrepreneurial opportunities: Organizing early-phase venture creation systems. *Academy of Management Review*, 47 (1), 162-183.
- Nickerson, R. (1998). Confirmation bias: A ubiquitous phenomenon in many guises. *Review of General Psychology*, 2(2), 175-220.
- Ozgen, E. and Baron, R. (2007). Social sources of information in opportunity recognition: Effects of mentors, industry networks, and professional forums. *Journal of Business Venturing*, 22 (2), 174-192.
- Packard, M., Bylund, P. and Klein, P. (2021). Human action and human design: An Austrian approach to design science, *Journal of Business Venturing Design*, 1(1/2), 10003.
- Ramoglou, S. and Gartner, W. (2022). A Historical Intervention in the "Opportunity Wars": Forgotten Scholarship, the Discovery/Creation Disruption, and Moving Forward by Looking Backward. *Entrepreneurship: Theory and Practice*, 47(4), 1521-1538.
- Ramoglou, S. and McMullen, J. (2022). "What Is an Opportunity?": From Theoretical Mystification to Everyday Understanding. *Academy of Management Review*.

- Ramos-Rodríguez, A.R., Medina-Garrido, J.A., Lorenzo-Gómez, J.D. and Ruiz-Navarro, J., (2010) 'What you know or who you know? The role of intellectual and social capital in opportunity recognition', *International Small Business Journal*, 28 (6), 566–582.
- Sarasvathy, S. (2021). Ask for it: A practice-based theory of venturing design. *Journal of Business Venturing Design*, 1, 100008.
- Schutz, A. (1972) *The phenomenology of the Social World*. London: Heinemann.
- Seckler, C., Mauer, R. and vom Brocke, J. (2021). Design science in entrepreneurship: Conceptual foundations and guiding principles. *Journal of Business Venturing Design*, 1-2, 100004.
- Segal, G., Borgia, D. and Schoenfeld, J. (2005) 'The motivation to become an entrepreneur', *International Journal of Entrepreneurial Behavior & Research*, 11 (18), 42-57.
- Sergeeva, A., Bhardwaj, A. and Dimov, D. (2021). In the heat of the game: Analogical abduction in a pragmatist account of entrepreneurial reasoning. *Journal of Business Venturing*, 36(6), 106158.
- Shane, S and Venkataraman, S. (2000). The Promise of Entrepreneurship as a Field of Study. *Academy of Management Review*, 25 (1), 217-226.
- Shepherd, D. A., Haynie, J. M. and McMullen, J.S. (2012). Confirmatory search as a useful heuristic? Testing the veracity of entrepreneurial conjectures. *Journal of Business Venturing*, 27, 637-65.
- Shepherd, D. A., Williams, T. and Patzelt, H. (2015). Thinking about entrepreneurial decision making: review and research agenda. *Journal of Management*, 41(1), 11-46.
- Song, G., Min, S., Lee, S., and Seo, Y. (2017). The effects of network reliance on opportunity recognition: A moderated mediation model of knowledge acquisition and entrepreneurial orientation. *Technological Forecasting & Social Change*, 117 (4), 98-107.
- Teddlie, C. and Yu, F. (2007). Mixed Methods Sampling: a typology with examples. *Journal of Mixed Methods Research*, 1 (1), 77-100.
- Thomas, O. (2018). Two decades of cognitive bias research in entrepreneurship: What do we know and where do we go from here? *Management Review Quarterly*, 68(2), 107-143.
- Vogel, P. (2016). From Venture Idea to Venture Opportunity. *Entrepreneurship Theory and Practice*, 41(6), 943-971.
- Von Hippel, E., & Von Krogh, G. (2016). CROSSROADS —Identifying viable “need-solution pairs”: Problem solving without problem formulation. *Organization Science*, 27 (1), 207-201
- Weinberger, E., Wach, D., Stephan, U. and Wegge, J. (2018). Having a creative day: Understanding entrepreneurs' daily idea generation through a recovery lens. *Journal of Business Venturing*, 33(1), 1-19.
- Westhead, P. Ucbasaran, D., Wright, M. and Binks, M. (2005). Novice, Serial and Portfolio Entrepreneur Behaviour and Contributions. *Small Business Economics*, 25(2), 109-132.
- Wood, M. (2017). Misgivings about dismantling the opportunity construct. *Journal of Business Venturing Insights*, 7, 21-25.

- Wood, M. and McKinley, W. (2010). The production of entrepreneurial opportunity: A constructivist perspective. *Strategic Entrepreneurship Journal*, 4(1), 66-84.
- Wood, M., Baker, R. and Fisher, G. (2021). Back to the future: A time-calibrated theory of entrepreneurial action. *Academy of Management Review*, 46 (1), 147-171.
- Yin, R. (2014). *Case Study Research: Design and Methods*, 5th edn. London: SAGE.
- Zelekha, Y., Yaakobi, E., & Avnimelech, G. (2018). Attachment orientations and entrepreneurship. *Journal of Evolutionary Economics*, 1-28.
- Zhang, S.X. and Cueto, J., (2017). The Study of Bias in Entrepreneurship. *Entrepreneurship Theory and Practice*, 41(3), 419–454.