

ENTREPRENEURIAL BEHAVIOUR REVISITED: LINKING SELF-EFFICACY WITH EFFECTUATION

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ABSTRACT

Entrepreneurial behaviour is increasingly becoming a major area of research. The literature review on entrepreneurial behaviour in this article suggests that entrepreneurial self-efficacy and effectuation are important research streams and that linkages between them can provide valuable insights. To build understanding on the matter, this article examines the antecedents of entrepreneurial self-efficacy such as performance accomplishments, vicarious experience, means and entrepreneurial experience. Further, the article assesses effectual behaviours such as forming partnerships, exploiting contingencies, addressing affordable loss and using experimentation. A conceptual model is constructed in order to illustrate relationships between these two research streams. The model demonstrates the impact of the antecedents of entrepreneurial self-efficacy as well as the impact of entrepreneurial self-efficacy on effectual behaviours. Especially the latter impact has not received much attention in the literature so far. Based on this discussion, research hypotheses are derived to inform further research.

Keywords: Entrepreneurial Behaviour; Entrepreneurial Self-Efficacy; Effectuation.

1. INTRODUCTION

Entrepreneurial behaviour explains what entrepreneurs do and how they embrace the entrepreneurial process (Fisher, 2012; Gartner, 1989; McMullen & Shepherd, 2006). Their behaviour needs to be analysed in order to understand how they create and grow new ventures and generate economic growth (Fisher, 2012; Gartner, 1989). Entrepreneurial behaviour goes beyond rigid profiles of character traits and skills. These can hardly explain the magnitude of different individuals and how they make decisions and address the challenges encountered by their ventures (Gartner, 1989). A character trait's fixed state of existence is unlikely to account for the dynamic nature of entrepreneurship, learning and growth (Gartner, 1989). For deeper insights into entrepreneurial behaviour, the two research streams of entrepreneurial self-efficacy (e.g. Bandura, 1997, 1982, 1977; Kasouf et al., 2015; Read et al., 2009) and effectuation (e.g. Chandler et al., 2011; Chandler et al., 2007; Perry et al., 2012; Read et al., 2009; Sarasvathy, 2001) need to be examined. In line with Gartner's (1989) observation of the explanatory limits of static character traits, this article shows that self-efficacy and effectuation go beyond that and focus on the actual behaviours needed in order to cope with the dynamic environment entrepreneurs encounter every day. These behaviours help them to identify opportunities, acquire knowledge, make decisions, learn from mistakes, establish in partnerships and grow the venture.

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Accordingly, this article has three objectives. First, it seeks to shed more light into these entrepreneurial behaviours that have significant explanatory power of how entrepreneurs behave in particular ways and why. Second, it seeks to combine these research streams in a conceptual model in order to illustrate relationships between their individual components. This is meant to improve understanding of observed entrepreneurial behaviours that should have practical and theoretical implications. Third, it seeks to discuss the relationships in the model and to derive hypotheses to inform further research.

The article is structured as follows. The relevant literature on entrepreneurial behaviour is reviewed with a focus on entrepreneurial self-efficacy, effectuation and their components. This is followed by a brief outline of the research methodology used. Next, the conceptual model is developed based on the literature review to illustrate the relationships between the components of entrepreneurial self-efficacy and effectuation. Based on this model, these linkages are discussed in more detail and research hypotheses are derived. Finally, concluding remarks are made to highlight limitations as well as potential avenues for further research.

2. LITERATURE REVIEW

The focus of this literature review rests on the behaviour of entrepreneurs because it is what helps them to get active and pursue the entrepreneurial path (Fisher, 2012; Gartner, 1989; McMullen & Shepherd, 2006). Behaviours need to be analysed through which the entrepreneur builds a new venture and generates economic growth (Fisher, 2012; Gartner, 1989). These behaviours are seen as concrete and observable activities and implementations of tasks that help them achieve that and to practice entrepreneurship (Bird & Schjoedt, 2009; Fisher, 2012; Sarasvathy & Venkataraman, 2011).

Entrepreneurs' behaviours go beyond rigid profiles focusing primarily on traits and skills. These can hardly explain the magnitude of different individuals and how they make decisions and address the frequent challenges encountered by their ventures (Gartner, 1989). Likewise, such a fixed state of existence is unlikely to account for the dynamic nature of entrepreneurship, learning and growth (Gartner, 1989). Further, Read et al. (2009) have found certain traits to be less significant and relevant in explaining entrepreneurial success than is often believed.

With an emphasis on entrepreneurial behaviour, this article examines two behavioural theories of entrepreneurship that have received significant attention in the literature, namely self-efficacy and effectuation.

