

Insights into the effectuation entrepreneurial approach of small artisan entrepreneurs in Thailand

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Dedication:

*To my supportive Mum, Dad and brother,
Kittiya my wife, and our beloved son, Zen.*

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Chapter 1

Introduction

Before I decided to pursue a doctoral degree, I was a professional marketing consultant. As a professional marketer, I used marketing knowledge, frameworks and analytical tools to help top-tier corporations devise their best marketing plans. In most cases, knowledge and sophisticated tools from widely adopted textbooks, such as Kotler (on marketing management), were very helpful. At that time, every client understood all my advice on business plans. Also, top-tier clients naturally believed in investing in resources and time to conduct formal research and prepare a business strategy. It may take up to £100,000 to do so. I felt that clients and I shared the same mindset. Thus, that time was such a joy, working with market leaders and top-tier clients, and using advanced marketing knowledge to build up hundred-page business plans for them.

However, the problem was that, one day, I met an artist, a small entrepreneur who was an independent artisan and came to a consultation session where I was the advisor. Surprisingly, even though she had established her business a number of years earlier, she mentioned that she had never had any kind of business plan and refused to write one. She explained that she started a new business in the craft market by herself, and no one had any information or sales projections concerning how many of her new products would sell and at what price. She had no budget to spend on any formal research activities. Instead of having official business partners, she used her friend's backyard as a trial space and resource to build up a small studio to sell her products. A formal framework in marketing such as STP, i.e. segmentation, targeting and positioning, could not be applied to her way of doing a business, as no historical data and resources were available to her. She did not have any long-term goals or return on investment target; the focus was only on today. I struggled to give her advice. I realized that there should be another way to explain how people like her can build up a business. I realised that the applicability of the formal marketing plans found in textbooks, as I know, may have their limits.

The real case of this artisan entrepreneur made me interested in effectuation theory, because the effectuation logic used by many entrepreneurs is not about having pre-defined goals and finding the resources to achieve them, nor creating a plan before starting the business. Instead, it starts with the means of entrepreneurs: who am I? what do I know? how much can I afford to lose and whom do I know, to determine what to do next (Sarasvathy, 2001a). In the aforementioned case, the entrepreneur focuses on short-term actions that she can take immediately, and adapt to feedback, rather than evaluating business potential by relying on market information. She is more concerned about what she can bear to lose, such as personal savings, rather than thinking about sales projections of and borrowing from financial institutions. Therefore, this thesis is about the underlying logic of small entrepreneurs and how it influences their perceptions, actions and performance. The research context of this thesis is small entrepreneurs taking an entrepreneurial approach and their performance.

In the next section, I will present the general concept of entrepreneurial logic. Then, I briefly explain the concept of effectuation theory as the theoretical foundation applied in this thesis to examine how the underlying logic influences perceptions, actions and performance.

Next, I outline the importance of effectuation research as an emerging theory in relation to other relevant concepts. In the last section, I present the objectives of the thesis, followed by an outline of it.

Overview of an Entrepreneurial Approach

Historically, it has been argued that entrepreneurship is a concept that explains how an individual decides and takes action in search of new market opportunities. Scholars typically define a new market opportunity as demand exceeding supply for a product or service in the market. Therefore, based on the domination of economic thought, most entrepreneurship researchers primarily draw on economic theories and perspectives (e.g., Casson, 1982; Kihlstrom & Laffont, 1979).

Over the last 20 years, much more progressive thought has become established in the debate on entrepreneurship research. Scholars began to argue that entrepreneurship as a subject could not be understood and explained by drawing on existing fields of study (Venkataraman, 2019). Venkataraman and Shane (2000) discussed in their seminal work in the *Academy of Management Review* that entrepreneurship has a distinctive essence and is a discipline that scholars should explore and build up a body of knowledge on to better explain the nature of this subject. It is considered that this paper set out more solid ground for researchers to investigate entrepreneurship within a new thinking frame. This movement responds to a growing body of literature that mainly relied on a classical school of thought in management and entrepreneurship behaviour. Then, over the last decade, a number of new theoretical perspectives have emerged to explain the underlying action and logic of entrepreneurship.

In entrepreneurship research, this growing trend has been referred to as emerging theoretical perspectives (Eisenhardt et al., 2010). As a result, several studies investigating entrepreneurship have been carried out in recent years on emerging perspectives (Fisher, 2012). One of the common purposes of these new emerging theoretical perspectives is seeking to explain and describe the distinctive features of thought in a classical approach (economic based) as opposed to a new alternative perspective (Fisher, 2012). Several scholars have attempted to examine the approach, logic, action and effect underlying an entrepreneurial process and approach. Among those, one emerging theory is effectuation theory (Sarasvathy, 2001a).

In the last five years, effectuation has been widely cited by scholars of entrepreneurship, business, marketing and management (Fisher, 2012; Perry et al., 2012). The following section conducts a literature review on effectuation theory.

A brief history of effectuation theory

A large and growing body of effectuation literature produced between 1998 and 2011 attempted to explore a new paradigm shift for a theoretical perspective of entrepreneurship research. Most of the arguments in the literature during that time proposed that what we know about an entrepreneurship perspective is primarily based upon studies looking through a theoretical lens at a systematic planning approach that investigates how large corporations work and make decisions, but this may neglect the nature and essence of an entrepreneurship approach, thinking and logic (Fisher, 2012; Sarasvathy, 2001a). Key papers published during the first wave introduce

effectuation and are related to how entrepreneurs create a firm, such as: an introduction to effectuation logic (Sarasvathy, 2001b); opportunities and how entrepreneurs exploit them (Sarasvathy & Dew, 2005); uncertainty and entrepreneurship (Wiltbank et al., 2006); the behaviours and actions of entrepreneurs when creating a new firm (Dew et al., 2009); advanced discussion and debate of the effectuation and causation approach (Perry et al., 2012).

A considerable amount of literature has been published supporting effectuation. This includes empirical studies that support the framework proposed by (Sarasvathy & Dew, 2008), wherein researchers can further investigate a condition and situation in which an effectuation approach can be adopted and utilised (Dew et al., 2009; Fiet et al., 2013; Sarasvathy & Dew, 2008). Coviello and Joseph (2012) show that effectuation is an emerging theoretical perspective that can effectively explain how a new product and innovation can be successfully created, adapted and marketed. Another researcher who supports effectuation is Fisher (2012), who states that, to explain entrepreneurship in action, effectuation seems to be an important concept that enables capturing the insights and behaviours of entrepreneurs.

Connecting effectuation with classic entrepreneurial theory

Effectuation is an entrepreneurial behaviour theory that has theoretical foundations ranging from questions to the application of systematic planning, with several seminal works from Knight (1921); March (1982); March (1991); Mintzberg (1978); Mintzberg and McHugh (1985); Weick (1979). Effectuation is partly built on trade-offs in an organisation between exploration and exploitation (Sarasvathy, 2001a). As March (1991) argues, in general, decision-makers need to deal with scarce resources, including time, cost, humans and attention. Thus, a business needs to 'explore' new emerging opportunities, such as investing time and money to conduct research and development and innovate to develop a better business strategy. Thus, decision-makers need to face unpredictable outcomes. Another aspect is to 'exploit' current certainties as decision-makers may feel it is more secure to invest in what they know and what is predictable. However, with that thinking, Sarasvathy (2001) found that exploration and exploitation have a conflict and a dilemma. For example, a leader may want to explore new opportunities, but also want to predict return and outcomes. However, to predict the future, a business may need to have sufficient historical data or resources available, which means that the new market should already be established, so at the same time they may have already missed an opportunity to become an industry leader. These two trade-off approaches contribute to the theoretical foundations of effectuation (Sarasvathy, 2001a).

Another theoretical synthesis of effectuation came from Mintzberg (1994), who states that strategy formation should not be viewed as planning. It is discussed that 'strategic planning is not just a broad vision; rather, it is 'practical' and a 'process of discovery'. Thus, effectuation has synthesised this essence to build a strategy process that sees the 'action of individuals' as an important part of creating an entrepreneurial approach. Effectuation is an alternative process that is in line with Mintzberg (1994), where predictions and a broad vision are not valuable elements unless adapted to suit actual day-to-day operations. Therefore, effectuation pays attention to how individuals interact and explore external resources and see themselves as interactive elements.

According to Sarasvathy (2001a), effectuation is also connected to Weick's theory of enactment-selection-retention (Weick, 1979). In general, evolution theory views a natural

environment as a core element that drives and selects adaptations and evolution outcomes. However, from Weick's perspective, a decision-maker in an organisation plays a more critical role in managing and selecting what actions should be taken, rather than allowing a dynamic environment to shape the organisation from the outside. According to this stance, effectuation emphasises the individual's decisions, which usually are not formally planned. Based on these three theoretical syntheses from influential thinkers on management and the organisation, effectuation was proposed as a new emerging theory which can explain how entrepreneurs think and behave in uncertain situations.

As effectuation also involves a decision-making process, scholars who discuss decision-making processes tend to associate its rationale with a future scenario; this common ground has been built by researchers from psychology, anthropology and organisation, statistics and economics. At the root of the decision-making process in an uncertain situation, scholars belong to two main schools or streams of thought, which are rational decision models (e.g., Focardi & Jonas, 1998; MacCrimmon et al., 1988; Shapira, 1997) and bounded rationality (e.g., Simon, 1959; Taylor, 1984; Tversky et al., 1990; Zey, 1998).

Effectuation is grounded in these two streams of thought. The foundation argument of these two streams is that humans, in general, are not always rational decision-makers. Humans are bound by the limit of their cognitive power (Simon, 1959). In a case where decision-makers believe that the future is relatively predictable, more information means better decisions. However, in an uncertain future, decision-makers need to decide and take action, which means biases and fallacies in terms of criteria, conditions, self-interest and individual values. Therefore, in a situation where the future is believed to be difficult to foresee, relying on self-discovery and inductive logic (Gigerenzer et al., 1988) is an approach to managing their constraints.

The Concept of Effectuation as an Entrepreneurial Approach

During the introduction period of effectuation theory, the first paper on effectuation was written by Sarasvathy (2001a). Her paper made several debatable points concerning marketing and market creation: when a new firm has a product or service that does not yet exist in the market, how do entrepreneurs set the price point? How can they estimate the actual production cost and function cost and make revenue projections, especially when there is no demand for that category? Another question concerns human resources; effectuation asks how new entrepreneurs recruit people to work with them as they have no organisation, no salaried staff, no historical data regarding payments, bonuses and other factors.

According to the questions posed above, Sarasvathy (2001a) argues that it may not be applicable for entrepreneurs to refer to a classical planning approach in a generic management and marketing textbook. For example, when individuals or new firms make a first attempt to run a business in a new market, the marketing management textbook from Kotler states that 'A market consists of all the potential customers sharing a particular need or want who might be willing and able to engage in exchange to satisfy that need or want' (1991: 63). According to this definition, it may not be applicable to an uncertain situation for entrepreneurs facing the questions posed by Sarasvathy (2001a) and presented above, including the issue of a non-existent market, unknown demand and uncertain knowledge of how to proceed.

To demonstrate this, Sarasvathy (2001a) shows the barriers to using a classical planning approach for entrepreneurs who lack resources and aim to build a new business in a new market. For example, to enter a new market, Kotler, in a classical planning approach, briefly defines five steps as follows: First, analyse a market opportunity in various aspects and predict long-term scenarios. Second, conduct research to understand target markets, then select primary target consumers. Third, design strategies to meet KPIs and goals. Fourth, write a marketing plan for action. Last, implement and control what planned activities can achieve. The steps and working processes presented above indicate a problem as entrepreneurs who start a new business or wish to extend an existing one may not have the necessary resources, in terms of information and budget, or the formal knowledge to implement all these steps (Sarasvathy, 2001a). Thus, effectuation theory holds that a classical planning approach may fit established firms but not be applicable to entrepreneurs. It is suggested that there should be another approach that can effectively explain an entrepreneurial approach.

To elaborate better evidence on effectuation, Sarasvathy (2001a) conducted further empirical research and proposed more empirical evidence on an effectuation approach. In her empirical study, she interviewed 27 expert entrepreneurs in 17 states across the US who had founded a company, remained with it for several years and taken the company to an IPO. They had operated in various industry groups (e.g., retail goods and services, computers, ice cream). Those entrepreneurs were asked to describe and explain if they needed to create a new product and business, where an imaginary business was used as the subject as part of the methodology, what their answers would be to the following topics: their potential customers for this product; the potential competitors for this product; what information would be sought about potential customers and competitors; what market research would be done; what the growth possibilities are for this company.

From this research, it was discovered that 23 out of 27 entrepreneurs did not use causal reasoning (e.g., a classical planning approach). The subjects were asked specifically about the process, where it was concluded that a model of effectual reasoning was more applicable, as an entrepreneurial approach was started with available means (e.g., what do they currently have/know), to start a new business, and then adapt to emerging opportunities, rather than setting pre-determined goals. She concluded that an effectuation approach could explain the process emerging out of the data, and it is argued that the process is the inverse of casual reasoning. For example, a pre-defined market (e.g., size and industry) and goals (e.g., market share, target market) do not provide meaningful information and logic for entrepreneurs when creating new products and businesses. In 2001, this paper partially set the stage for the future of effectuation theory and literature.

Key principles of effectuation

As our thesis uses effectuation as the key theoretical lens through which to study small artisan entrepreneurs, in addition to the literature review in Chapters 2, 3 and 4, we briefly present the principles and rudimentary principles of effectuation in this section.

In effectuation, the process starts with entrepreneurs themselves as means or described as: Who am I? What do I know? Whom do I know? Entrepreneurs then start thinking about what they can do and their goals by considering what they can afford to lose. As Sarasvathy (2001a)

emphasises, effectuation is a co-creation process (entrepreneurs and partners) in which strategic partners play a crucial role in supporting an uncertain future (Sarasvathy & Dew, 2005, p. 543). This effectual stakeholder leads to added resources and new goals for entrepreneurs (Fig. 1).

Effectuation (Sarasvathy, 2001a) was originally described as four principles as follows: (1) Affordable loss rather than expected return (2) Strategic alliances rather than competitive analyses (3) Exploitation of contingencies rather than exploitation of pre-existing knowledge and (4) Controlling an unpredictable future rather than predicting an uncertain one. The principles identified offered a more solid foundation for an effectuation approach.

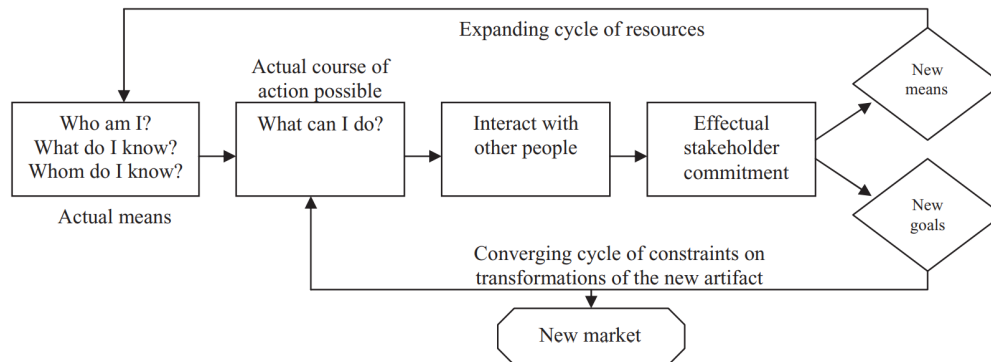


Figure 1: Effectuation framework Effectual Process (Sarasvathy & Dew, 2005, p. 543)

In 2011, according to the principles of effectuation proposed by Sarasvathy (2001a), Chandler et al. (2011) made a significant contribution to the theory of effectuation and the clarity of scales for measurement. They proposed the first validated measurement scales for causation and effectuation by conceptualizing the original concepts of effectuation theory (Sarasvathy, 2001a), and building a measurement construct together with validating scales. As a result, they developed and provided validating information for measurement of an effectuation approach (Chandler et al., 2011).

The last decade has seen a vital improvement in effectuation studies. Since the publication of effectuation measurement scales by Chandler et al. (2011), there have been 14 studies based on quantitative empirical research where the domain of the topic included firm and entrepreneurship logic, an entrepreneurial approach, effectuation and performance, and new product development (Matalamäki, 2017). For qualitative research, the number of qualitative studies reached 24 papers between 2012 and 2016 (Matalamäki, 2017).