2.1. Self-efficacy

Bandura's (1977) psychological notion of efficacy is closely related to entrepreneurial behaviour. It is argued that the expectations individuals have of their personal efficacy determine the effort they will make, how long they can endure a challenging situation or task and the outcome that will be produced from that (Bandura, 1994, 1977). This efficacy expectation can be seen as the conviction that individuals have of successfully executing the necessary behaviour for a desired outcome (Bandura, 1977). The stronger the perceived efficacy individuals have of themselves, which Bandura (1977) calls self-efficacy, the more

active and persistent the efforts they make. It is the extent of their beliefs in their abilities to perform certain tasks and to reach goals (Bandura, 1997). To gain a deeper understanding of self-efficacy, its sources need to be examined of which several have been discussed in the literature (Bandura, 1997, 1994, 1982, 1977; Kasouf et al., 2015).

Performance accomplishments: Experiences of performance accomplishments (Bandura, 1994, 1977) and mastery of certain tasks (Kasouf et al., 2015) are solid sources of self-efficacy. Experiencing success raises an individual's mastery expectations and if that happens repeatedly, these mastery expectations can develop strong self-efficacy. As involved individuals become convinced in their ability to achieve success, this not only drives the expectations of further success, but also makes them more resilient against the actual challenges, setbacks and failures as well as their fears thereof (Bandura, 1977; Kasouf et al., 2015). Kasouf et al. (2015) note that a repeated application of specific skills to accomplish a given task is the strongest driver of self-efficacy. Investing sufficient time and effort into difficult tasks and gaining the lessons learned from it can increase the likelihood that individuals experience some satisfaction. This in turn creates more motivation and confidence, which re-enforces behaviours that are conducive to entrepreneurial performance (Bandura, 1997). Individuals who expose themselves to unknown and perhaps uncomfortable tasks and persist for a while will strengthen their self-efficacy that in turn drives their performance in doing these and other tasks (Bandura, 1994, 1977).

Vicarious experience: Self-efficacy can also increase when observing others whom are believed to have similar skills to the observer in performing certain tasks (Kasouf et al., 2015). Seeing others engage in and master activities that are perceived challenging or even threatening without incurring negative consequences can build a belief that one can do that likewise (Bandura, 1977). Drawing conclusions from social comparison can help individuals to persuade themselves that if others can succeed in using a perceived skill, they can do it too (Bandura, 1977; Kasouf et al., 2015). This modelled behaviour with favourable results provides observers with information and a reasonable basis to increase their own self-efficacy (Bandura, 1977).

Emotional arousal: The perception of personal competency and therefore self-efficacy can be informed by emotional arousal in challenging and fearful situations (Bandura, 1977). Based on their emotional arousal, individuals assess their vulnerability to adverse situations and stress. Bandura (1977) argues that individuals are less likely to expect success when they are negatively aroused, like in instances of fear and stress, because negative arousal can undermine performance. Vice versa, positive arousal makes individuals more likely to expect success.

Verbal persuasion: Compared to performance accomplishments, vicarious experience and emotional arousal, verbal persuasion is enacted externally. Kasouf et al. (2015) refer to verbal persuasion as trying to convince individuals of their capability to perform a given behaviour well. It is a process of influencing human behaviour through suggestion in which individuals are led to believe in their ability to cope with challenging instances (Bandura, 1977). The impact on self-efficacy tends to be weaker compared to the above-mentioned sources because individuals lack the authentic experiential base (Bandura, 1977).

Building on Bandura's (1977) construct of self-efficacy in the psychological sense, the term entrepreneurial self-efficacy has been coined. It specifically puts self-efficacy into the entrepreneurial context and is concerned with an individual's perceived competence in starting a business (Karlsson & Moberg, 2013; Mauer et al., 2009). Refining entrepreneurial self-efficacy further, it addresses the exploration and exploitation of resources for the sake of an entrepreneurial venture by searching, planning, marshalling and implementing human and financial resources (Karlsson & Moberg, 2013; McGee et al., 2009). Entrepreneurs who are endowed with higher levels of self-efficacy are more likely to exploit opportunities because the task of exploitation requires entrepreneurs to withstand ambiguity and scepticism of others (Shane & Venkataraman, 2000).

Looking at the antecedents of entrepreneurial self-efficacy, Kasouf et al. (2015) mention an entrepreneur's experience in the form of human and social capital. They note that the formation of human capital entails formal education like a university degree as well as informal education like start-up experience. Regarding social capital, they mention social networks like professional affiliations and relational capital in the form of the information they create. They suggest that the impact of human and social capital is moderated by entrepreneurs' explanatory style, a psychological attribute responsible for the interpretation and perception of their capabilities (Fu et al., 2010; Kasouf et al., 2015; Seligman, 1991). The interpretation and perception of one's own capabilities are seen as major determining factors of how well they are used (Bandura, 1977).