With the impact of this seminal paper, effectuation theory started to gain attention from researchers in various academic areas and strengthened the development of the theory. We conclude that there are four principles of effectuation which, it is suggested, are widely accepted principles or dimensions of effectuation that researchers can use for scale measurement and research operation.

First principle: Short-term experiments

As the first effectuation principle, entrepreneurs use 'short-term experiments' with what they have rather than long-term planning. Entrepreneurs who use an effectuation approach tend to

make do with what they have and improve themselves by experimenting with different ways of doing what they do (Chandler et al., 2011; Sarasvathy, 2001a). Scholars have found that when organisations need to work with practical actions for the future, an experimental approach to creating a new business or innovation is categorised as a lower-cost method (Eisenhardt et al., 1997; Koberg et al., 2003). Supported by recent work related to the exploration of new research and development, effectuation has a positive relationship with innovativeness and the performance of R&D projects (Brettel et al., 2012).

Second principle: Affordable loss

As the second effectuation principle, entrepreneurs use ‘affordable loss’ to inform how much they should invest in a certain activity. As Sarasvathy (2001a) states, “Effectuation predetermines how much loss is affordable and focuses on experimenting with as many strategies as possible” (p. 252). This dimension of effectuation is a crucial approach for new ventures, entrepreneurs and individuals who decide on an initial investment to capture a new business opportunity. In this approach, instead of predicting revenues and the cost of operations, effectuation tends to focus on what they can afford to lose (Chandler et al., 2011; Sarasvathy, 2001a). Concerning what they can accept to lose as the starting point, individuals can better work to this affordable amount, such as time, cost and opportunities they can sacrifice. At the same time, additional investment will not be made unless they first see a tangible outcome. For example, small entrepreneurs tend not to take on a large amount of debt or invest too much until their new products or services prove their worth.

Third principle: Flexibility

As the third effectuation principle, entrepreneurs use ‘flexibility’ to maintain the ability to capture new opportunities as they emerge, as well as abandon potential losses and move on to the next possibilities. This aspect has been seen in the literature as one of the benefits that start-up companies have over large corporations (Chandler et al., 2011). Entrepreneurs following an effectuation approach tend to remain flexible and not be restricted by rules, policies, direction and business vision, as they depend on their own decisions. They are aware of emerging opportunities, so they tend not to commit to and allow a condition that reduces their flexibility to capture new opportunities (Chandler et al., 2011; Sarasvathy, 2001a). In 2014, scholars adopted causation and effectuation to test a new product development team and understand how both approaches influence outcomes of creativity. They found that creativity in new product development processes is enabled by effectuation more than causation, with flexibility and exploration being crucial elements of this outcome (Blauth et al., 2014).

Fourth principle: Pre-commitment

As the fourth effectuation principle, entrepreneurs use ‘pre-commitment’ and partnership to secure partnership commitment, reduce risk and acquire new resources. Effectuation theory is viewed as a co-creation process where a strategic alliance is put at the heart of the process model.

It is argued that although entrepreneurs by definition face an uncertain future for markets and demand (Chandler et al., 2011; Sarasvathy, 2001a), entrepreneurship with the effectuation principle tends to use pre-commitment, such as agreement, supporting a deal and networking, to reduce the uncertainty of their future scenario. By doing this, entrepreneurs do not need to rely on analysing and predicting the future, as they use partnerships to support activities and areas that they believe go beyond what they can afford to lose.

The key mechanism that allows this risk spreading is that entrepreneurs allocate their risks to other stakeholders in their network. For example, investors can take risks such as funding and financial activities, while entrepreneurs can focus on making products. Recently, more researchers have started to investigate this area of effectuation. For example, Prashantham et al. (2019) conducted research on networks and partnerships by focusing on network-building and internationalisation speed. They form an argument that recognises collaboration as an essential element of effectuation that affects growth and expansion.

These four principles of effectuation that suggested by scholars (Chandler et al., 2011; Sarasvathy, 2001a), are the core concepts that use in explaining, studying and measuring the effectuation approach.

Effectuation in marketing and management research

An effectuation paper that directly addresses the marketing issue is ‘Marketing Under Uncertainty: The Logic of an Effectual Approach’ by Read, Dew, et al. (2009). In this inspiring article for marketing scholars, they questioned how, in a situation of uncertainty, people approach marketing and market creation and how they involve marketing research in their actions. To understand this, the authors analysed expert entrepreneurs and compared them with managers who had no entrepreneurial experience, to understand what approach they should use to solve problems. There are essential variations between the two groups in the outcomes. While managers without entrepreneurial experience relied on business theory and depended mainly on predictive methods, experienced entrepreneurs employed an effectuation logic with a co-creation initiative that engaged stakeholders to address an unknown market. In that paper, it is suggested that marketing scholars adopt effectuation theory to investigate different contexts and situations to gain insights into how marketers and entrepreneurs address marketing plans in practice.

In 2017, a seminal publication by Sarasvathy (2001) received an award from the Academy of Management (Academy of Management, 2017). Thus, it is interesting to explore how businesses and marketing scholars use an effectuation lens to understand entrepreneurs or individuals who have the role of both marketers and producers. In sum, effectuation has provided an exciting possibility for the entrepreneurship community and beyond as a theoretical perspective to understand entrepreneurial approaches used in various contexts.

Effectuation theory and thesis context

Based on the theoretical background presented above, this thesis has three main reasons to adopt effectuation as its key theoretical foundation.

First, the effectuation approach is based on the entrepreneurial approach used when facing limited resources and uncertainty (Sarasvathy, 2001a). Our context in this thesis is small artisan entrepreneurs in Thailand, a group of entrepreneurs who lack financial resources (e.g., financial capital) and non-financial resources (e.g., partnership networks and knowledge). Hence, based on the appropriateness of the theoretical concept for the context, effectuation is used in our study.

Second, this thesis is interested in insights into small entrepreneurs who are individuals and are either small-business owners or self-employed and not affiliated to a large (multinational) corporation, as effectuation theory is an entrepreneurial approach that has recently started to gain attention among studies of small entrepreneurs (e.g., Guo, 2019; Laskovaia et al., 2017). However, based on this newly developed research area, an effectuation approach in the context of small entrepreneurs is still limited. Moreover, within the effectuation literature on small entrepreneurs, the context of artisan entrepreneurs we study in this thesis is crucially lacking. Thus, this thesis seeks to gain insights that will help to address these research gaps. For example, some studies on effectuation have focused on small firms.

Third, effectuation can be more important for entrepreneurs in unpredictable situations (Sarasvathy, 2001a). One of the chapters in this thesis aims to gain insights into small entrepreneurs' approach during the Covid-19 crisis, which is considered an extremely unpredictable condition. Therefore, effectuation as an entrepreneurial approach used by entrepreneurs operating and managing the crisis can be a suitable theoretical lens through which to gain insights into an entrepreneurial approach.

Another relevant entrepreneurship theory is the seminal work of Baker and Nelson (2005), the theory of bricolage. Despite the applicability of bricolage theory to investigate the entrepreneurial process, there are at least two reasons why effectuation theory is more relevant than bricolage theory to our research.

First, entrepreneurship bricolage pays more attention to the objects and tools of individuals (Baker and Nelson, 2005). It seeks insights into how individuals can avoid new challenges by adapting their capability to the resources to hand in order to create new things and solve problems. In effectuation theory, individuals focus more on using what they have to embrace a co-creation process or search for commitment from external partners to capture new opportunities. Savarasthy (2008) notes that effectuation can succeed through co-creation processes and partnerships, and we found that this premise has more potential for our topics and research questions.

Second, entrepreneurship bricolage may be suitable for individuals with extremely limited resources wishing to avoid new challenges. Entrepreneurs in our context are small businesses that embrace adapting and growing beyond their current capability (e.g. they register for government craft initiatives to connect and learn new business skills). Moreover, they are characteristically artisan entrepreneurs in Thailand, and they tend to be lower-middle class small entrepreneurs who should not be assumed in all cases to be individuals who operate with an extreme lack of resources. Therefore, concerning the premise and context relevance of entrepreneurship theories, the effectuation approach is more likely to suit our context and capture their underlying insights and entrepreneurial behaviours.

Research Objectives

The aim of this thesis is to gain insights into the role of effectuation in influencing small artisans' entrepreneurial decisions, actions and performance in Thailand. Specifically, this study examines the impact and role of effectuation on small artisan entrepreneurs' performance such as improving business performance, strengthening long-term partnership commitment and managing the Covid-19 crisis. Thus, this thesis is guided by the following objectives:

- To conduct a systematic literature review on research concerning the impact of effectuation on business performance.
- To develop and empirically test a conceptual model to explain the underlying mechanism between effectuation and long-term partnership commitment in the context of small artisan entrepreneurs and government initiatives.
- To identify small artisan entrepreneurial characteristics and investigate the entrepreneurial approach used by small artisan entrepreneurs in managing Covid-19 crisis.

Research Context

In this thesis, our context is small artisan entrepreneurs in Thailand. Small artisan entrepreneurs work in the craft industry, which plays an essential role in supporting the creative economy and travel in Thailand (Chudasri et al., 2013). The economic value of craft industry to the Thai economy in 2014, was estimated at around 87 billion baht or 0.7 percent of GDP (CEA, 2019). Craft employment makes a significant contribution one-third of total employment in creative sectors (CEA, 2019). There are over two million artisans in the craft industry, and more than half of them are full-time employees. They are a crucial element helping to support Thailand's economic and social development (UNCTAD, 2008).

In Thailand, artisan products are handcrafted using traditional methods. Handicrafts are a type of souvenir purchased by visitors to specific regions (Prins et al., 2006). In order to be competitive in the market in the Thai craft industry, small artisan entrepreneurs attempt to combine their knowledge of traditional products with creative design to make unique products such as handicrafts, textiles and apparel. Small artisan entrepreneurs face a lack of resources in both financial and non-financial aspects. They need to rely on individual resources, local people and personal networks to develop handicraft products and sell them in tourism markets, local markets, craft markets and souvenir stores.

In the past decade, there have been challenges as the economic and competitive landscape has changed. The crafts market was struggling to grow and exporting crafts to international markets faced a competitive environment. Thailand's economic and development policy was thus formulated to empower and transform 'small handicraft entrepreneurs' to be able to compete in both local and international markets (Jones & Pimdee, 2017).

It is suggested that to remain competitive, the capability of small artisan entrepreneurs needs more support from the private and government sectors (Chudasri et al., 2013). To address this issue, the government has initiated and provided support programmes for artisan

entrepreneurs. The Support Arts and Crafts International Centre of Thailand (SACICT) is an important and active government organisation operating under the auspices of the Ministry of Commerce. It has the responsibility to collaborate and co-create better business performance with small artisan entrepreneurs. However, currently, most of the collaboration and support from the government cannot achieve long-term partnership commitment, especially during Covid-19, when the government could not provide effective support to all small artisan entrepreneurs. As a result, small artisan entrepreneurs have faced a more challenging situation, while a lack of insight and research into the situation posed a barrier to understanding each small artisan entrepreneur and policies to address their problems.

A general problem for small artisan entrepreneurs, as stated by Dr Seri Phongphit, a Professor of Community Development Studies, is that “many groups had to abandon their projects because group members lacked the entrepreneurial skills, they needed to manage their businesses” (Tangpianpant, 2010, p. 76). While others argue that entrepreneurial mindset of artisan entrepreneurs and big corporations may be different and requires a better understanding.

According to our study context, we found that several questions should be raised about our understanding of the impact of the entrepreneurial approach used by this particular group – small artisan entrepreneurs; the differences between the entrepreneurial approach used by small artisan entrepreneurs and the perspective and approach used by government initiatives; the lack of insights into the characteristic of small artisan entrepreneurs, not only as an entrepreneurial aspect but also as an individual aspect.

In addition, during the epidemic, when writing this thesis, the craft business, a tourism-related industry, has been severely impacted by the Covid-19 crisis. Craft festivals, fairs and markets have had to be cancelled. Thai craft entrepreneurs suffered a drop in domestic and international tourist numbers and were compelled to close their souvenir shops. Hence, in this thesis, we also aim to understand and gain insights into the entrepreneurial approach that small artisan entrepreneurs used to manage the Covid-19 crisis. This thesis aims to provide empirical evidence that is meaningful for academic researchers and offer managerial insights for small artisan entrepreneurs and policymakers in Thailand.

Thesis Outline

To reach the objectives of the thesis, we conducted three independent studies: a systematic literature review using a meta-analysis approach reported in Chapter 2; an empirical study focusing on small artisan entrepreneurs in the context of partnership presented in Chapter 3; an empirical study exploring small artisan entrepreneurs in the context of managing the Covid-19 crisis presented in Chapter 4. These three studies are independent yet theoretically synthesised to provide building blocks to address the central objectives. The following description briefly outlines the concept and core idea of the three studies.

Chapter 2 conducts a systematic literature review on the effects of effectuation on performance using meta-analysis to address the nature of the impact. The overall impact of effectuation on business performance is presented, followed by a meta-regression to assess potential moderator variables that might explain the heterogeneity in effect sizes. The main purpose of this study is to review the effectuation literature, develop an understanding and identify relevant contextual

factors that influence the effect of effectuation on performance. Then, in this chapter, we discuss the implications of the findings for future effectuation research and managerial implications.

There are two main alternatives regarding a literature review approach: narrative literature reviews and systematic literature reviews. For narrative literature reviews, the primary objective is to explain comprehensively the background of current knowledge and the importance of key literature in the field. This approach is typically selective in the literature it uses. It can assist and refine the focus of a broad research issue and it is effective for both topic selection and refinement (Coughlan et al., 2007). However, a narrative literature review cannot describe a statistical procedure to examine effect size and detect patterns and relationships across studies to address our research objectives. For this reason, this thesis uses a systematic literature review and meta-analysis approach to assess the link between effectuation and business performance across studies, as meta-analysis allows researchers to use a statistical procedure for summarising findings, detecting patterns and assessing effect sizes of multiple studies (Lipsey and Wilson, 2001).

Chapter 3 develops and tests research propositions and conceptual framework for small artisan entrepreneurs' long-term partnership commitment to government initiatives. This research examines the emerging role of effectuation in the context of partnerships by gaining insights into the use of an effectuation approach and other relevant factors that enhance or constrain long-term partnership commitment. This paper comprises two sub-sequential studies. In study one, we conduct empirical qualitative interviews with artisan entrepreneurs to build a research proposition and conceptual framework. In study two, we conduct empirical quantitative research to examine the influential mechanisms of effectuation that affect long-term partnership commitment. The research context of this study is small artisan entrepreneurs and government initiatives.

Chapter 4 presents empirical qualitative research evidence on a small artisan entrepreneurial approach to managing the Covid-19 crisis. This study aims to understand the characteristics of small artisan entrepreneurs and their entrepreneurial approach to managing the crisis. This study also explores the potential linkage between small artisan entrepreneurial characteristics in relation to the entrepreneurial approach used during the Covid-19 crisis. The findings should contribute to the field of effectuation research by examining the characteristics of artisan entrepreneurs in relation to the use of an effectuation approach during the pandemic.

Chapter 5 draws upon the entire thesis, tying up the various theoretical and empirical strands to present the main findings for the impact and role of effectuation on small artisan entrepreneurs in Thailand. This chapter includes a discussion of the implications of the findings for future research into this area.

Table 1: Overview of the three studies

	Conceptual focus	Research context	Methodology	Analysis
Chapter 2	- Meta-analysis of effectuation and firm performance	Literature study	Meta-analysis, meta-regression	SPSS using Meta-Analysis macro
Chapter 3	- Effectuation and long-term partnership commitment - Moderation effect of artistic integrity - Mediation effect of absorptive capacity	Small artisan entrepreneurs and government initiatives in Thailand	Mixed methods; In-depth interviews and quantitative survey	Thematic Analysis, and PLS-SEM (Partial Least Squares)
Chapter 4	- Entrepreneurial characteristics - Effectuation and causation as an entrepreneurial approach - Success and failure in managing the Covid-19 crisis	Small artisan entrepreneurs during the Covid-19 crisis in Thailand	In-depth interviews	Thematic Analysis

Chapter 2

The effect of effectuation on firm-performance: a meta-analytic study

Abstract

Effectuation has been proposed as an entrepreneurial theory that explains the decision-making processes of entrepreneurs. The present research examines the effects of effectuation on firm performance using meta-analysis with the aim of addressing the precise magnitude and nature of the effects. In doing so, we consider five potential moderators that might explain heterogeneity in effect sizes. Our results show that, first, the overall effect of effectuation on firm performance is significant ($r = 0.235$). Second, despite the small overall effect, the results reveal that the effect of effectuation is significantly larger on innovation performance than on financial performance. Third, the effect is significantly larger when effectuation is used as a general measure compared to its sub-dimensions. Furthermore, our results demonstrate that effectuation can be beneficial across various types of firms and the economic status of countries. We discuss the implications of these findings for future effectuation research and managerial implications.