Nielsen & Lassen (2012) discuss various behaviours among early-stage entrepreneurs that relate to entrepreneurial self-efficacy. The search for meaning is about learning what it entails to become an entrepreneur. This process relies on the feedback from others who are active in the entrepreneurial space that helps them to better understand their entrepreneurial identity (Nielsen & Lassen, 2012). This means that through interactions and actions, the social context provides feedback to them. It guides them to see themselves as entrepreneurs, which has an impact on how they develop that role (Nielsen & Lassen, 2012). This exposes them to an ongoing updating and revision of their understanding of themselves. Nielsen & Lassen (2012) suggest that the important aspect of this identity development process is that it helps entrepreneurs to think openly what do to next in terms of entrepreneurial acts because of greater coherency in absorbing the entrepreneurial process. In that regard, enterprising individuals may experience fears of risks, struggles with challenges and resistance to arising problems which affects them during the process and may make them more resistant and therefore determined on the path (Nielsen & Lassen, 2012).

2.2. *Effectuation*

Effectuation is highly relevant to the discussion of entrepreneurial behaviour. To build understanding, contrasting it with causation is helpful. Causation is defined as "processes that take a particular effect as given and focus on selecting between means to create that effect" (Sarasvathy, 2001: 245). Effectuation on the other hand can be defined as "processes that take a set of means as given and focus on selecting between possible effects that can be created with that set of means" (Sarasvathy, 2001: 245). In other words, the former processes help decision-makers choose between means to achieve the given effect, while the latter processes help them to choose between possible effects that can be created with given means. Sarasvathy (2001) uses the preparation of a meal as an analogy. In the case of causation, a meal is chosen

and the chef tries to find the required ingredients and kitchen utensils and then prepares exactly that meal. In the case of effectuation, however, the chef has no particular meal in mind but rather goes through the cupboards to see which ingredients and utensils are available and then prepares a meal based on that as one of multiple options. This is not to say that the general goal of an entrepreneur to build an enduring organisation is only part of causation and not effectuation because this overriding goal can be part of both (Dew et al., 2008). The distinguishing feature between causation and effectuation is choosing the means to create a particular effect versus designing possible effects by using particular means, respectively (Dew et al., 2008).

This distinction is particularly important when considering uncertainties. Causation focuses on predictable aspects of an uncertain future by defining the final goal and suggests that to the extent we can predict the future, we can also control it (Chandler et al., 2011; Fisher, 2012; Sarasvathy, 2001). Effectuation on the other hand focuses on the controllable aspects of an unpredictable future and suggests that to the extent we can control the future, we do not need to predict it (Fisher, 2012; Sarasvathy, 2001). This control can be gained by running experiments that help the entrepreneur to develop the business concept (Chandler et al., 2011). Other differences between causation and effectuation are discussed in the literature. Business planning, for instance, is part of causation along with competitor analyses in order to predict an uncertain future while effectuation emphasises strategic alliances with customers and other stakeholders as well as their pre-commitments to gain control of an unpredictable future (Chandler et al., 2011; Fisher, 2012; Sarasvathy, 2001).

Given that business events in early-stage ventures are unpredictable, the causal approach with rigidly set goals and effects for a future point in time has disadvantages compared to the effectual approach (Sarasvathy, 2001). Effectual entrepreneurs take it step by step, flexibly use whatever resources are available and put these to use for the best possible outcome. So the focus is on choosing among desirable effects that can be obtained with the given set of means at a given point in time, which is a context that entrepreneurs regularly find themselves in (Chandler et al., 2011; Sarasvathy, 2001).

Entrepreneurial behaviour in identifying opportunities and dealing with them is also important to consider. Going beyond the discussion of the decision to exploit pre-existing opportunities and what makes an entrepreneur more likely to exploit them (Kirzner, 1999; Ramoglou & Zyglidopoulos, 2015; Shane & Venkataraman, 2000), it has been noted that opportunities often are created (Sarasvathy & Venkataraman, 2011). This can occur when entrepreneurs fully engage in the entrepreneurial process including creative interactions between entrepreneurs, their stakeholders and the wider community as well as the accumulation of knowledge (Alvarez & Barney, 2007; Karlsson & Moberg, 2013; Sarasvathy & Venkataraman, 2011; Shane, 2012). In other words, Sarasvathy & Venkataraman (2011) argue that opportunities and their identification can be triggered by proactively engaging in and learning from the entrepreneurial process. Rather than following the assumption that opportunities need to be identified outside of their control (Dew et al., 2008), effectuation assumes that entrepreneurs themselves fabricate and therefore co-create opportunities as well as recognise and discover them (Dew et al., 2008; Read et al., 2009; Sarasvathy & Venkataraman, 2011).

The core definition of effectuation (Sarasvathy, 2001) can be refined by identifying effectual principles that allow a clearer breakdown of actual behaviours and therefore help to better understand entrepreneurs (Chandler et al., 2011; Chandler et al., 2007; Perry et al., 2012; Read et al., 2009; Sarasvathy & Venkataraman, 2011).