Keywords:

Effectuation, Meta-analysis, Entrepreneurs, Firm performance

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1. Introduction

Effectuation is an increasingly important entrepreneurial theory in entrepreneurship, management, and marketing (Sarasvathy & Dew, 2008; Sarasvathy, 2001a). According to this theory, entrepreneurs might engage in unstructured decision-making processes (i.e. effectuation strategies) when pursuing entrepreneurial opportunities. When entrepreneurs employ an effectuation strategy, their focus is on the available resources at their disposal and a set of activities that may possibly be exploited from those resources (Sarasvathy, 2001a). The development of the theory was motivated by the inability of causation models to account for entrepreneurs' decision-making under uncertainty. For example, in uncertain situations characterized by a lack of resources and limited information (e.g., in the earlier stages of venture creation), entrepreneurs might not be able to engage in systematic planning.

Since its introduction by Sarasvathy (2001a), a growing number of empirical studies have examined the relationship between entrepreneurs' effectuation strategies and firm performance. Yet, the precise magnitude and nature of such relationships remain unclear. Furthermore, despite extensive research, past empirical findings on the effects of effectuation on firm performance have been fragmented and contradictory. That is, from our analysis, the direction of the effect of effectuation and firm performance from previous research are ambiguous. Although the majority of studies have found a positive relationship between effectuation and firm performance (e.g., Cai et al., 2017; Deligianni et al., 2020; Yu et al., 2018), there are also studies that found a negative relationship (e.g., Malinga, 2018; Urban & Heydenrych, 2015). We speculate that these divergent findings could be due to differences in their various research contexts (e.g., type of company, research design, economic status, type of performance). Thus, there is a need to understand the factors that explain these divergent findings. For the above reasons, we conducted a meta-analysis study to systematically review past research that examines the link between effectuation and firm performance.

It is important to note that several entrepreneurship theories have emerged over the last decade to describe the decision-making approach and logic underlying the entrepreneurial approach, including effectuation (Sarasvathy, 2001), entrepreneurial bricolage (Baker & Nelson, 2005) and the creation perspective (Alvarez & Barney, 2007). Although it would be beneficial to cover all these theoretical perspectives, it is beyond the scope of this research to do so. Thus, the focus of this research is on prominent emerging theories, and effectuation theory is one such (Fisher, 2012) that explains the entrepreneurial approach and process. In addition, the key publications covering effectuation (Sarasvathy, 2001) have received more citations than works on alternative theoretical frameworks, and over the past decade the effectuation literature has increased substantially (Fisher, 2012).

In this study, we address the following main research objectives. First, common to any meta-analysis study, our aim is to determine the size and direction of the effect of effectuation on firm performance. Second, we want to examine potential contextual factors that may affect the relationship between effectuation and firm performance. We believe that this research will provide a deeper understanding of the circumstances in which entrepreneurs are likely to benefit more from adopting an effectuation approach. This research enquiry is in line with the view of previous research (Karami et al., 2019) that research on effectuation has been mainly restricted to limited comparisons of contextual factors (e.g., conducted in a particular

country, using one particular type of firm). Thus, this paper responds to this research call by examining contextual factors in a more generalizable and comparable way.

In this regard, we focus on the following five contextual factors that can affect the relationship between effectuation and firm performance, henceforth called moderators. First, we look at the influence of the economic status of countries (i.e., developed vs developing countries). In the past ten years, effectuation research has been conducted on various continents and in different settings. However, the effect of the economic status of a country on the relationship between effectuation and firm performance remains unexplored. The rationale of investigating this moderator is that the economic status of a country where firms are situated can influence entrepreneurs' strategic decision-making processes, which in turn affects firm performance (e.g., (e.g., Malinga, 2018; Shirokova et al., 2020). For example, the effect of effectuation on firm performance might be different between developed vs developing countries.

Second, we look at the role of type of firm (i.e., small vs established) as another potential moderator. At the beginning of effectuation research, Sarasvathy (2001a) suggested that effectuation is an approach used by established firms with experienced entrepreneurs. However, recently, research on effectuation has gained more attention and expanded to include various types of firms (e.g., small firms and established firms). From our literature review, empirical research on the relationship between effectuation and firm performance mainly focuses on two types of entrepreneurs – small firms including a new venture and SMEs, and established firms. For example, some studies on effectuation have focused on small firms (e.g., Guo, 2019; Laskovaia et al., 2017; Malinga, 2018), whereas others have focused on established firms (e.g., Akulava, 2018; Blauth et al., 2014; Feng et al., 2020; Smolka et al., 2018). As most effectuation studies focus on either small or established firms, we argue that their results are restricted as this singular view may limit the generalisability of their research findings to other contexts. Therefore, there is a need to summarise the effects among different firm types via a meta-analysis study.

Third, we examine the potential moderator of how firm performance is operationalized (i.e., financial vs innovation-related). Some effectuation research has measured financial-related performance using marketing or financial metrics (e.g., sales performance, market share). For example, Deligianni et al. (2017) used market share to measure firm performance. Other research has focused on innovation-related performance using self-reported measures (e.g., creativity, innovativeness). For example, Harms et al. (2021) studied the effect of effectuation on firm performance by asking managers to respond to a set of statements about their firms' business innovations. Thus, due to the different ways of measuring firm performance, there is a need to assess the effect of its operationalization on the relationship between effectuation and firm performance.

Fourth, we examine the potential moderator of the measurement of effectuation (i.e., as a general measure vs one of its sub-dimensions). The scale of effectuation developed by scholars is typically based on the original concept of effectuation (Sarasvathy, 2001a) and consists of four dimensions: affordable loss, flexibility, experiment, and pre-commitment. Nevertheless, extant literature indicates that researchers tend to use two approaches to assess effectuation measures. Some studies operationalize effectuation using a single measurement, i.e., taking the scores of sub-dimensions to create an aggregated effectuation item (e.g., Cai et al., 2017; Shirokova et al., 2020). While some researchers use the sub-dimensions of effectuation as a multi-dimensional

construct (e.g., Akulava, 2018; Roach et al., 2016), some researchers only use a specific dimension in their research. Thus, we argue that a generalisable research effort is needed to understand whether the differences in the measurement of effectuation can influence the impact of effectuation on firm performance. Hence, this paper aims to assess to what extent these various measurements contribute to the variations in the effects of effectuation on firm performance.

Finally, we examine the types of effectuation scales used by previous studies as the fifth moderator in our meta-analysis study (Chandler's (2011) scale vs others). There are at least two widely used survey-based scales in effectuation research: Chandler et al. (2011) and Brettel et al. (2012). The scales from Chandler et al. (2011) focus on entrepreneurs' behaviour, logic and approach toward their business in general. However, for the scale from Brettel et al. (2012), the focus is primarily on the context of R&D rather than general financial performance, which specifically addresses how firms explore and create new innovations (e.g., product innovation). Based on these variations, we propose that the different types of effectuation scales used in research can be one of the moderators that may influence the effects of effectuation and firm performance. We also note that, even measuring when similar aspects of the scales, moderators four and five are independent.

We begin our paper by providing a brief overview of effectuation theory and conducting a concise discussion on the measurement of effectuation in the literature. Next, we discuss the findings of previous research on effectuation and firm performance. We then explain the rationale for selecting potential moderators with a general prediction of the relationship between effectuation and firm performance. Then, we present our meta-analysis methodology and procedure. In a subsequent section, we discuss the results of our analysis. Finally, we conclude with our findings, a discussion and research implications.

2. Theoretical background

2.1. Effectuation and Firm performance

As briefly mentioned in the introduction, effectuation theory explains the logic of how entrepreneurs make decisions in an uncertain situation (Sarasvathy, 2001a). For example, entrepreneurs who launch a new product in a context where a market has not yet been formed may have limited market information to predict the future (e.g., sales forecasts, market share, market competition). Effectuation theory describes four principles that underpin the logic of thinking that expert entrepreneurs use when facing uncertain situations. First, entrepreneurs conduct short-term experiments with what they have rather than engage in long-term planning. Second, entrepreneurs focus on what they can accept to lose instead of calculating investment, revenue and loss. Third, entrepreneurs see a strategic alliance as vital to reduce uncertainty in their future. Fourth, entrepreneurs allow themselves to be flexible as regards new emerging opportunities to be exploited (Sarasvathy, 2001a). Based on Sarasvathy's theorizing, Chandler et al. (2011) conceptualise effectuation as a multi-dimensional construct with four dimensions derived from the four principles described above, as mentioned in the introduction. Since the comprehensive measures developed by Chandler et al. (2011), scholars have explored and

investigated effectuation and the positive link to performance in different contexts and with different external contingencies.

A number of empirical studies have demonstrated that the use of an effectuation approach can improve firm performance (e.g., Cai et al., 2017; Deligianni et al., 2020; Yu et al., 2018). However, inconclusive results have been observed in research on the direct impact of effectuation and performance. We found that some empirical studies show weak or negative links between effectuation and firm performance (see Table 1). For example, Yu et al. (2018) studied effectuation and firm performance in three different locations: Beijing, Shanghai, and Hangzhou. They found that effectuation has no significant impact on firm performance in certain locations. They also found that effectuation tends to have no effect when entrepreneurs operate in a low uncertainty environment, as they mention: "...we fail to find that effectuation has a positive effect on firm performance when environmental uncertainty is low. A possible explanation is that the advantages and disadvantages of effectuation cancel each other out in a less uncertain environment, which leads to an insignificant net effect" (p.128). The authors indicate that an effectuation approach has a boundary condition. They suggest that effectuation can be contextualized by the places and contexts where and in which companies operate.

In addition, we found that in some studies, effectuation has a negative impact on firm performance (see Table 1). For example, Malinga (2018) found that some effectuation dimensions have a negative association with firm performance, as the author mentions: "affordable loss ... and flexibility ... seem to have a weak negative association, if any, with performance ... [their] association is not [a] causal (relationship); hence further tests will be conducted to test if there are any relationships between the independent variable of effectuation and causal factors and the dependent variable venture performance" (p.109). However, in this study, the authors provide a limited explanation for this negative association.

The above discussion demonstrates that although it is conceivable to consider that effectuation can improve firms' performance, it could have limitations and may have various effects in some specific circumstances (e.g., innovation vs financial performance, small firms vs established firms). It is also possible that is because an effectuation approach relies on opportunity exploitation; thus, effectuation may be contextualised by various external factors.

Regarding the meta-analysis literature on effectuation, there are two meta-analysis papers that have studied the impact of effectuation on firm performance. The first paper is a meta-analysis of effectuation and venture performance by Read et al. (2009). They measure the relationship between effectuation and new venture performance. They found that all dimensions of effectuation are significantly and positively related to new venture performance, except affordable loss. However, there are three main limitations to their study. First, they do not consider contextual factors that might explain how potential contextual factors affect the relationship between effectuation and firm performance. Second, they focus on literature published in the *Journal of Business Venturing*, which could limit its generalisability to different fields of study. Third, Chandler's scale of measurement did not exist in 2009, although it is now considered reliable and has been widely adopted in mainstream effectuation studies since 2011. To respond to these limitations, our meta-analysis aims to identify contextual factors that may explain variations in the effect size of effectuation and firm performance. In addition, we include literature from 2011 and do not focus on any particular publisher for wider application and generalisability.

The second paper is a recently published meta-analysis study by Chen et al. (2021). Their study aims to measure the effect of effectuation on firm performance. The results show that effectuation has a positive impact on firm performance. They found that the effect of effectuation on firm performance is more substantial for older firms, firms in high-tech industries and firms that operate in emerging countries. Despite the beneficial insights from these three contextual factors, their study does not incorporate type of performance (e.g. financial or innovation performance) or type of measurement scale (e.g. Chandler's scale, 2011) as contextual factors. We argue that these two potential moderators are crucial when studying effectuation and firm performance. Specifically, type of performance (e.g. financial or innovation performance) may be essential to better understand the significant benefits of effectuation theory. To respond to this gap, our meta-analysis examines type of performance and type of effectuation measurement as our main contextual factors.

Based on our initial literature review and recent gap in meta-analysis literature, overall, what is not yet clear is the level and magnitude of impact of effectuation on performance across different studies, and potential contextual factors that may explain the variation in its impact. Our literature review shows that the impact of effectuation and firm performance has been tested empirically in at least five different contextual elements, including the economic status of countries, types of companies, types of dependent variables, general specific scale measurements and types of effectuation constructs. According to these five potential moderators, we build on studies of effectuation, entrepreneurship and management to suggest why our three potential moderators may be relevant and able to explain the variations in the effect of effectuation on firm performance across studies.

Table 1

Examples of the relationship direction between effectuation and firm performance.

Relationship Direction	Sample Authors	Excerpts
Positive relationship	Cai et al. (2017)	"Our findings provide support for extant theoretical arguments by demonstrating the positive effect of effectuation on new venture performance in transitional economies, which might differentiate effectuation from causation" (p.398).
Negative relationship	Malinga (2018)	"...affordable loss and flexibility seem to have a weak negative association, if any, with performance. Association is not causal (a relationship), hence further tests will be conducted to test if there are any relationships between the independent variable of effectuation and causal factors and the dependent variable, venture performance" (p.109).
No significant relationship	Yu et al. (2018)	Surprisingly, we fail to find that effectuation has a positive effect on firm performance when environmental uncertainty is low. The possible explanation is that the advantages and disadvantages of effectuation ... cancel each other out in a less uncertain environment, which leads to an insignificant net effect (p.128).

The following section presents a literature review of five potential moderators that we speculate may moderate the effectuation and firm performance relationship.

2.2. Potential moderator 1: Economic status of countries

It is argued that businesses based on different economic statuses may have various perceptions of corporate policy and decision-making. Hence, external factors such as economic status may play a crucial role in how entrepreneurs make decisions. For example, previous research on entrepreneurship studies has documented that economic status affects firms and the development of entrepreneurship (e.g., Hechavarria & Reynolds, 2009; Stenholm et al., 2013; Wennekers, 2006; P. K. Wong et al., 2005), while in effectuation research some recent studies have revealed that economic status may influence the linkage between effectuation and firm performance (e.g., Malinga, 2018; Shirokova et al., 2020; Urban & Heydenrych, 2015). For this potential moderator, we anticipate that effectuation may have a more substantial effect in developing countries because effectuation relies more on an informal business planning approach (e.g. limited as regards formulating a business plan), and so this premise may be more relevant to developing countries where entrepreneurs may operate in less complex and less structured business environments.

In our literature review on effectuation in relation to economic status, we can categorise effectuation studies into three main categories of economic status, which are effectuation studies in developing countries, developed countries, and a mixed countries study group. In our literature review, we find that effect sizes vary across developed versus developing countries. A large number of effectuation studies conducted in developed economies have reported the benefits of effectuation. In recent years, more effectuation studies have been conducted in developing countries. For example, Cai et al. (2017) conducted a study to examine effectuation and venture performance in developing economies (China). Similar to Malinga (2018), who studied effectuation in developing economies (South Africa), it was found that an effectuation approach was considered useful in developing countries. Shirokova et al. (2020) also found that effectuation may be useful for entrepreneurs in developing countries. In our initial review of the literature regarding the effect of effectuation on firm performance, many authors argue that economic status may play an important role in influencing the impact of effectuation, thus we need to assess the moderating role of economic status on the association between effectuation and firm performance (e.g., developing countries, developed countries, and studies investigating mixed countries).

Table 2

Examples of previous papers about economic conditions.

Sample Authors	Excerpts
Urban and Heydenrych (2015)	"Effectuation is relevant to emerging economies as it allows firms to experiment with a greater number of new ideas at lower costs."
Shirokova et al. (2020)	"Our results suggest that effectuation provides SMEs in emerging markets with an effective behavioural strategy, allowing rapid adaptation to dynamic and unpredictable environmental changes, and even the construction of new environments based on creative actions."
Malinga (2018)	"...the study anticipated that in emerging market South Africa, effectuation processes would be considered useful. The results of this study support the view that in the emerging economy of South Africa, where the new venture mortality rate is chronically high and therefore indicative of an environment..."

2.3. Potential moderator 2: Type of business

Empirical research on the relationship between effectuation and firm performance can be categorised into two groups of entrepreneurs: small firm (e.g., new ventures and SMEs), and established firm samples. Scholars suggests that the type of business is one potential factor that may influence the relationship between effectuation and performance. Recently, several authors have remarked that the characteristics of a business, such as different types of firms, is a critical factor that influences the impact of effectuation and firm performance (e.g., Deligianni et al., 2020; Roach et al., 2016; Ruiz-Jiménez et al., 2020; Vanderstraeten et al., 2020).

Comparing small firms with established firms, it is also argued that beyond their smaller size or lower sales turnover, scholars mention that small firms are distinct from established firms in various aspects, such as organisational structure (Prajogo & McDermott, 2014). It is argued that small firms tend to encounter limited knowledge and resources more than established firms. Owners and managers in small companies frequently dominate their governance structure, influencing the entrepreneur's innovativeness of the company (North & Smallbone, 2000; Varis & Littunen, 2010).

For the small firms in the present study, they combined new ventures and SMEs. Our literature review in the small firms group shows inconsistent findings for the effects of effectuation on firm performance. For example, Ruiz-Jiménez et al. (2020) find an effect size of $r = 0.35$. However, in research by Shirokova et al. (2020), the effect size is very small $r = 0.04$ (Table 3). While for established firms, our literature review also shows various effect sizes among established firms. For example, Smolka et al. (2018) find an effect size of $r = 0.29$, while Akulava (2018) finds the effect size is small at $r = 0.01$ (Table 3). Furthermore, when comparing two groups of firms (small firms and established firms) our literature review shows divergent findings for the effect of effectuation on firm performance between the groups. The criteria for the cut-off between small firms and established firms are age and size. According to the discussion above, we find there is a need to assess and understand the potential whereby different types of firms moderate the relationship between effectuation and firm performance.

Table 3

Examples of effectuation and firm performance relationships among different business types.

Type of business	Sample Authors	r
Small firm	Ruiz-Jiménez et al. (2020)	0.35
	Shirokova et al. (2020)	0.04
General (Established company)	Smolka et al. (2018)	0.29
	Akulava (2018)	0.01

2.4. Potential moderator 3: Dependent Variable of Firm Performance

Effectuation studies tend to use financial related firm performance (e.g., market share, sales) as their dependent variable. While another stream of recent studies of effectuation shows how important is the linkage between its construct and innovation performance (e.g., product innovation). For innovation performance, we found in our literature review that scholars tend to adopt innovation performance as the dependent variable in their research, however, some scholars construct innovation-related variables as moderators (e.g., Roach et al., 2016) or control variables (e.g., Laskovaia et al., 2017). For example, Laskovaia et al. (2017) framed their model by constructing innovation efficiency as a control variable. While Deligianni et al. (2020) examine and demonstrate the impact of effectuation on innovation in the technology sector, and they use innovation performance as a dependent variable.

Thus, we can categorise performance into two commonly found types, which are financial performance and innovation performance. Our literature review shows inconsistencies in the correlation of effectuation and firm performance among two aspects of performance. For example, Alzamora-Ruiz et al. (2020) find that the effect size of effectuation on innovation performance is $r = 0.27$. However, the research by Akulava (2018) found that the effect size on financial performance is very weak at $r = 0.01$ (Table 4).

Although extensive research has been carried out on effectuation and innovation, what is not yet clear is how the effect of effectuation can differ between financial performance (i.e., sales) and innovation performance (i.e., innovativeness). In addition, no meta-analysis has been found that assesses the effect of effectuation on these two aspects of performance. Thus, we aim to understand differences in impact that may be due to two dependent variables, innovation performance and financial performance.

Table 4

Examples of effectuation and firm performance relationships among different performance types.

Type of performance	Sample Authors	r
Innovation	Alzamora-Ruiz et al. (2020)	0.27
	Villani et al. (2018)	0.42

Financial	Vanderstraeten et al. (2020)	0.01
	Shirokova et al. (2020)	0.30

2.5. Potential moderator 4: Effectuation as a measurement construct

To date, there has been little agreement on the rationale for choosing effectuation constructs (main construct or sub-dimensions) in studies, and researchers have not examined this in much detail. Based on our literature review, we found that two directions of effectuation constructs are used in effectuation studies. First, we found studies that use a general effectuation construct (e.g., An et al., 2019; Cai et al., 2017; Guo et al., 2016; Laskovaia et al., 2017; Ruiz-Jiménez et al., 2020; Shirokova et al., 2020; Yu et al., 2018), and studies that use each sub-dimension to present the construct of effectuation (Deligianni et al., 2020; Eyana et al., 2018; Malinga, 2018; Mthanti & Urban, 2014; Roach et al., 2016; Villani et al., 2018).

According to these two different approaches, it suggests a need to understand the potential impact on studies that use the main constructs and sub-dimensions. Besides, we found that some studies that use the sub-dimensions of effectuation show that not all aspects of them are significant for performance (Deligianni et al., 2020). Thus, several scholars wish to clarify use of the effectuation construct, which suggests that further research on effectuation should pay attention to whether to treat each type of effectuation as a single construct by aggregating each dimension's score to generate an aggregated effectuation construct or to use the sub-dimensions of effectuation (Deligianni et al., 2020). In general, according to the two different approaches used by different studies, we predict that the outcomes of studies that use general effectuation and the sub-dimensions of effectuation can differ in the effects of effectuation on firm performance.

Table 5
Effectuation measurement from past research

Authors	Dimension	Example
Chandler et al. (2011)	Experiment, Flexibility, Affordable loss, Pre-commitment/Partnership.	Vanderstraeten et al. (2020)
Brettel et al. (2012)	Mean vs Goal, Affordable Loss vs Expected return, Partnership vs Competitive, Acknowledged vs Overcome.	Blauth et al. (2014)
Werhahn et al. (2015)	Means, Partnerships, Affordable loss, Contingency, Control.	Harms et al. (2021)
Self-developed scale	Uni-dimension of effectuation	Dwivedi and Weerawardena (2018); Wei and Zhang (2020)

2.6. Potential moderator 5: Type of measurement scale

The effectuation scale developed by Chandler et al. (2011) has been widely adopted in effectuation research. Despite its wide use by effectuation researchers, our literature review shows that other effectuation scales have also been used in recent studies. Another commonly accepted scale is from Brettel et al. (2012). In comparison, Chandler et al. (2011) developed scales that focus on entrepreneurs' general behaviour, rationale, and approach to their firm (i.e., not specific to only some aspects such as the R&D process). The principle of Brettel et al. (2012), on the other hand, is to focus on the context of R&D, which is how companies investigate and develop new products (e.g., Blauth et al., 2014). More recently, Werhahn et al. (2015) proposed effectuation scales focusing on corporate context which point out the need for an effectuation measure that fits better with corporate orientation, as Chandler's scale focuses on venture-level orientation (e.g., Harms et al., 2021).

In addition, we found that, in some studies, the effectuation dimension was developed from their scale development procedure with the aim of emphasizing their specific context and this results in different items than those of Chandler et al (2011). For example, Dwivedi and Weerawardena (2018) developed a social entrepreneurship scale which includes effectuation as one of its dimensions. They used the scale to study the effect of the social entrepreneurship construct, including effectuation. They developed their measurement scale based on the concept of effectuation (Read, Song, et al., 2009; Sarasvathy, 2001b), without clearly mentioning the reason for not utilising existing measures (e.g., Chandler's scale). This is similar to the study by Wei and Zhang (2020), where effectuation items were developed during the scale development procedure in their research, which was based on the original arguments of Sarasvathy (2001a) on effectuation, and the items were different from Chandler's effectuation scale.

Based on these different measurement scales, there is a need to understand the potential impact of the use of these scales on the effects of effectuation and firm performance. We categorise types of measurement into two groups, which are Chandler's measurement and others. Thus, we propose type of measurement as one potential moderator that may influence the effect of effectuation on firm performance.

Concerning potential moderators four and five, we are aware that the quality of measures may influence the results due to the variations in measures used by scholars across studies. However, since the majority of the literature included in our meta-analysis uses Chandler's measurement scales, which are considered reliable and are widely accepted by mainstream effectuation scholars, the quality and variety of measures might have the potential to influence the results in a limited condition. Furthermore, all the various effectuation measures are derived from the same main paper on effectuation (e.g. core premises, definitions and explanations) published by Sarasvathy (2001).

Based on our literature review and brief prediction, we aim to explore and understand differences in impact that may be due to potential contextual variables, namely, the economic status of countries (developing vs developed countries), type of business (small firms vs established firms), type of dependent variable (financial-related performance vs innovation-related performance), effectuation constructs (main constructs vs sub-dimensions) and scale of effectuation (Chandler's (2011) scale vs others). According to the collected lists of effectuation

studies in our meta-analysis, our research framework for this meta-analysis is summarised in Figure 1.

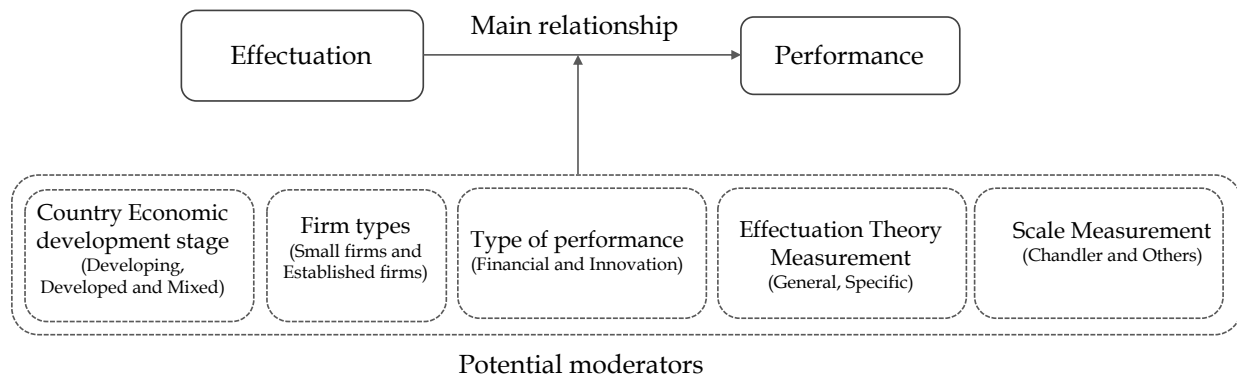


Fig. 1. Research framework

3. Research methods

3.1. Literature review approach

There are two fundamental approaches regarding literature reviews: traditional or narrative literature reviews and systematic literature reviews. For a narrative literature review, the major goal is to provide a comprehensive overview of our current understanding and a research gap in literature in the field. Although a narrative literature review can help to narrow the focus of the research problem and support the process of topic selection and refinement (Coughlan et al., 2007), it cannot describe a statistical approach for examining effect sizes and detecting patterns and correlations across studies. Meanwhile, for a systematic literature review using a meta-analysis approach, the major goal is to assess the findings and effects of multiple studies looking at the same phenomenon (Lipsey and Wilson, 2001). Given the purpose of this research, it is more appropriate to use a systematic literature review and meta-analysis approach to statistically assess the relationship between effectuation and firm performance, and provide insights into the nature and magnitude of this relationship across current studies.

3.2. Inclusion criteria

In our study, we conducted a literature search to find studies that investigate the relation between effectuation and firm performance. In the search process, we used the following main keywords: effectuation, firm performance, firm type, economic status. We searched for all combinations of the term effectuation and following performance terms (performance, growth, sales, sales growth, revenue growth, return on assets, innovation performance, product development, business model, new product performance); and firm description terms (small, micro, SME, large, corporate, established company). In EBSCOhost, Google Scholar and Web

of Science, we systematically searched for related studies and also used the Pro-quest database to search for unpublished dissertations. When the databases produced no further new papers on the subject, we considered our search for papers complete.

For our inclusion criteria, studies are included in our meta-analysis if they satisfy the following inclusion criteria: 1) report a correlation coefficient (r) between any measures of effectuation and any measures of firm performance, which the studies we included in our meta-analysis measures of firm performance use as financial related aspects, such as growth and revenue, 2) articles are published in peer-reviewed international journals and include dissertations, and 3) articles are written in English. After inclusion criteria screening, 39 research papers meet satisfy them and are included in our meta-analysis.

3.3. Meta-analysis procedure

Meta-analysis requires effect sizes from individual studies. To calculate effect size, our meta-analysis adopted standard meta-analysis procedures for the correlation coefficient (i.e., Pearson's r). To calculate a summary of effect sizes and their confidence intervals, we used the add-on versions of Wilson's SPSS 'MeanES' and 'MetaRegression' macros to perform standard calculations (Daryanto, 2021; Lipsey & Wilson, 2001) and used JASP free software to estimate "fail-safe N" for publication bias analysis (Viechtbauer, 2010)¹. Specifically, we used 'MeanES' to calculate a summary of effect sizes and test homogeneity of effect sizes. We used 'MetaRegression' to perform meta regression and assess the influence of moderator variables on the relationship between effectuation and firm performance. As meta-analysis is not typically conducted on raw data due to the non-normality of effect sizes, we applied Fisher's Z transformation that normalizes the distribution of effect sizes and Fisher's Z estimates as effect size for subsequent analysis. For interpretation purposes, we converted Fisher's Z estimates back into correlation coefficients. We use Hunter and Schmidt's correction for attenuation to adjust the correlation due to measurement errors in the effect sizes (Hunter & Schmidt, 1990).

Second, we estimated the weighted mean of effect sizes using transformed correlations (Fisher's Z) by applying a random effect model. Next, we conducted a statistical test for the homogeneity of effect sizes. This test is also commonly known as heterogeneity analysis. We used restricted maximum-likelihood estimation when estimating the amount of heterogeneity in effect sizes. Homogeneity analysis assesses whether the effect sizes from different studies are sufficiently similar to combine them into one overall effect size. In the homogeneity analysis, the null hypothesis tested is that the underlying population effect sizes are identical. If the null hypothesis is rejected then, in the next step, we perform moderator analysis to determine whether moderator variables can explain the variability in effect sizes across studies.

Third, we performed meta-regression analysis to determine the impact of moderator variables on the variance in effect sizes. We specified our moderator variables as follows. Our first moderator is firm type. Following the guidelines from the U.S. Small Business Administration on business classification, we classified firm types into two categories: small firms and established firms. Small firms are firms that have been established for less than ten

¹ We also check the regression results with the JASP. The results are similar to those of the metaregression SPSS that we reported here.

years (Certo et al., 2001; Milanov & Fernhaber, 2009) and have fewer than 500 workers; established firms refers to firms established for more than ten years or those with more than 500 workers.

Our second moderator variable is economic status, which we categorize into three categories: developing economy, developed economy and mixed type. For the first two categories, we follow the UN guidelines on the World Economic Situation (DESA, 2007) We classify studies into the mixed type category if they do not distinguish between respondents and report a single effect size. For example, the study by Smolka et al. (2018) has respondents from both developing economy countries (e.g., China), and developed countries (e.g., the United Kingdom). As we have three categories for economic status, we use two dummy variables to capture the categorization.

Our third moderator variable is the dependent variable of performance, which we classify into two categories: financial performance and innovation performance. Financial performance refers to the revenue and growth of firms, and innovation performance refers to the resulting outputs of innovation (i.e., product development, service innovation, business model innovation).

Our fourth moderator variable is effectuation measures, which we categorize into two categories based on operationalization of the construct: general and specific. We assign studies that use a general effectuation construct to the general category, and studies that use sub-dimension to a specific category (e.g., affordable loss).

Lastly, our fifth moderator variable is the type of effectuation construct, which we categorize into two categories based on the name of the author: Chandler and others. We refer to studies that use or adapt effectuation measures developed by Chandler et al. (2011), and to studies that do not use or adapt from Chandler's construct.

4. Data screening and descriptive results

From 39 research papers published between 2011 and 2021 (see Table 6), we obtained 116 effect sizes. Before proceeding to the next steps, we tested for extreme effect sizes to detect the presence of outliers in the data using boxplots. In total, in both conditions for which the effect sizes exceeded the lower and upper whiskers, classified as 75 per cent quantiles plus or minus 1.5 times the box length, we removed one potential outlier in our data. We present an overview of meta-analysis studies and an independent set of effect sizes in Table 6.