Means: Entrepreneurs have certain means at their disposal that they can put to use by engaging in effectual behaviour. These are articulated as “what I know” and “who I am” (Read et al., 2009). They identified categories of means related to “what I know” which are relevant to the venture and the behaviours of its individuals. These include entrepreneurial human capital, partner expertise as well as experience in the venture’s industry and the entrepreneur’s functional area that is in line with the concepts of prior knowledge and path dependency (Eisenhardt & Martin, 2000; Teece et al., 1997; Zahra & George, 2002). Means related to “who I am” represent certain resources at the individual or team level that may enable or constrain (the exploitation of) opportunities. Relevant means include capital, skills, assets, technological capabilities, internal R&D investments and related patents (Read et al., 2009). Put into the context of entrepreneurship, Herron and Robinson (1993) argue that skills are ready abilities that entrepreneurs bring into the equation at any point in time. They note that skills are the result of natural aptitudes and of specific training as well as the experience acquired by being an entrepreneur. Typical skills among entrepreneurs are related to seeking innovative solutions to problems and taking an autonomous and strategic role in identifying, marshalling and organising resources to exploit them (e.g. Cromie, 2000; Schaper & Volery, 2004).

Alliances and partnerships: Establishing alliances and partnerships with customers, suppliers and other companies in the network can assist entrepreneurs to build complementary assets and to deal with uncertainty in running the venture while engagements with family and friends help to access free or low cost resources (Chandler et al., 2007). This links with the means related to “whom I know” (Read et al., 2009). These means include the network the venture’s team and individuals have, especially with entities that might prove useful in terms of opportunities and resources (Read et al., 2009). This approach of partnering also includes going beyond pure competitive thinking to build partnerships and strategic alliances with committed internal and external stakeholders which allows the effectual entrepreneur to access, shape and exploit new means and opportunities for the benefit of the venture (Perry et al., 2012; Read et al., 2009). This also includes trying to get pre-commitments and agreements from customers, suppliers and others as often as possible to reduce the uncertainty of the venture (Chandler et al., 2011; Chandler et al., 2007). Close relationships and pre-commitments enable entrepreneurs to have some control over future outcomes that renders the need to predict them obsolete (Chandler et al., 2011; Sarasvathy, 2001).

Exploitation of contingencies: This is an effectual approach that goes beyond formal business plans and prediction in the case of causation (Chandler et al., 2007; Read et al., 2009; Sarasvathy, 2001). Instead of pursuing a clearly defined goal as in the case of causation, leveraging contingencies emphasises innovative applications of contingent alternatives which entrepreneurs encounter while using what they have at their disposal and engaging in the entrepreneurial process of creation (Read et al., 2009). In other words, this means that entrepreneurs exploit contingencies and prior knowledge for the tasks at hand at a given point in time (Perry et al., 2012). Because no specific goal is set, the result of this process might be entirely different from the initial idea that led to the formation of the venture in the first place

(Read et al., 2009). Specifically, this includes constructs like the willingness to modify internal processes, products and services, openness for alternative approaches, customisation and a transformational leadership style (Read et al., 2009).

Experimentation: In the entrepreneurial context, this is about trying different approaches prior to defining the business concept (Chandler et al., 2007). Given that entrepreneurs often face situations without sufficient experience or historical information to assist decision-making, they have to learn by trial and error and by pivoting between different approaches. Experimenting to the best of their knowledge at a given point in time is seen as learning from the entrepreneurial process and to use iterative steps in order to work out a feasible business concept and model (Chandler et al., 2007; Sarasvathy, 2001). Experiments with poor results are halted which allows the entrepreneur to focus on the next experiment without losing precious time and resources (Chandler et al., 2011). In addition, experiments exceeding the costs the entrepreneur is able or willing to incur are rejected (Chandler et al., 2007), which suggests that effectual ventures can be viewed as an experiment with contained losses (Chandler et al., 2011).

Affordable loss: This relates to experimentation in that it represents a criterion upon which effectual entrepreneurs make decisions (Chandler et al., 2011; Chandler et al., 2007; Sarasvathy, 2001). Pivoting rapidly and very early in the process helps entrepreneurs to tightly manage costs and therefore manage downside risks (Read et al., 2009). This is closely related to the risk-taking propensity, in other words, how entrepreneurs proactively assume risk (Miller & Friesen, 1983; Read et al., 2009) and what entrepreneurs do to manage and diversify risks through partnerships (Read et al., 2009).

3. METHODOLOGY

The research design consists of a literature review based on which a conceptual model is constructed. Following the literature review on entrepreneurial behaviours with an emphasis on entrepreneurial self-efficacy, effectuation and their components, important relationships are illustrated in the conceptual model. On this basis, hypotheses are derived which can be tested in further research.

4. A CONCEPTUAL MODEL

Based on the literature review above, this article proposes a conceptual model that brings together the discussed components. This helps to identify causal relationships between the examined components. In a nutshell, the model consists of two parts. First, it highlights the antecedents that drive entrepreneurial self-efficacy. Second, it examines the resulting level of entrepreneurial self-efficacy and its impact on the different components of effectual behaviour. This chapter is dedicated to developing these parts so that the conceptual model can be built. In the following chapter, the actual connections and relationships between these parts are discussed in more detail and hypotheses are derived.

4.1. Entrepreneurial self-efficacy

In terms of entrepreneurial self-efficacy, several antecedents have been discussed in the literature (e.g. Bandura, 1997, 1982, 1977; Kasouf et al., 2015; Read et al., 2009) and this model focuses on four of them that appear particularly important. Bandura (1997, 1982, 1977) discusses various antecedents including performance accomplishments, vicarious experience, emotional arousal and verbal persuasion. In this model the focus is on performance accomplishments and vicarious experience because these are widely regarded as the strongest sources of self-efficacy (Bandura, 1997, 1982, 1977). Experiencing success in the form of performance accomplishments and mastery in a given field can build self-efficacy. If entrepreneurs gain confidence in their skills and ability to be successful, their expectations of future success will rise and they will become more resilient against setbacks (Bandura, 1977; Kasouf et al., 2015). Vicarious experience suggests that self-efficacy can alternatively be built by observing others believed to have similar skills compared to the observer in performing certain tasks successfully (Bandura, 1977; Kasouf et al., 2015). This social comparison can lead entrepreneurs to conclude that if others can succeed in performing a given task, they can do it likewise, which increases self-efficacy (Bandura, 1977; Kasouf et al., 2015).

The other two antecedents, namely emotional arousal and verbal persuasion are believed to be less powerful (e.g. Bandura, 1997, 1982, 1977; Kasouf et al., 2015) and are not examined further in this model. The former says that entrepreneurs in a state of positive psychological arousal are encouraged to engage in tasks that can drive entrepreneurial self-efficacy. This appears to be a volatile concept because arousal can change abruptly. The latter is externally imposed and less likely to intrinsically cause enduring entrepreneurial self-efficacy because individuals lack the authentic experiential base (Bandura, 1977).

However, other antecedents can be identified in the literature, which also have a strong impact on the development of entrepreneurial self-efficacy. For instance, this article proposes that the means available to the entrepreneur which also include skills are considered as antecedents to entrepreneurial self-efficacy rather than a component of entrepreneurial effectuation as suggested by various authors (e.g. Read et al., 2009; Sarasvathy, 2001). Kasouf et al. (2015) suggest that self-efficacy is a function of the entrepreneur's collection of skills and assets that can be grouped into human and social capital and this is the logic adopted throughout this article. The underlying rationale is that means require some sort of behaviour related to self-efficacy and effectuation in order to be fully deployed and exploited. In other words, rather than regarding means as direct contributors to venture performance, they are seen as indirect contributors that need to be transformed and put to use by entrepreneurial behaviours.

Another important antecedent of entrepreneurial self-efficacy considered in this article is entrepreneurial experience (Kasouf et al., 2015). It goes beyond the availability of means and skills because it has an impact on how entrepreneurs deploy and exploit the means at their disposal. Experience is therefore considered a separate antecedent of entrepreneurial self-efficacy in this article. Each entrepreneur has accumulated a set of different experiences in the form of human and social capital that includes formal education, informal training, networks and others (Kasouf et al., 2015). This entrepreneurial experience determines how entrepreneurs interpret and perceive their past including the accumulated experiences and capabilities and how useful they are expected to be, which has an impact on entrepreneurial self-efficacy (Fu et al., 2010; Kasouf et al., 2015).

To summarise, this conceptual model includes four antecedents that have an impact on entrepreneurial self-efficacy: performance accomplishments, vicarious experience, means and entrepreneurial experience.

4.2. *Effectual behaviour*

The model examines the impact that entrepreneurial self-efficacy has on four specific behaviours of entrepreneurial effectuation. As discussed in the literature review above, entrepreneurial behaviour in the effectual sense is characterised by how entrepreneurs address and deal with partnerships, contingency exploitation, affordable loss and experimentation (Chandler et al., 2011; Chandler et al., 2007; Perry et al., 2012; Read et al., 2009; Sarasvathy, 2001).

Engaging in partnerships and alliances is a behaviour that allows entrepreneurs to source desired assets externally. This can take the form of commercial relationships with other firms and institutions as well as more informal agreements with family and friends (Chandler et al., 2007). An important effectual aspect of this is to try to secure pre-commitments from various stakeholders like customers, suppliers and other companies whenever possible to reduce the level of uncertainty the business is exposed to (Chandler et al., 2011; Chandler et al., 2007).