Table 6
Overview of meta-analysis studies — independent set of effect sizes.

Authors	Year	r	N	Effectuation Construct	Performance measure	DV (a)	Measure (b)	Scale (c)	Firm Type (d)	Country Economic status (e)
(Akulava)	2018	0.01	407	Effectuation	performance	Fin	Specific	Chandler	Established	Developing
(Akulava)	2018	-0.06	407	Partnership/Precommitment	performance	Fin	General	Chandler	Established	Developing
(Akulava)	2018	0.05	407	Experimentation	performance	Fin	General	Chandler	Established	Developing
(Akulava)	2018	0.02	407	Affordable loss	performance	Fin	General	Chandler	Established	Developing
(Akulava)	2018	0	407	Flexibilities	performance	Fin	General	Chandler	Established	Developing

Authors	Year	r	N	Effectuation Construct	Performance measure	DV (a)	Measure (b)	Scale (c)	Firm Type (d)	Country Economic status (e)
(Akulava)	2018	0.02	407	Effectuation	Innovation (learning)	Inv	Specific	Chandler	Established	Developing
(Akulava)	2018	0.01	407	Partnership/Precommitment	Innovation (learning)	Inv	General	Chandler	Established	Developing
(Akulava)	2018	0.05	407	Experimentation	Innovation (learning)	Inv	General	Chandler	Established	Developing
(Akulava)	2018	-0.03	407	Affordable loss	Innovation (learning)	Inv	General	Chandler	Established	Developing
(Akulava)	2018	0.05	407	Flexibilities	Innovation (learning)	Inv	General	Chandler	Established	Developing
(Alzamora-Ruiz et al.)	2020	0.27	167	Effectuation	Innovation performance	Inv	Specific	Others	Small	Developed
(Alzamora-Ruiz et al.)	2020	0.14	167	Effectuation mean (Experimentation)	Innovation performance	Inv	General	Others	Small	Developed
(Alzamora-Ruiz et al.)	2020	0.07	167	Affordable loss	Innovation performance	Inv	General	Others	Small	Developed
(Alzamora-Ruiz et al.)	2020	0.12	167	Partnership/Precommitment	Innovation performance	Inv	General	Others	Small	Developed
(Alzamora-Ruiz et al.)	2020	0.29	167	Contingency (Flexible)	Innovation performance	Inv	General	Others	Small	Developed
(An et al.)	2019	0.25	305	Effectuation	performance	Fin	Specific	Chandler	Established	Developing
(Blauth et al.)	2014	0.14	219	Affordable loss	Practised creativity	Inv	General	Others	Established	Developed
(Blauth et al.)	2014	-0.02	219	Partnership/Precommitment	Practised creativity	Inv	General	Others	Established	Developed
(Blauth et al.)	2014	0.07	219	Mean-driven	Practised creativity	Inv	General	Others	Established	Developed
(Blauth et al.)	2014	0.02	219	Acknowledged unexpected	Practised creativity	Inv	General	Others	Established	Developed
(Cai et al.)	2017	0.28	266	Effectuation	Performance	Fin	Specific	Chandler	Small	Developing
(de la Cruz et al.)	2018	0.39	271	Effectuation	performance	Fin	Specific	Chandler	Small	Developed
(de la Cruz et al.)	2017	0.21	129	Partnership/Precommitment	Performance	Fin	General	Chandler	Small	Developed
(de la Cruz et al.)	2017	-0.09	129	Affordable loss	Performance	Fin	General	Chandler	Small	Developed
(de la Cruz et al.)	2017	0.25	129	Flexibilities	Performance	Fin	General	Chandler	Small	Developed
(Deligianni et al.)	2020	-0.03	129	Partnership/Precommitment	Innovation performance	Inv	General	Chandler	Small	Developed
(Deligianni et al.)	2020	0.16	129	Experimentation	Innovation performance	Inv	General	Chandler	Small	Developed
(Deligianni et al.)	2020	0.17	129	Affordable loss	Innovation performance	Inv	General	Chandler	Small	Developed
(Deligianni et al.)	2020	0.1	129	Flexibilities	Innovation performance	Inv	General	Chandler	Small	Developed
(Dwivedi & Weerawardena)	2018	0.55	507	Effectuation	Innovativeness	Inv	Specific	Others	Established	Developed
(Dwivedi & Weerawardena)	2018	0.3	507	Effectuation	Product innovation	Inv	Specific	Others	Established	Developed
(Dwivedi & Weerawardena)	2018	0.36	507	Effectuation	Service innovation	Inv	Specific	Others	Established	Developed
(Eyana et al.)	2018	0.37	118	Partnership/Precommitment	Performance (Sales)	Fin	General	Chandler	Small	Developing
(Eyana et al.)	2018	0.25	118	Affordable loss	Performance (Sales)	Fin	General	Chandler	Small	Developing
(Eyana et al.)	2018	0.32	118	Leverage contingency/Experiment	Performance (Sales)	Fin	General	Chandler	Small	Developing
(Eyana et al.)	2018	0.26	118	Flexible	Performance (Sales)	Fin	General	Chandler	Small	Developing
(Feng et al.)	2020	0.32	245	Effectuation	performance	Fin	Specific	Chandler	Established	Developing
(Gabrielsson & Politis)	2011	0.34	291	Effectuation	Transitory career moti	Inv	Specific	Others	Small	Developed
(Guo)	2019	0.42	212	Effectuation	Innovation	Inv	Specific	Chandler	Small	Developing
(Guo et al.)	2016	0.34	118	Effectuation	Growth Business model innovation	Fin	Specific	Chandler	Small	Developing
(Harms et al.)	2021	-0.26	138	Affordable loss	Business model innovation	Inv	General	Others	Small	Developed
(Harms et al.)	2021	-0.03	138	Partnership/Precommitment	Business model innovation	Inv	General	Others	Small	Developed
(Harms et al.)	2021	0.06	138	Contingency (Flexible)	Business model innovation	Inv	General	Others	Small	Developed
(Harms et al.)	2011	0.22	183	Effectuation product	Level of innovativeness	Inv	General	Others	Small	Mixed

Authors	Year	r	N	Effectuation Construct	Performance measure	DV (a)	Measure (b)	Scale (c)	Firm Type (d)	Country Economic status (e)
(Harms et al.)	2011	0.06	183	Effectuation business	Level of innovativeness	Inv	General	Others	Small	Mixed
(Laskovaia et al.)	2017	0.3	3411	Effectuation	Performance	Fin	Specific	Chandler	Small	Mixed
(Laskovaia et al.)	2017	0.13	3411	Effectuation	Innovation efficiency	Inv	Specific	Chandler	Small	Mixed
(Laskovaia et al.)	2017	-0.01	447	Effectuation	Performance (net profit)	Fin	Specific	Chandler	Small	Developing
(Li et al.)	2020	0.37	200	Experimentation	Role innovation	Inv	General	Chandler	Small	Developing
(Li et al.)	2020	0.29	200	Affordable loss	Role innovation	Inv	General	Chandler	Small	Developing
(Li et al.)	2020	0.3	200	Flexibilities	Role innovation	Inv	General	Chandler	Small	Developing
(Li et al.)	2020	0.37	200	Partnership/Precommitment	Role innovation	Inv	General	Chandler	Small	Developing
(Li et al.)	2020	0.4	200	Experimentation	Academic entrepreneurs	Inv	General	Chandler	Small	Developing
(Li et al.)	2020	0.21	200	Affordable loss	Academic entrepreneurs	Inv	General	Chandler	Small	Developing
(Li et al.)	2020	0.43	200	Flexibilities	Academic entrepreneurs	Inv	General	Chandler	Small	Developing
(Li et al.)	2020	0.4	200	Partnership/Precommitment	Academic entrepreneurs	Inv	General	Chandler	Small	Developing
(Malinga)	2018	0.27	75	Partnership/Precommitment	performance	Fin	General	Chandler	Small	Developing
(Malinga)	2018	0.09	75	Effectuation	performance	Fin	Specific	Chandler	Small	Developing
(Malinga)	2018	0.14	75	Experimentation	performance	Fin	General	Chandler	Small	Developing
(Malinga)	2018	-0.05	75	Flexibilities	performance	Fin	General	Chandler	Small	Developing
(Malinga)	2018	-0.06	75	Affordable loss	performance	Fin	General	Chandler	Small	Developing
(Mthanti & Urban)	2014	0.06	94	Effectuation	Financial performance	Fin	Specific	Chandler	Established	Developing
(Mthanti & Urban)	2014	0.01	94	Partnership/Precommitment	Financial performance	Fin	General	Chandler	Established	Developing
(Mthanti & Urban)	2014	0.08	94	Experimentation	Financial performance	Fin	General	Chandler	Established	Developing
(Mthanti & Urban)	2014	0.19	94	Affordable loss	Financial performance	Fin	General	Chandler	Established	Developing
(Mthanti & Urban)	2014	0.22	94	Flexibilities	Financial performance	Fin	General	Chandler	Established	Developing
(Pacho & Mushi)	2020	0.3	350	Effectuation set of means	Performance	Fin	Specific	Chandler	Small	Developing
(Pacho & Mushi)	2020	0.29	350	Flexibilities	Performance	Fin	General	Chandler	Small	Developing
(Parida et al.)	2016	-0.17	104	Effectuation	Performance	Fin	Specific	Chandler	Small	Developed
(Pati et al.)	2021	-0.05	238	Affordable loss	Performance	Fin	General	Chandler	Small	Developing
(Pati et al.)	2021	0.16	238	Partnership/Precommitment	Performance	Fin	General	Chandler	Small	Developing
(Pati et al.)	2021	0.07	238	Experimentation	Performance	Fin	General	Chandler	Small	Developing
(Pati et al.)	2021	0.13	238	Flexibilities	performance	Fin	General	Chandler	Small	Developing
(Peng et al.)	2020	0.41	407	Effectuation	performance	Fin	Specific	Chandler	Small	Developing
(Roach et al.)	2016	0.22	169	Partnership/Precommitment	Performance	Fin	General	Chandler	Small	Developed
(Roach et al.)	2016	0.27	169	Affordable loss	Performance	Fin	General	Chandler	Small	Developed
(Roach et al.)	2016	0.13	169	Experimentation	Performance	Fin	General	Chandler	Small	Developed
(Roach et al.)	2016	0.15	169	Partnership/Precommitment	Product/service Innovation	Inv	General	Chandler	Small	Developed
(Roach et al.)	2016	0.16	169	Affordable loss	Product/service Innovation	Inv	General	Chandler	Small	Developed
(Roach et al.)	2016	0.29	169	Experimentation	Product/service Innovation	Inv	General	Chandler	Small	Developed
(Ruiz-Jiménez et al.)	2020	0.35	178	Effectuation	Performance	Fin	Specific	Chandler	Small	Developed
(Shirokova et al.)	2020	0.04	521	Effectuation	Net income	Fin	Specific	Chandler	Small	Developing
(Shirokova et al.)	2021	0.3	4066	Effectuation	performance	Fin	Specific	Chandler	Small	Mixed

Authors	Year	r	N	Effectuation Construct	Performance measure	DV (a)	Measure (b)	Scale (c)	Firm Type (d)	Country Economic status (e)
(Shirokova et al.)	2021	-0.19	4066	Effectuation	Innovation efficiency	Inv	Specific	Chandler	Small	Mixed
(Siltamäki et al.)	2017	0.21	229	Experimentation	Growth	Fin	General	Chandler	Small	Developed
(Siltamäki et al.)	2017	-0.06	229	Affordable loss	Growth	Fin	General	Chandler	Small	Developed
(Siltamäki et al.)	2017	0.02	229	Partnership/Precommitment	Growth	Fin	General	Chandler	Small	Developed
(Siltamäki et al.)	2017	0.03	229	Experimentation	Innovativeness	Inv	General	Chandler	Small	Developed
(Siltamäki et al.)	2017	0.29	229	Affordable loss	Innovativeness	Inv	General	Chandler	Small	Developed
(Siltamäki et al.)	2017	0.29	229	Partnership/Precommitment	Innovativeness	Inv	General	Chandler	Small	Developed
(Smolka et al.)	2018	0.29	1453	Effectuation	Performance	Fin	Specific	Chandler	Established	Mixed
(Smolka et al.)	2018	0.3	1453	Partnership/Precommitment	Performance	Fin	General	Chandler	Established	Mixed
(Smolka et al.)	2018	0.25	1453	Experimentation	Performance	Fin	General	Chandler	Established	Mixed
(Smolka et al.)	2018	0.09	1453	Affordable loss	Performance	Fin	General	Chandler	Established	Mixed
(Smolka et al.)	2018	0.22	1453	Flexibilities	Performance	Fin	General	Chandler	Established	Mixed
(Urban & Heydenrych)	2015	-0.26	73	Partnership/Precommitment	Performance	Fin	General	Chandler	Small	Developing
(Urban & Heydenrych)	2015	-0.08	73	Affordable loss	Performance	Fin	General	Chandler	Small	Developing
(Urban & Heydenrych)	2015	-0.13	73	Experimentation	Performance	Fin	General	Chandler	Small	Developing
(Urban & Heydenrych)	2015	-0.1	73	Flexibilities	Performance	Fin	General	Chandler	Small	Developing
(Urban & Heydenrych)	2015	-0.2	73	Effectuation	Performance	Fin	Specific	Chandler	Small	Developing
(Vanderstraeten et al.)	2020	0.24	161	Effectuation	Innovation performance	Inv	Specific	Chandler	Small	Developed
(Vanderstraeten et al.)	2020	0.21	161	Partnership commitment intensity	Innovation performance	Inv	General	Chandler	Small	Developed
(Vanderstraeten et al.)	2020	0.15	161	Partnership commitment advantages	Innovation performance	Inv	General	Chandler	Small	Developed
(Vanderstraeten et al.)	2020	0.18	161	Experimentation	Innovation performance	Inv	General	Chandler	Small	Developed
(Vanderstraeten et al.)	2020	0.02	161	Affordable loss	Innovation performance	Inv	General	Chandler	Small	Developed
(Vanderstraeten et al.)	2020	0.18	161	Flexibilities	Innovation performance	Inv	General	Chandler	Small	Developed
(Villani et al.)	2018	0.14	86	Partnership/Precommitment	Performance	Fin	General	Chandler	Small	Developed
(Villani et al.)	2018	0.21	86	Flexibilities	Performance	Fin	General	Chandler	Small	Developed
(Villani et al.)	2018	-0.04	86	Risk taking=Affordable loss	Performance Objective (Profit/non-profit)	Fin	General	Chandler	Small	Developed
(Vreugdenhil)	2020	0.21	242	Effectuation	Performance	Inv	Specific	Others	Small	Developed
(Wei & Zhang)	2020	0.14	238	Effectuation strategic change	Performance	Fin	Specific	Others	Established	Developing
(Wu et al.)	2020	0.5	180	Effectuation	New product development	Inv	Specific	Chandler	Small	Developing
(Wu et al.)	2020	0.32	180	Effectuation	New product quality	Inv	Specific	Chandler	Small	Developing
(Yang et al.)	2020	0.26	250	Effectuation	Growth	Fin	Specific	Chandler	Small	Developing
(Yu et al.)	2018	0.43	312	Effectuation	Performance	Fin	Specific	Chandler	Established	Developing

a DV refers to dependent variable; Fin refers to Financial performance, and Inv refers to Innovation performance

b General refers to effectuation scale as General construct, and Specific refers to specific effectuation construct

c Chandler refers to study used Chandler's scale measurement, and Other refers to study used non-Chandler construct

d Small refers to small firms, and Established refers to established firms

e Developing refer to developing countries, Developed refers to developed countries, and Mixed refers to studies investigating non-specific, or mixed countries in their sample

We estimated the fail-safe N of Rosenthal (1979) using remaining effect sizes minus outliers ($N = 115$), which is the number of 'missing' studies that are non-significant and unpublished and needed to invalidate the meta-analysis results. Fail-safe N appeared very unlikely to occur (the fail-safe N of Rosenthal is over 85,000). This means that, in order to invalidate the outcome, there should be at least 85,000 non-significant correlations between effectuation and firm performance. Thus, in this meta-analysis review, there was no threat of publication bias. We also developed a funnel plot (see Fig. 2), which shows that the studies mostly on mean effect size were distributed symmetrically. This again indicated that there was no potential threat of publication bias.

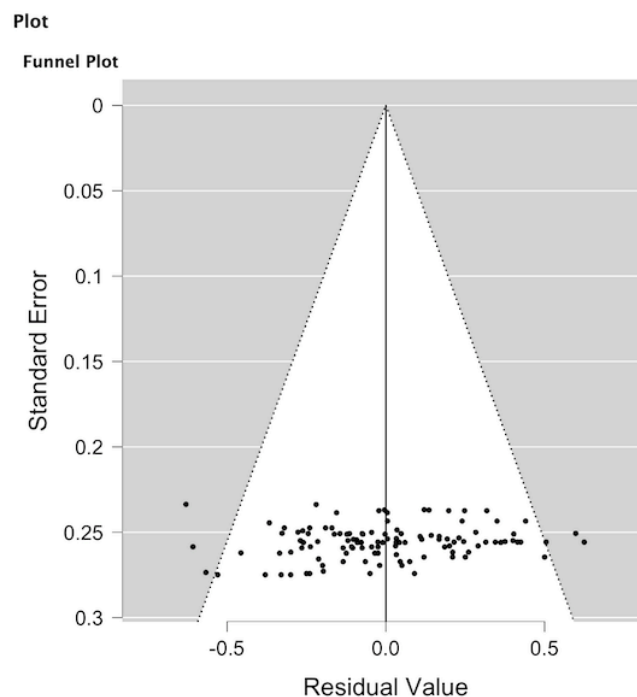


Fig. 2. Funnel plot

4.1. Main effect analysis

The weighted mean of total effect sizes was $r = 0.237$ (Fisher's $Z = 10.026$) based on a 95% confidence interval (CI: 0.194 to 0.284), which is statistically significant (see Table 7). This finding shows that the effect of effectuation on firm performance is a weak positive.

4.2. Bivariate and moderator analysis

First, a heterogeneity test on effect sizes showed that effect sizes were concluded to be heterogeneous ($Q (df = 114) = 2772.2812, p < 0.001$). This means that there were significant variations in the impact sizes that can be explained and presented based on the data (e.g., due to differences in study characteristics or moderators). Next, we proceeded to a meta-regression analysis to search for contextual factors that could explain the presence of heterogeneity in the

effect sizes. In Table 7, in addition to overall effect size, we also present the results of bivariate analysis, we used a random effects model assumption to calculate and present a summary of effect sizes for each moderating variable (Borenstein et al., 2017).

Table 7
Descriptive meta-analytical results.

	N	Effect	studies	Effect	Z	95% CI Lower limit	95% CI Upper limit
Effectuation > Performance	44,517	115	39	0.235	10.026	0.194	0.284
Moderating effect of countries							
Developing countries	12,685	56	20	0.242	6.307	0.172	0.319
Developed countries	9,247	48	15	0.292	4.845	0.183	0.411
Mixed studies countries	22,585	11	4	0.243	3.520	0.112	0.375
Moderating effect of firm type							
Small firms	29,215	84	30	0.247	8.491	0.196	0.307
Established firms	15,302	31	9	0.202	4.912	0.124	0.282
Moderating effect of Type of performance							
Financial performance	25,612	62	27	0.208	7.829	0.159	0.261
Innovation performance	18,905	53	17	0.269	6.608	0.196	0.351
Moderating effect of construct							
General construct	24,429	34	28	0.301	6.693	0.223	0.392
Sub-dimension construct	20,088	81	19	0.205	7.721	0.156	0.259
Moderating effect of Type of scale							
Chandler's scale	39,734	95	31	0.241	9.406	0.196	0.294
Other's scale	4,783	20	8	0.206	3.403	0.090	0.323

Note: Note: N = number of studies; All effect sizes presented are the r effect sizes transformed from Fisher's Z values and estimated using random effect meta-analysis model. Z- values and the lower (LCL) and upper (UCL) limits of 95% confidence intervals are displayed.

As can be seen in Table 7, we present a bivariate analysis which suggests that the effect of effectuation on performance (1) is comparable among developing countries ($r = 0.242$), developed countries ($r = 0.292$) and mixed studies countries ($r = 0.243$), (2) appears to be slightly stronger for small firms ($r = 0.247$) compared to established firms ($r = 0.202$), (3) is when effectuation is used to improve innovation performance ($r = 0.269$) compared to financial performance ($r = 0.208$), 4) is stronger when effectuation is used as a general measure ($r = 0.301$) compared to sub-dimension measures ($r = 0.205$), and appears to be indifferent in studies that used Chandler's scale ($r = 0.241$) compared to others' scales ($r = 0.206$).

4.3. Moderator analysis

Table 8
Results of meta-regression.

Variable	B	SE	-95% CI	+95% CI	P
Constant	0.345	0.092	0.165	0.526	0.000
C1	-0.030	0.062	-0.152	0.091	0.624
C2	-0.003	0.085	-0.170	0.165	0.975
TYPE	-0.045	0.059	-0.160	0.070	0.442
TDV	-0.125	0.057	-0.238	-0.013	0.029
ME	-0.127	0.055	-0.235	-0.020	0.021
CH	0.097	0.080	-0.059	0.253	0.223

Note: C (Countries): 0 = Developing countries (Baseline), 1 = Developed countries (C1) = 1, and 2 = Mixed studies (C2); TYPE (Firm type): 0 = Small firm (Baseline), 1 = Established firms; E (Effectuation construct); TDV (Type of dependent variable of performance) 0 = Innovation performance, 1 = Financial performance; ME (Measurement) 0 = General effectuation construct (Baseline), 1 = Effectuation sub-dimension; CH (Chandler's scale) 0 = Others, 1 = Chandler's scale. Method of estimation is Restricted Maximum Likelihood (REML). * $p < 0.05$

According to Table 8, for the first moderator in the model, in terms of economic status, our results show that there is no significant difference between developing countries and developed countries ($b = -0.030$, $p = 0.624$) and mixed studies ($b = -0.003$, $p = 0.975$) for the impact of effectuation on firm performance. Thus, this finding suggests that the effects of effectuation and firm relationship are not moderated by economic status. It also indicates that effectuation can be a useful approach beyond the limits of lower or higher economic status.

For the second moderator, surprisingly, a clear impact of firm type on the association between effectuation and firm performance could not be identified in our analysis. With respect to our second prediction, we found that there was no significant difference in effect size in studies investigating small firms and studies investigating established firms ($b = -0.045$, $p = 0.442$). Thus, these initial tests do not support the second moderator.

For the third moderator, the results show a significant difference between financial performance and innovation performance ($b = -0.125$, $p = 0.029$) for the impact of effectuation on firm performance. This result indicates that studies using effectuation have an impact on financial performance and are scored -.125 points lower on average than innovation performance. Thus, the findings support our third prediction, which suggests that the effects of effectuation and firm relationship are moderated by the type of firm performance (e.g., financial or innovation). The results indicate that the impact of effectuation on innovation performance is stronger than on financial performance.

For the fourth moderator, the results show a significant difference between studies using general constructs and sub-dimensions of effectuation ($b = -0.127$, $p = 0.021$) for the impact of effectuation on firm performance. It indicates that studies using sub-dimensions of effectuation scored -.127 points lower on average than those using the general construct. Hence, studies using the general constructs of effectuation and sub-dimensions have significant differences in terms of their effect on the relationship between effectuation and firm performance. Thus, this finding

suggests that the effects of effectuation and firm relationship are moderated by the effectuation construct (e.g., general or specific). The results indicate that the impact of effectuation on performance is stronger for studies that used the general constructs of effectuation than studies that used the sub-dimensions or specific constructs of effectuation.

For the fifth moderator, our results show that there is no significant difference between studies using Chandler's scales and other scales ($b = 0.097$, $p = 0.223$) in the impact of effectuation on performance. Thus, this finding indicates that the type of measurement does not moderate the relationship between effectuation and firm performance. In the next section, interpretation will be discussed.

5. Discussion

We have conducted a meta-analysis study on the effect of effectuation on firm performance. We consider several conceptual moderators and methodological moderators that might affect this relationship. There is a related meta-analysis study on effectuation and venture performance in the literature (Read et al., 2009). Nevertheless, our study differs from that study for the following reasons. First, Read et al. (2009) do not discuss contextual factors that explain the impact of effectuation and performance. A perusal of the literature since Read et al. (2009) shows that effectuation has been studied in various contexts. For example, extant studies have examined effectuation in different types of firms (i.e., small firms vs established firms). As Read et al. (2009) do not consider contextual factors, in our meta-analysis we attempt to explain how potential contextual factors affect the relationship between effectuation and firm performance. Second, Read et al. (2009) do not include empirical papers that preceded the scale development paper by Chandler et al. (2011), which conceptualizes effectuation as a multidimensional construct that includes affordable loss, experiment, flexibility, and pre-commitment. Extant studies have used Chandler et al. (2011) measurement scale of effectuation. However, these have not been accounted for to date in a meta-analysis study. Therefore, it is necessary to systematically review the empirical papers that use Chandler's measures to gain more insights into the effects of effectuation and firm performance and examine the impact of each dimension of effectuation. Third, Read et al. (2009) study only includes papers published in the *Journal of Business Venturing*, which limits our understanding across domains and application to different fields. All three reasons mentioned above clearly show a need to investigate further the latest effectuation literature over the last ten years to extend our understanding of effectuation.

Based on our findings, it would be interesting to compare with the recent meta-analysis study by (Chen et al., 2021). Thus, the result of our meta-analysis study versus recent meta-analysis from Chen et al., 2021 is presented as follows: 1) our study uses 39 studies with ($N = 44,517$), while Chen et al. uses 30 studies with ($N = 12,740$); 2) both studies obtained similar results for effectuation and firm performance ($r = 0.235$) vs ($r = 0.298$); 3) our study found type of performance (e.g., innovation-related performance) to be a significant moderator, while Chen et al. (2021), did not include this factor; 4) our study found type of measurement to be a significant moderator, while Chen et al. did not include this factor; 5) Chen et al. (2021) found the type of tech vs non-tech to be a significant moderator, while we did not include this in our data due to insufficient information from the studies; 6) we found that type of measurement scale

(e.g., Chandler's scale, 2011) is not a moderator, while Chen et al. (2021) did not include this factor; 7) Chen et al. (2021) found that the development stage of countries is a moderator, while our study shows that the type of country has no statistical power to be a moderator; 8) Chen et al. (2021) found that type of firm is a moderator, while our study found this factor has no statistical power to be a moderator.

Taken together, we believe that our study improves on Chen's study by introducing new moderators that were neglected in their study. For example, as mentioned above, we included type of performance (e.g., innovation performance).

Overall, we synthesise 39 studies with 115 effect sizes and conduct a systematic analysis of the effect of effectuation on firm performance. For the main relationship in our study, the present findings illustrate that the effectuation approach has a positive impact on firm performance. Despite the negative relationship between effectuation and firm performance found in some studies, our meta-analysis confirms an overall positive effect. This meta-analysis contributes to our ability to generalise the divergent findings of effectuation studies in terms of the effect and magnitude of the relationship on firm performance. In addition, our study provides evidence that validates the presence of factors that moderate the relationship between effectuation and firm performance.

First, in relation to the first moderator (i.e., type of country), our data show that the differences in effect size between studies that use firms from developing countries, developed countries, and mixed countries studies are not significant. This finding reveals that the effect of effectuation on performance is quite robust, i.e., it does not depend on the economic status of a country. This means effectuation seems to work similarly across these types of countries (i.e., developed vs developing).

Second, our study revealed that firm type does not moderate the relationship between effectuation and firm performance. This means that the effects of effectuation on firm performance do not differ across small firms and established firms. Furthermore, our finding is in line with previous research that discussed the extent to which effectuation is appropriate for either established or small firms (Wu et al. (2020). Their results reveal that the effect of effectuation on new product development indicators (i.e., speed), with everything else kept constant, did not differ across small firms vs large firms, as indicated by small differences in the regression coefficients associated with effectuation ($b_{SMES} = 0.53$ vs. $b_{Large\ Firms} = 0.58$, see Model 6 of Wu et al. 2020 p. 90 and 91). Therefore, in general, the type of firm (i.e., small firms vs established firms) might not necessarily have a noticeable impact on the relationship between effectuation and firm performance. Furthermore, our findings demonstrate that an effectuation approach is beneficial no matter the firm type.

Third, one important finding to emerge from our study is that type of performance moderates the relationship between effectuation and performance. This indicates that type of performance (financial vs innovation) contributes to the variations in previous studies' findings for the effect of effectuation and firm performance. Our meta-analysis corroborates the findings of a great deal of previous work on effectuation and innovation performance (e.g., Deligianni et al., 2020; Dwivedi & Weerawardena, 2018; Roach et al., 2016; Vanderstraeten et al., 2020). Our results support the potential effect of effectuation on a specific aspect of innovation performance, as scholars have been searching for ways to help firms successfully navigate ways to create innovations, and also the barriers that prevent them (Sandberg & Aarikka-Stenroos, 2014). In

this way, our findings propose that an effectuation approach can be an influential variable to drive innovation performance (i.e., new product development, creativity, innovativeness). This result may be explained by the fact that effectuation logic may effectively transform opportunities into innovations through a new combination of resources and opportunities creation (Roach et al., 2016; Sarasvathy et al., 2014). For example, affordable loss as one of the principles of effectuation helps to facilitate innovation performance by informing firms how they should accept investing to avoid risk (Cai et al., 2017; Dew et al., 2009). While the principle of flexibility helps to hasten the process of translating resources into new actions in response to change, subsequently, it enhances the capability to develop more effective innovations through emerging opportunities (Cai et al., 2017; Dew et al., 2009; Roach et al., 2016). Hence, our findings clearly demonstrate that firms can enhance innovation performance using an effectuation approach, and the impact of effectuation on innovation performance (e.g., product innovation) is stronger than on financial performance (e.g., sales).

Fourth, our results indicate that the ways of measuring effectuation (general vs specific constructs) contributed to the divergences and inconsistencies in previous studies' findings on the effects of effectuation and firm performance. We found that studies that use the general construct of effectuation tend to have a higher impact on firm performance than studies that use specific dimensions. This finding suggests that the decision to use effectuation as the general construct or specific constructs can significantly influence the effect between effectuation and firm performance. Thus, this finding calls for future research attention on the multi-dimensional nature of effectuation and the potentially different role that each dimension may play in affecting firm performance: if a specific dimension of effectuation alone is used, the effect could be small or not detected.

Fifth, our findings reveal that the use of different types of effectuation constructs (Chandler's (2011) scale vs others) in our research does not contribute to the variations in the effects of effectuation on firm performance. However, we are aware that there are only seven studies within the other construct category, as the majority of the studies use Chandler's scales. In this way, the generalisability of this finding is limited due to the small number of studies within this category (i.e., 19 effect sizes from eight studies). Further study with more focus on effectuation scales development is suggested to provide a deeper understanding of the context of studies that may suit the use of different effectuation scales.

To conclude, our meta-analysis study is an exploratory approach and a crucial step for entrepreneurship research, especially for effectuation research. Our study has theoretical and practical implications in two aspects. First, we found that although the effect of effectuation that impacts firm performance is small, it is significant. Second, we suggest that further studies consider the type of performance and ways of measuring effectuation as contextual factors that influence effectuation and firm performance. Third, our study indicates that effectuation can be useful across different types of firms and economic status. Our meta-analysis found that the type of firms and economic status did not have the statistical power to explain effectuation effects on firm performance. Based on these three contributions, we encourage more studies to seek insights into these contextual factors and extend relevant contextual factors to better understand the relationship between effectuation and firm performance.

Based on the findings of this study, we provide managerial implications for policymakers, marketing managers and entrepreneurs in the next section.

6. Managerial implications

Understanding the relationship between effectuation and firm performance, and how numerous factors affect this relationship, can help marketing managers formulate their entrepreneurial strategic decision-making.

Insights from our meta-analysis findings have strategic managerial implications. First, effectuation can be considered for adoption as a managerial entrepreneurial strategy. Effectuation can have a positive impact on firm performance. Thus, managers should seek opportunities to identify where effectuation can be used. Furthermore, our findings inform us that effectuation can be a useful working and thinking approach, one which has a positive effect for either small firms or large firms.