Contingency exploitation is another important effectual behaviour (Chandler et al., 2007; Read et al., 2009; Sarasvathy, 2001). Contingency exploitation suggests that entrepreneurial effectuation includes flexibility that is necessary to take advantage of contingent opportunities. Rather than having formal and rigid plans in place with specific goals, effectuation enables the entrepreneur to create a result that might differ completely from the envisaged result. The actual result is created through innovative exploitations of contingencies that arise along the entrepreneurial path (Chandler et al., 2007; Read et al., 2009).

Effectual behaviour also means that entrepreneurs are better off setting a level of affordable loss rather than focusing on the upside opportunity potential (Read et al., 2009). Affordable loss is seen as an important criterion that informs entrepreneurial decision-making (Chandler et al., 2007). Projects and initiatives that exceed a venture's budget are rejected in favour of those that are regarded affordable (Chandler et al., 2007).

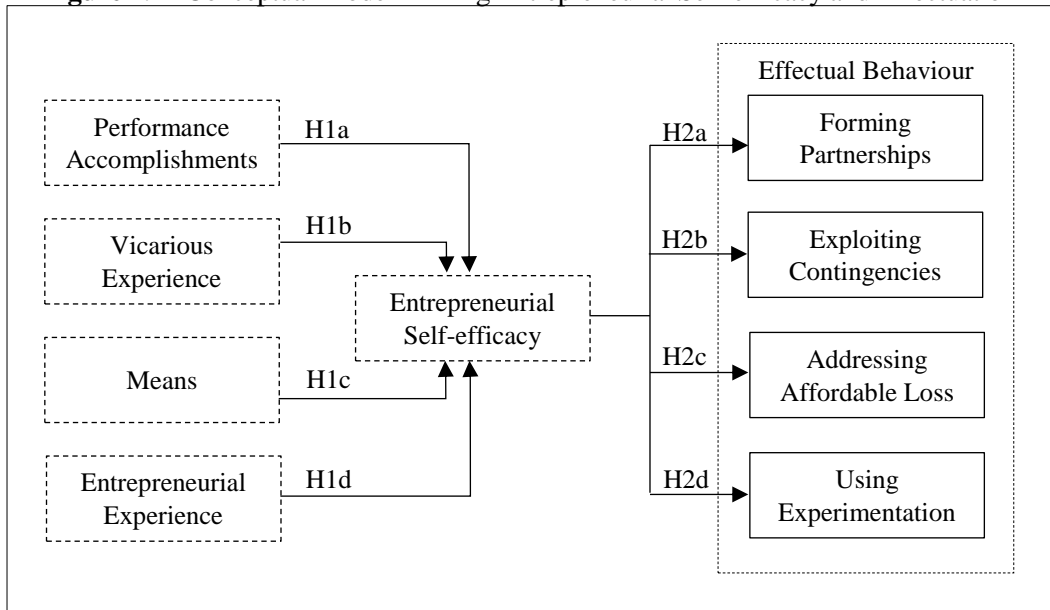
Affordable loss is a principle of effectual behaviour identified by Sarasvathy (2001) and includes experimentation with different strategies given limited means. However, this article proposes to examine experimentation separately (Chandler et al., 2007) because it can be a highly useful effectual behaviour in other instances that go beyond the assessment of affordable loss. Using experimentation is about trying out things, learning from mistakes and pivoting between different approaches before defining the business concept more concretely which speeds up the process and helps to avoid unnecessary effort and costs (Chandler et al., 2011; Chandler et al., 2007; Sarasvathy, 2001).

In summary, this conceptual model takes into account four effectual behaviours: Forming partnerships, exploiting contingencies, addressing affordable loss and using experimentation.

5. DISCUSSION

Based on the literature review and the conceptual model illustrated in Figure 1 highlighting various linkages, research hypotheses are made that can be tested in the next stage of the research project. Using the conceptual model, two groups of hypotheses are identified. First, hypotheses are derived concerning the antecedents of entrepreneurial self-efficacy and their impact. Second, hypotheses are made regarding the impact of entrepreneurial self-efficacy on effectual behaviour.

Figure 1: A Conceptual Model Linking Entrepreneurial Self-efficacy and Effectuation



5.1. Antecedents of Entrepreneurial Self-efficacy and Their Impact

The assessment of the antecedents of entrepreneurial self-efficacy offers interesting insights into what self-efficacy consists of and how it can be developed. Several authors have addressed these links (e.g. Bandura 1977; Kasouf et al., 2015). The conceptual model presented above introduces relationships between the antecedents and entrepreneurial self-efficacy. As noted above, the model takes into account two of the four antecedents proposed by Bandura (1977) as well as two other antecedents discussed by Kasouf et al. (2015). As a result, the four antecedents include performance accomplishments, vicarious experience, means and entrepreneurial experience (Bandura, 1997, 1982, 1977; Karlsson & Moberg, 2013; Kasouf et al., 2015).