For example, we suggest that managers should run workshops for their teams where the central idea is to provide real experience of effectuation principles. Participants could be asked to develop new ideas in a short timeframe and encouraged to try a project in real life (e.g. a small project), only using resources they have to hand (affordable loss). In this way, participants can be encouraged to think about how to adapt (flexibility) the resources they have to create new solutions within a short timeframe. In addition, participants can identify ‘supporters’ in their own network (pre-commitment) to address and solve their challenges. Finally, their new ideas should be presented to a diverse audience, and they can receive feedback (experiment) from their peers to improve their solutions. This example activity can help participants to understand and experience the effectuation approach and recognise potentially positive benefits that influence working outcomes.

Second, managers who seek to improve their innovativeness, such as new products or service innovations, should incorporate an effectuation approach into their firm’s strategy. We found that effectuation has a positive effect on innovation performance, and the expected impact can be stronger than on financial performance. Hence, our findings suggest that policymakers, marketing managers, and entrepreneurs should be encouraged to use effectuation as an entrepreneurial strategy, especially when the objective is related to innovation aspects such as building a new business model, or product and service innovation. In addition, effectuation should be used in departments whose mission is about creating new innovations, such as R&D departments.

For example, apart from a typical R&D process (e.g. conduct research to understand new market opportunities), managers could develop another R&D development track, where teams need to generate new R&D ideas based on their current resources or assets. New product concepts should also be built as prototypes within a limited timeframe to test their ideas with small group of potential users that they can find in their own networks (e.g. family and friends). Feedback from previous stages should be incorporated into new prototype ideas. In this way, the R&D team can experience and understand effectuation as an alternative working approach that may positively impact on outcomes (e.g. creativity, new product ideas, business model innovation). This simple activity may help them break away from their typical routine of R&D development and gain a better understanding of the effectuation approach.

Third, public policymakers such as departments for business, industry and enterprise should consider and promote effectuation as an important entrepreneurial strategy for entrepreneurs for either developing or developed countries. Although the effectuation approach

was originally developed in the Western and developed economic context, our findings provide evidence that effectuation has no limitations on differences in the economic context.

For instance, the effectuation approach should be incorporated as a government curriculum when devising regular national seminars or training to promote local businesses. The educational content of effectuation, such as four effectuation approaches and benefits, should be available online (e.g. short-form video) for entrepreneurs to easily access it and learn from it. Furthermore, effectuation as a learning course can be encouraged with rewards endorsed by the government, such as certification for those who complete training or content.

Fourth, when adopting effectuation as an entrepreneurial strategy, managers should encourage to use and educate all effectuation dimensions, rather than a specific one (e.g., only affordable loss). Our findings suggest that effectuation can have a stronger effect on firm performance when all the dimensions of effectuation are adopted. We found that the effectuation approach is weaker when only some dimensions are used (e.g., only affordable loss). Therefore, policymakers or managers should consider adopting multiple dimension of effectuation aspects, namely, exploration, flexibility, affordable loss, and pre-commitment when measuring the effectiveness of entrepreneurial strategy for performance.

In practice, managers or public policymakers could set KPIs to map each effectuation dimension. For example, exploration can be transformed into KPIs as a number of new activities/projects in a year that a company attempts to engage in by using resources they have to hand. This integration of an entrepreneurial approach with a company's KPIs can encourage a more tangible and actionable plan.

Next, we discuss the limitations of this study and make recommendations for future research.

7. Limitations and future research suggestions

This meta-analysis study has several limitations that future research needs to address. First, although meta-analysis has the potential to quantify the strength of the relationship between possible contextual variables in this study, it cannot determine the causality of relationships. Second, effectuation is a theory-in-the-making and an emerging research area, the same as this research where we need to work with a limited sample of effectuation studies to generalise some of our potential moderators (e.g., Chandler's scale vs other scales). We hope that our research may pave the way and offer some useful direction for future effectuation research.

Chapter 3

Developing a better partnership: Small artisan entrepreneurs' commitment to government initiatives.

Abstract

Having a high commitment to a relationship appears to be especially important for small artisan entrepreneurs who rely on support from the government. We aim to explain how an entrepreneurial approach influences the long-term partnership commitment of small artisan entrepreneurs towards government initiatives. Drawing on effectuation theory, we use qualitative data to better understand insights, followed by quantitative data to test a research proposition. The findings demonstrate that an effectuation approach significantly influences long-term partnership commitment. We also reveal that integration and absorptive capacity are influential factors in long-term partnership commitment. Artistic integrity emerged in our study as an essential aspect influencing long-term partnership commitment. The findings indicate that unless governments adopt an appropriate approach to engage with small artisan entrepreneurs, it will be challenging to attain long-term partnership commitment.

Keywords: Effectuation, partnership commitment, absorptive capacity, artistic integrity, artisan entrepreneurs

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1. Introduction

Developing long-term partnerships successfully is important for small entrepreneurs to cope with marketplace challenges (Sarasvathy, 2004; Viswanathan et al., 2010). Achieving a high commitment to a relationship appears to be especially important for small artisan entrepreneurs in Thailand who rely on support from the government, but it should not be assumed that such commitment and long-term relationships can be achieved easily (Griffith et al., 2000; Humphrey & Ashforth, 2000). In Thailand, the government has initiated and provided support programmes for small artisan entrepreneurs. This initiative is called the Art and Crafts Support Organisation (SACICT) and is seen as an important government organisation to support artisans operating under the auspices of the Ministry of Commerce.

However, in Thailand, the main problem is that both small artisan entrepreneurs and government cannot form a long term-commitment to each other. In terms of the government, it struggles to understand why many initiatives (e.g., incubation programme for artisans, partnership programmes with retailers) fail to achieve long-term commitment with small artisans, leading to a lack of continuation and more focus on short-term benefits such as incentives (e.g., supporting budgets to promote products). As a result, the budget allocated every year to engage with small artisan entrepreneurs became ineffective. Kim and Frazier (1997) suggests that a bond or deep understanding of an individual to a partnership is crucial to developing a long-term relationship commitment and a successful partnership (A. Wong et al., 2005).

From an artisan's perspective, the lack of long-term commitment from government officials means the loss of continuous support (e.g., support programmes, collaboration projects, sales opportunities), which leads to unsuccessful partnerships. Thus, without an understanding of and insights into the lack of long-term commitment, small artisan entrepreneurs, therefore, find it difficult to grow and expand their businesses together with government organisations.

For small artisan entrepreneurs to successfully collaborate with government initiatives, it is crucial to identify individual factors and means that navigate partnership activity (Alsos et al., 2019; Viswanathan et al., 2010). This study aims to explain the mechanisms underlying how small artisan entrepreneurs engage with government partnership initiatives. Consequently, this research sets out to answer the following three main research questions: How do small artisan entrepreneurs make decisions on long-term partnership commitment? What do small artisan entrepreneurs do in the context of long-term partnership commitment? and What are the underlying mechanisms that may drive and constrain small artisan entrepreneurs in such partnerships?

Theoretically, we used the construct of effectuation, which is decision-making that focuses on co-creation with high uncertainty and a lack of resources (Sarasvathy, 2001b, 2004). That is, we consider it appropriate to adopt effectuation in our study context because artisan entrepreneurs are small or micro-entrepreneurs who lack resources (e.g., budgets, partners, financial support). Effectuation logic relies heavily on a means-driven approach that focuses on doing what one can, and what is on-hand as short-term action (Sarasvathy, 2001b), while government initiatives may depend on a long-term focus, such as national economic success (Berends et al., 2014). This potential conflict between partnership and commitment led us to conduct research to gain insights into underlying mechanisms of partnerships.

Most previous research has studied the results of effectuation (e.g., what is the impact of effectuation), but little empirical work has been carried out to fully explain the underlying mechanisms of effectuation that influence partnership commitment (Alsos et al., 2019). Thus, drawing on effectuation theory, we aim to conduct empirical research that can capture insights into long-term partnership commitment and contribute to effectuation theory.

We make several contributions to build on previous studies. First, this research addresses underdevelopment in the area of effectuation theory by revealing the influential mechanisms that drive partnerships between small artisan entrepreneurs and government initiatives with empirical data, as there is a lack of empirical research that emphasises the role of effectuation in partnerships (Alsos et al., 2019). Thus, our findings provide a more integrative framework to explain partnership commitment via effectuation theory.

Second, we offer valuable insights into how the relationship between effectuation and long-term partnership commitment can be influenced by individual factors such as artisan's ability to absorb new partnership integration. To the best of our knowledge, no empirical study has approached the role of such individual factors and how it may influence long-term partnership commitment and effectuation approach. Hence, we provide unique insights into effectuation research by revealing effectuation with relevant individual factors as a lens through which to explore partnership commitment.

Third, we examine a unique context and setting. To date, there is limited entrepreneurial research on effectuation that investigates small entrepreneurs, such as artisan entrepreneurs (Coviello & Joseph, 2012; Kalinic et al., 2014). We suggest that the context of small artisan entrepreneurs working with government organisations will provide a new and meaningful opportunity to extend the body of knowledge.

This study uses a mixed-methods approach with empirical evidence from small artisan entrepreneurs who participate in government initiatives in Thailand. We begin with qualitative data from eight artisan entrepreneurs to gain a better understanding of their insights, and to conceptualise a research proposition, followed by quantitative research data from 161 artisan entrepreneurs to test a research proposition and a conceptual model.

Next, we present the theoretical background. Then, we outline the methodology and findings of Studies 1 and 2 consecutively. Finally, we conduct a discussion and make suggestions for future research.

2. Theoretical background

2.1. Effectuation approach

Effectuation theory is a form of entrepreneurial approach and decision-making in uncertainty used by entrepreneurs. In the past decade, a number of new theoretical perspectives have emerged to explain the underlying action and approach of entrepreneurship (Sarasvathy & Dew, 2005). This emergence is in response to a growing body of literature which mainly relies on a classical school of thought on management and entrepreneurship behaviour, such as economics-based literature. Recently, new emerging theories have advanced our understanding of these subjects and gained new attention from those doing entrepreneurship, marketing, management and organisation studies (Fisher, 2012; Perry et al., 2012).

In the last five years, effectuation has become a fast-growing emerging theory of entrepreneurship and it has been cited by scholars of entrepreneurship, business, marketing and management (Fisher, 2012; Perry et al., 2012). Recently, it has gained more attention in small and novice entrepreneurs research, such as Strategic decision-making in SMEs (Hauser et al., 2020), Effectuation, innovation and performance in SMEs: an empirical study (Roach et al., 2016) and Causation and effectuation behaviour of Ethiopian entrepreneurs (Eyana et al., 2018). Thus, this stream of literature informs and supports applying effectuation theory in the context of small entrepreneurs.

Another alternative entrepreneurship perspective is the theory of bricolage (Baker and Nelson, 2005). Bricolage theory argues that in a penurious environment, an entrepreneur may avoid challenges and make do with any materials and objects to hand to achieve a task. But in the effectuation approach, the focus is on working with the unknown and uncertainty. In such a condition, entrepreneurs tend to use a co-creation process or capture new opportunities and reduce risk by working in a partnership, as stated in the effectuation approach and represented in one of the dimensions as pre-commitment (Sarasvathy, 2001). Despite the applicability of bricolage theory, the foundations of the effectuation approach have more potential to capture insights in our research context, particularly where we aim to explain insights into entrepreneurs and their partnerships.

Effectuation is described by dimensions that offer insights into what entrepreneurs think and how they behave, which may contrast with large corporations and institutions, including governments (Sarasvathy, 2001b, 2004). This premise helps to explain the tension and mechanism in our research context where we study small artisan entrepreneurs in relation to partnership commitment to government. For example, small artisan entrepreneurs may focus on passion to craft their products, being concerned less by marketing and sales, while government may believe in sales and volume to boost economic outcomes. Hence, we argue that partnership outcomes from an effectuation approach can be better understood if we explain the underlying mechanisms that link to long-term partnership commitment.

The four effectuation dimensions that entrepreneurs rely on are as follows: first, short-term experiment rather than long-term planning; second, instead of calculating the return on investment, they rely on how much they can accept as an affordable loss; third, partnerships or pre-commitment are used to reduce uncertainties over the future; last, they need to remain flexible to allow new emerging opportunities to be exploited. Equipped with this lens, this research will seek insights into effectuation approach by focusing on the underlying factors that overcome or create constraints to partnership commitment.

Recent studies attempting to make progress in this domain include a study on conflict in entrepreneur and investor relationships (Appelhoff et al., 2016). Despite this stream of recent research, there has been little discussion of the underlying mechanisms that drive or constrain partnership commitment (Reuber et al., 2016). Researchers have not yet examined what contributes to the outcomes of partnerships or sought insights into long-term partnership commitment.

2.2. Partnership integration and Long-term partnership commitment

Partnership integration is essential for small artisan entrepreneurs with limited resources, as it can help entrepreneurs to acquire new knowledge, obtain long-term commitment, gain expertise and access new markets and opportunities. It can also assist various business operations, such as sales events, advertising and training, to reach new markets (Dahan et al., 2010). Besides, partnership integration is viewed as an essential element to enhance the capabilities of entrepreneurs for business growth and financial support (Seelos & Mair, 2007). These characteristics are in line with how SACICT, i.e. a craft support organisation in Thailand, has been working to support artisan entrepreneurs.

The followings short descriptions explain the support that SACICT offers to small artisan entrepreneurs in Thailand: 1) Marketing support to expand the business to local and international markets, 2) Support with business training, personnel development, finance and marketing, 3) Space at sales events and support to connect with distribution channels, and 4) Promoting and connecting small artisan entrepreneurs to partners in the same industry (more information: www.sacit.or.th/th).

It means that the more entrepreneurs who integrate themselves with partnerships, the stronger is the commitment and performance that can be obtained from partnerships. For example, in a recent study, it was found that once partnership integration was in place, local government had gained the trust and commitment of a local entrepreneur, leading to stronger partnership potential (Shivarajan & Srinivasan, 2013).

Entrepreneurs and institutions are forming a long-term partnership commitment to enhance their ability to improve business performance, gain new advantages and capture new opportunities (A. Wong et al., 2005). Kim and Frazier (1997) suggest that developing and achieving a long-term partnership commitment is crucial to create a successful partnership and to gain a competitive advantage by working in partnerships.

Despite the benefits that partnership integration and long-term partnership commitment can bring to small entrepreneurs, some evidence in a similar context (e.g., small entrepreneurs) suggests that there are challenges to achieve partnership commitment. For example, Hall and Matos (2010) found that farmers who lack basic business knowledge, and distrust government policy, tend to have a barrier to receiving support from partnerships and do not initially commit and engage with representative partners. Hence, engaging in a partnership is related to achieving commitment and balancing conflicting goals between partnerships (Rosca & Bendul, 2019), and so we argue that partnership integration is important in the relationship between effectuation, partnership satisfaction and long-term partnership commitment.

2.3. Absorptive capacity

In order to understand how individual factors may shape partnership outcomes, we adopt absorptive capacity (Cohen & Levinthal, 1990) as our theoretical lens through which to examine entrepreneurial behaviour. The theoretical underpinning of absorptive capacity complements effectuation to explain how the ability to adapt and absorb new knowledge may influence entrepreneurs in working within a partnership, and what constrains obtaining new commitment (Brettel et al., 2012). Thus, in our study, we consider absorptive capacity to explain what prevents

entrepreneurs who receive the same support from external partners performing differently in adopting new knowledge into new goals and means in effectuation approach.

Lichtenthaler (2009) argues that entrepreneurs wishing to develop new products or transform new business innovations with high uncertainty in unpredictable situations need to have the competence to absorb new additional capabilities (e.g., able to access new knowledge, or build initiatives from partners). Recently, the study of effectuation and its impact on R&D project performance has adopted absorptive capacity to understand effectuation and how it may influence the R&D aspect in a company (Brettel et al., 2012). Brettel et al. (2012) mention that an existing capability to learn and absorb new knowledge is crucial when learning via alliances and when developing a new innovation.

In this study, we integrate absorptive capacity as a lens to reveal how new knowledge, commitment and capability are adapted to new goals through effectuation logic. Cohen and Levinthal (1990) mention that once an organisation has the capability to learn and utilise new knowledge, it may find opportunities to commit to new activities (e.g., new partnerships, new product development) using new knowledge it has acquired. It indicates that even when two entrepreneurs see the same opportunity, there could be different outcomes as regards how they absorb and transform that new knowledge into an entrepreneurial approach. Thus, we propose that the theoretical underpinning of absorptive capacity aligns with and complements effectuation to explain what makes someone succeed in effectuating within a partnership, and what constrains obtaining long-term partnership commitment.