Performance accomplishments in particular are a powerful source of self-efficacy because experiencing success builds confidence in individuals' skills and the ability to be successful (Bandura, 1997, 1982, 1977). In addition, experience of success causes individuals to revise their expectations of future success upwards which will also increase their determination to work harder towards these newly set goals (Bandura, 1977). This also helps them to become

more resilient against setbacks (Bandura, 1997, 1982, 1977). Putting that into the entrepreneurial context, an entrepreneur's perceived competence in starting and running a business successfully has a positive impact on entrepreneurial self-efficacy (Karlsson & Moberg, 2013). Based on this, the following hypothesis is derived:

Hypothesis 1a (H1a): The more performance accomplishments entrepreneurs have, the higher their entrepreneurial self-efficacy is.

Observing others deploying their skills to perform a given task successfully is also seen as an important driver of self-efficacy (Bandura, 1982, 1977). Vicarious experience suggests that self-efficacy can grow by observing others believed to have similar skills compared to the observer in performing certain tasks successfully (Bandura, 1977; Kasouf et al., 2015). Through comparison, entrepreneurs are likely to conclude that if others can succeed in performing a given task, they can do it as well, leading to self-efficacy (Bandura, 1977; Kasouf et al., 2015). Based on this, the following hypothesis can be made:

Hypothesis 1b (H1b): The more vicarious experience entrepreneurs have, the higher their entrepreneurial self-efficacy is.

Entrepreneurs have access to specific means that need to be deployed and exploited for the benefit of the venture. For example, these means include entrepreneurial human and social capital, skills, assets, technological capabilities, patents and others. Kasouf et al. (2015) argue that entrepreneurial self-efficacy is driven by the collection of these means, suggesting that entrepreneurs can accumulate these in order to increase their self-efficacy. Following from that, this hypothesis can be derived:

Hypothesis 1c (H1c): The more means entrepreneurs have, the higher their entrepreneurial self-efficacy is.

Entrepreneurial experience is considered to have a positive relationship with entrepreneurial self-efficacy (Kasouf et al., 2015). Experience is an important facilitator that helps entrepreneurs to decide how to deploy and exploit the means available to them and then act on it. As an entrepreneur gathers useful experience such as social and human capital, entrepreneurial self-efficacy expands (Kasouf et al., 2015). Based on this relationship, the following hypothesis can be derived:

Hypothesis 1d (H1d): The more entrepreneurial experience entrepreneurs have, the higher their entrepreneurial self-efficacy is.

5.2. Impact of Entrepreneurial Self-efficacy on Effectual Behaviour

The causal relationships between self-efficacy and effectuation offer an interesting area to develop hypotheses for further research. Engel et al. (2014) make the link between entrepreneurial self-efficacy and effectual logic in general terms. They propose that the former has an impact on the latter, either directly or indirectly through opportunity framing. Engel et al. (2014) propose that opportunity framing is a mediator that frames given situations as an opportunity which in turn increases the likelihood that individuals make decisions by engaging in effectual logic. The conceptual model proposed here follows this general relationship and

introduces more specific linkages between entrepreneurial self-efficacy and individual effectual behaviours like forming partnerships, exploiting contingencies, addressing affordable loss and using experimentation (Perry et al., 2012; Read et al., 2009).

Forming partnerships requires entrepreneurs to actively approach others and highlight the benefits of a potential partnership. Engel et al. (2014) note that entrepreneurial self-efficacy reflects an individual's confidence in the ability to perform various tasks in a venture. This appears to be particularly important when partnerships and alliances are formed. Hmieleski & Corbett (2006) note that self-efficacy is also driven by an entrepreneur's belief in the ability to achieve high growth. This leads them to set higher goals for growth and persist in their efforts to achieve these goals. Based on the notion that the establishment of trusted partnerships with customers, suppliers and other entities is critical for growth, the following hypothesis is made:

Hypothesis 2a (H2a): The higher the entrepreneurial self-efficacy, the better entrepreneurs are in forming partnerships.

Engel et al. (2014) note that entrepreneurial self-efficacy stimulates heuristic thinking and supports the belief of entrepreneurs that they can actively shape their path. Self-efficacy also signifies that entrepreneurs develop new opportunities, build an innovative environment and cope with unexpected challenges, which trains and builds flexible thinking (Hmieleski & Corbett, 2006). This is in line with the notion that entrepreneurs need to be flexible in order to take advantage of contingent opportunities (Chandler et al., 2007; Sarasvathy, 2001). This positive connection between entrepreneurial self-efficacy and effectual behaviour in exploiting contingencies leads to the following proposition:

Hypothesis 2b (H2b): The higher the entrepreneurial self-efficacy, the better entrepreneurs are in exploiting contingencies.

Building confidence in their ability, entrepreneurial self-efficacy helps entrepreneurs to address the risky and uncertain environment of their venture and to inform their decision-making processes (Engel et al., 2014). This is useful when deciding about which projects or strategies to follow given the typical uncertainty inherent with relatively young ventures. This is especially important in instances when the budget is restricted and costs need to be carefully managed. Based on this, affordable loss focuses on trying different affordable strategies given the limited means (Sarasvathy, 2001) which leads to this proposition:

Hypothesis 2c (H2c): The higher the entrepreneurial self-efficacy, the better entrepreneurs are in addressing affordable loss.

Entrepreneurial self-efficacy strengthens the perception of control among entrepreneurs, thus explaining a higher propensity to incur certain risks that come with a chosen path (Kasouf et al., 2015; Markman et al., 2005). Engel et al. (2014) note that higher levels of entrepreneurial self-efficacy make entrepreneurs more likely to perform effectual behaviours, which include the use of experimentation. Even when prior knowledge and experience are limited as it is often the case with novice entrepreneurs, acting as if they possess relevant knowledge and experience and having confidence in their abilities helps them to engage in experimentation,

try a new approach, see if it works, learn from it and pivot accordingly (Engel et al., 2014). Therefore, the following hypothesis can be derived:

Hypothesis 2d (H2d): The higher the entrepreneurial self-efficacy, the better entrepreneurs are in using experimentation.

6. CONCLUSION

This article addresses the relationships between the components of entrepreneurial self-efficacy and effectuation as illustrated by the conceptual model and as expressed by the derived propositions. Several practical implications for entrepreneurs arise from this analysis. The conceptual model visualises causal relationships that may assist entrepreneurs to consciously reflect upon their behaviour and potential consequences. A better understanding of themselves in the entrepreneurial role can then enable them to assess areas of improvement in the context of their businesses and lay out a plan as to how to work on these. Given that self-efficacy and effectuation are somehow abstract concepts, the success in applying them in the real world and in refining their entrepreneurial behaviour will depend on their ability to reflect upon themselves and to critically evaluate their strengths and weaknesses. To conclude, some remarks about limitations and further research are made.

6.1. Limitations

On the subject of general limitations of the study of entrepreneurship, Dew et al. (2008) note that it is exposed to the same challenges today as the study of organisations was in its beginnings. They argue that the main problem is that entrepreneurship research seeks to find regularities and propose generalisations in terms of how decisions are made and what behaviours and actions are involved among ventures that all are unique. Nevertheless, it is believed that trying to identify common entrepreneurial behaviours can contribute to entrepreneurship theory.

Other limitations of a general nature relate to effectuation. While it has received strong support in the literature as a theory of entrepreneurship (e.g. Chandler et al., 2011; Read et al., 2009; Sarasvathy, 2001), Arend et al. (2015) note that the assumption that all entrepreneurs can behave in an effectual manner should be reconsidered and that in fact many cannot. In other words, they argue that it is not about the decision to follow causation or effectuation but rather about the suitability and ability to follow one or the other.

In terms of specific limitations of this article, it is worth to mention that the focus of the model is on the relationships between the behavioural components of entrepreneurial self-efficacy and effectuation while the impact on venture performance is not examined in detail. It is crucial to measure entrepreneurial activity but a wealth of research has been done on the matter already (e.g. Chandler et al., 2011; Chandler et al., 2007; Dew et al., 2008; Perry et al., 2012; Read et al., 2009; Sarasvathy, 2001), while the linkages between entrepreneurial self-efficacy and effectual behaviour have hardly been covered.

Further, it is argued in this article that the antecedents of entrepreneurial self-efficacy all contribute to an aggregate level of entrepreneurial self-efficacy which then has an impact on

the components of effectual behaviour. Alternatively, the impact of all antecedents of entrepreneurial self-efficacy on each component of effectual behaviour could be assessed directly and separately.

6.2. Further research

In terms of further research, hypotheses have been derived in order to inform the next stage of research. The identified relationships can be tested with a sample of entrepreneurs to gain empirical insights and to contribute theoretically and practically. Further, the relationships discussed in this conceptual model are of a horizontal nature between entrepreneurial self-efficacy and effectuation. However, vertical relationships among their individual components are likely to exist as well that can be interesting to examine. For instance, experimentation likely plays an important role in how partnerships and contingencies are addressed within the boundaries of effectual behaviour.

In addition, some feedback loops may exist that can be researched further. For instance, the execution of effectual behaviours such as forming partnerships, exploiting contingencies, addressing affordable loss and using experimentation most likely feeds back positively into entrepreneurial experience as a source of entrepreneurial self-efficacy. Likewise, if entrepreneurs are successful with these effectual behaviours, this will feed back positively into their performance accomplishments.

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