Recent work on absorptive capacity offers an opportunity for further research to better understand change, transformation and leveraging new partnership capacity, co-creation and integration. For example, Ferreras-Méndez et al. (2015) found that absorptive capacity is a mediator in the relationship between the search for external knowledge and innovation and performance. Another study is by van Doorn et al. (2017), who conducted research to understand the interplay between top management team advice-seeking and absorptive capacity. They found that depending on top management team advice-seeking is not sufficient to exploit new knowledge, while a lower level of absorptive capacity of top management is unable to incorporate new knowledge into change. This indicates that absorptive capacity can be a potential factor that shapes partnership integration and influence the relationship between effectuation and long-term partnership commitment.

2.4. Other relevant partnership dimensions

The literature on entrepreneurship and artisans suggests some additional relevance of concepts to use to understand artisan entrepreneurs and partnerships. The dimension that is particularly relevant to artisans is artistic integrity. This is about commitment to values that are not only personally important but also having a sense of personal admiration for products or projects. In other words, it is about true passion and aspiration beyond the financial aspect. Garud and Gehman (2016, p. 546) note that at any point in entrepreneurial approach, it is constituted by entrepreneurs' relational-temporal aspirations and memories. Based on this concept, we pay attention to the literature on balancing goals between commerce and lifestyle (Cooper & Artz, 1995; Stewart Jr et al., 1999), individual morals, ethics and specifically integrity to be the

theoretical references when exploring the potential association with effectuation in partnership commitment.

To date, little attention has been paid to insights into the role of individual goals and the aspirations of artisan entrepreneurs. One exceptional study by Tregear (2005), who studied the goals of contemporary artisans, describes a group of artisans as lifestyle seekers who may rely on passion (e.g., doing what they love) more than business objectives (e.g., sales, revenue). The author suggests that these craft makers prioritise an emotional connection with and commitment towards their work, while seeing business growth as a secondary goal (Tregear, 2005). In the next section, we describe the methodology and process to collect and analyse our data.

3. Mixed-methods approach and an overview of two studies

In this study, we used a mixed-methods approach (Creswell & Plano Clark, 2011), incorporating a qualitative (Study 1) and quantitative methods (Study 2). Specifically, a sequential mixed-methods study was conducted, in which qualitative research was implemented in the first stage, followed by quantitative research (Molina-Azorín et al., 2012).

It has been suggested that mixed methods in entrepreneurship research is a beneficial approach, and it is well established in social science research (Erzberger & Prein, 1997). Although there are some criticisms associated with the incommensurability of mixed methods, a combination of quantitative and qualitative approaches may provide a better understanding of the research problem and complex phenomena in entrepreneurship research (Creswell & Plano Clark, 2011; Howorth et al., 2005).

In Study 1, an initial qualitative phase was designed to help us explore the influential mechanisms that drive a relationship between effectuation approach and government initiatives, so as to assist in the development of a research proposition based on theory. In Study 2, we then tested the developed proposition in a quantitative design, and there were 161 members of SACICT who participated in this process. In the next section we begin with Study 1.

3.1. Study 1: How artisans effectuate their partnership

3.1.1. Methods in Study 1

The findings in this stage will assist in the development of a research proposition based on theory. The lack of literature in the area of small artisan entrepreneurs and government initiatives motivated us to use qualitative research to reveal any additional dimensions that might explain how artisans effectuate partnerships. All interviewers were artisans recruited at a SACICT event in Thailand. As for the role of SACICT, this organisation was set up to provide support to art and crafts entrepreneurs. For example, SACICT has initiated and provided supportive programmes for small artisan entrepreneurs such as business classes, branding and digital marketing training. It has a responsibility to collaborate and co-create better business performance with craft entrepreneurs. SACICT has been working with the craft community for more than 15 years, providing support in terms of knowledge, skills, development, initial budgets and networking with other institutions, such as the Ministry of Commerce and academic and business partnerships.

We used purposive sampling for our data collection because of the specific research objectives and context related to artisans in Thailand and a government organisation. The process of participant recruitment started at SACICT events run as government initiatives to promote arts and crafts businesses. Sixty artisan entrepreneurs were attending an event and, during the day, we contacted informants and evaluated if they met our selection criteria, as the researcher needed to verify the experience of artisan entrepreneurs and membership status for this government project. Hence, we used the following three criteria; 1) a member of a government initiative programme 2) the owner of a business 3) has participated in an initiative for at least one year. A total of eight shortlists were recruited from various industries, including textiles, paper, wood and ceramic art, with this variation in industry being appropriate for exploring entrepreneurial behaviour and partnerships in this study because of their wider perspectives, characteristics and contexts (Di Domenico & Miller, 2012). Finally, there were eight artisan entrepreneurs who participated in the interview process (Table 1).

All interviews were conducted face-to-face, tape-recorded and later transcribed into a 43-page interview document. Qualitative interviews were analysed and coded with respect to how artisan entrepreneurs engage in collaboration and partnerships, and how they describe them. These data were coded and analysed to identify entrepreneurs' intentions and motivation that drive long-term commitment towards partnerships with government initiatives.

In the analysis stage, we use thematic analysis to capture insights into the relationship between effectuation and long-term partnership commitment. We thematically coded the interview transcripts and notes using NVivo software. Thematic analysis is a technique for discovering patterns or meanings in specific information from selected participants (Braun & Clarke, 2012). Because of the purpose of uncovering common meanings and experiences within the data set, this type of analysis is considered appropriate. Through the use of thematic analysis, motivations and intentions behind artisan entrepreneurs' intentions and motivation that drive commitment towards partnerships with government initiatives were identified and common shared motivations or meanings were found. At the same time, the use of thematic analysis has been shown to be flexible and accessible for researchers, which presents another positive factor which influenced the decision to choose this type of analysis (Braun & Clarke, 2012).

Another positive element of this approach is that it works with both inductive and deductive approaches. This is particularly useful for this research since a combination of both approaches is used. This is due to the fact that previous literature offers a limited array of categories relevant to how artisans effectuate partnerships which it is important to highlight in this research, but since the amount is limited, new themes and motivations are found through the use of inductive research (Fereday & Muir-Cochrane, 2006). The quotations in the next section are from the transcripts, where topics and answers were used to understand the relationships between the variables and constructs proposed in this paper.

Table 1. Summary of respondent profiles

No.	Craft product type	Education	Number of years in a SACICT partnership
RD 1	Wooden craft toys	Bachelor's degree	3 Years
RD 2	Craft pottery	Bachelor's degree	5 Years
RD 3	Tie-dye clothes	Bachelor's degree	3 Years
RD 4	Craft textiles	Master's degree	2 Years
RD 5	Craft textiles	Bachelor's degree	3 Years
RD 6	Banana latex and products from bananas	Bachelor's degree	2 Years
RD 7	Clothing with natural dyeing	Bachelor's degree	5 Years
RD 8	Paper craft	High school level	4 Years

3.1.2. Analysis and results of study 1

We found that artisans tend to use an effectuation approach to explore and acquire new business opportunities through partnerships, such as agreements, supporting deals and networking, to minimise the uncertainty over their future. Some of the comments made by respondents are as follows:

“I sensed that the brand that I am working on right now can be among top ten gifts ... so that soon became my goal, and then I started to look for connections and opportunities for that, but it really depends on how much I can do with partners such as SACICT” (RD 4)

“I need to focus on today, rather than the future ... there are lots of things that do not allow me to grow individually. It's about time to seize opportunities for myself through my partnership such as SACICT.” (RD 1)

Thus, our findings support that the principles of an effectuation approach (Sarasvathy, 2001b) have the potential to influence how artisan entrepreneurs integrate with government initiatives. In addition, they demonstrate that effectuation may be associated with the ability to recognise new opportunities and absorb new ideas for small artisan entrepreneurs, which may relate to the construct of absorptive capacity.

Small artisan entrepreneurs who have a strong commitment to government initiatives tend to be those who can learn quickly and adopt new knowledge into their work. From the interviews, two artisan entrepreneurs mentioned that they decided to adopt pricing knowledge (e.g., how to set prices for new products) and bring it into their crafts even without any clear tangible benefits being provided by the government. Those who have a good ability to absorb new knowledge can be open and keep working with government officials throughout a long-term project.

“When I am thinking about profitability and pricing ... I simply look at the total cost of my products, and then set a price that is not too high ... that's all. But, from what I learnt from SACICT, even I didn't fully believe them ... I listened to them, and I changed the pricing strategy, as we know little about business ... I try to listen to new ideas and see if I can apply them, this may take a year to know if it works, but I am willing to test and learn.” (RD 1)

On the basis of the interviews, it is indicated that small artisan entrepreneurs tend to use effectuation in their working approach (e.g., flexibility). Furthermore, the key principles of effectuation (e.g., experiment, affordable loss) are potentially related to the ability to absorb new knowledge and ideas and integrate with partnerships. For example, small artisans who are open to exploring new opportunities tend to absorb more knowledge and also tend to integrate themselves into partnerships. Thus, the following propositions are formulated:

Proposition 1: Effectuation influences absorptive capacity

Proposition 2: Effectuation influences partnership integration

Regarding absorptive capacity, we also found that it is important for small artisan entrepreneurs to adapt and tune into partnership goals (Cohen & Levinthal, 1990; van Doorn et al., 2017). In this notion, partnership integration is also important, not just a part of government initiatives. Our findings support that absorptive capacity, which we found was the ability to participate in a partnership, helps to explain how effectuation translates into partnership integration. For example, artisans who are able to learn and adapt new knowledge learned from government activities (e.g., marketing workshops) tend to be more involved in workshops and long-term projects, such as re-branding, improving business and finance. For instance, one of the artisans mentioned:

“...they (SACICT) said, your branding should be changed, the brand must convey ‘what you do’ (in a word) ... so, I was thinking ... I am open to ideas and believe them, and I started to think about a new brand name and join their one-year project. I think I understood what the government is trying to do, I learnt this and set up a new brand, a new product line, and will see how it goes in a year or two.” (RD2)

Thus, it seems that absorptive capacity may help the effectuation approaches used by artisan entrepreneurs to better integrate new partnership values into their businesses. For example, those who are open to new knowledge try to learn how to use and adapt branding and marketing techniques to into their businesses, even though they need to invest in their efforts. It indicates that the more they have the ability to learn and absorb from partnerships, the better they integrate them to transform their working approach. On the basis of this insight, the following proposition is formulated:

Proposition 3: The relationship between effectuation and integration is mediated by absorption

Our findings suggest that when artisan entrepreneurs make a good commitment to partnership collaboration, they tend to participate in several long-term projects with the government. For example, some artisans pointed out that the more they work with government initiatives (e.g., collaborate in a craft incubation programme), the more they feel that they achieve greater satisfaction and a more positive view towards partnerships.

“...the feedback about my product pricing was good. Because ... I tried it, and I earned more from that, so I started to listen more to them (SACICT) and attend more seminars and long-term partnership activities.” (RD 5)

In one case, once they engaged at a certain level with a government project, their decisions to continue to commit to government projects were no longer based on what they could achieve in the short-term, they relied more on what they felt about the project and their relationship and satisfaction with government initiatives.

“SACICT usually has sales events ... if they have space, and they need some shops to go and sell to. I never refuse, I always give them support as long as we are in a good relationship, I have a certain feeling of loyalty.” (RD 5)

It suggests that artisan entrepreneurs who integrate themselves and their working approach with government initiatives tend to be more satisfied and have the potential to develop a stronger commitment with government initiatives. Thus, we argue that the effectuation approach is associated with partnership satisfaction and long-term partnership commitment, but it also depends on how much they integrate with partners. These insights lead us to formulate the following propositions:

Proposition 4: The relationship between effectuation and satisfaction is mediated by integration

Proposition 5: Partnership satisfaction influences long-term partnership commitment

Regarding new aspects found in this study, one surprising finding that emerged from the interviews was artistic integrity. We found that artistic integrity is an individual factor that may influence and create constraints on how artisans decide to engage with new partnership initiatives. We found that artisans who have strong artistic integrity (e.g., moral and artistic values, rather than pursuing business success) tend to see external parties and partnerships as an influential and complicated process, with business-driven goals, and suitable for big corporations rather than small artisan entrepreneurs.

We found that, for artisans, artistic integrity may have the potential to be an obstacle to exploring innovative ideas or being flexible in developing new skills, which are essential aspects of an effectuation approach. For instance, one artisan mentioned:

“...I don't want to learn because, sometimes, the branding trainer could not understand that craft products cannot be made to meet order requirements. Some craft products cannot offer what the market wants. It is not a mass-produced product, it is about your passion, and it is not a factory.” (RD2)

“It is a craft, it must follow the maker's heart! I do it because I feel like it ... it is beautiful, and I feel so happy and proud to make it. But, for branding, they told us that: 'What we need to follow is customers' hearts.' It is an opposite way of thinking. SACICT said, 'You also have to hit your targets, to sell but I did not want to do that, so I did not join several projects with them ’ (RD2)

According to the excerpts above, to create stronger partnership commitment, the policy from government initiatives should thus fit be consistent with an artisan’s artistic integrity, not only for better revenue. Thus, the government should see artisan entrepreneurs and their work as a ‘sub-set of life and aspiration’ rather than consider pure business purposes. For example, one interviewee mentioned:

“...I have never changed my products, because it is difficult to change them. If they ask me to improve or change anything, I first need 'to look at myself'. All craft people are in the same situation. I work alone, I have no one to support how I craft.” (RD6)

According to this finding, their decisions are not only based on the future that the government offers in terms of business and profit, rather they focus on crafting and presenting their products to people, and hope people see their artistic value. Hence, we additionally propose that their ability to integrate with the government also depends on their artistic integrity. Based on this view, we make the following proposition:

Proposition 6: Artistic integrity moderates the relationship between effectuation and partnership integration.

In summary, the results of the qualitative analysis show that the drivers highlighted in recent discussions and assumptions in effectuation research, such as absorptive capacity and partnership integration, appear to be key mechanisms in this study’s context. While artistic integrity, not previously discussed in the effectuation literature, was newly found to be critical to artisan entrepreneurs engaging in government initiatives. We integrated our qualitative findings and relevant theoretical constructs into a comprehensive, conceptual model of partnership effectuation, as shown in Figure 1. Next, we present a quantitative study which aims to test our research propositions.

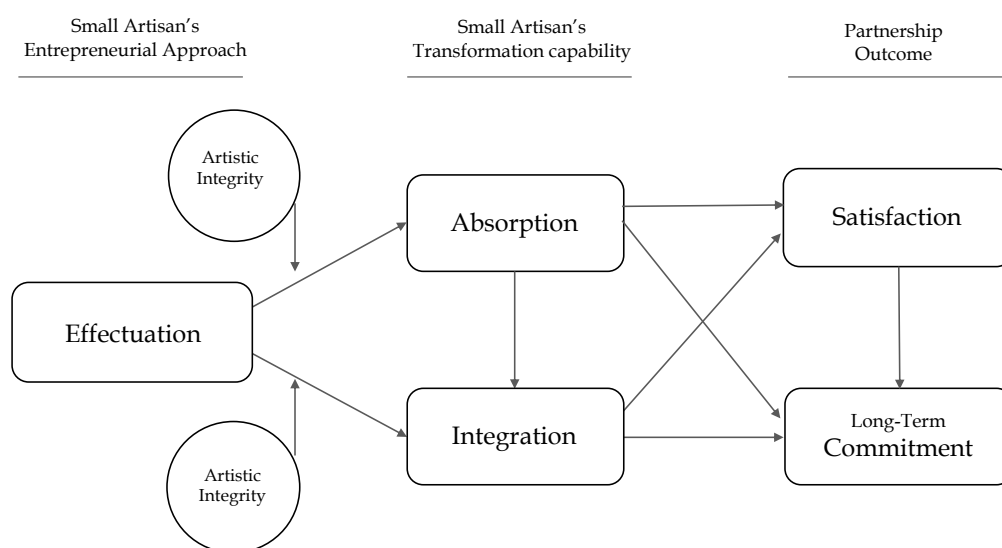


Figure 1. Proposed conceptual model: Extended theoretical framework and research proposition from the qualitative study

3.2. Study 2: Testing research propositions

3.2.1. Method of Study 2

In the second part of the research, the main focus is to test the research propositions which we proposed in our study 1 and a conceptual framework of how artisan entrepreneurs engage with government initiatives. The following theories and constructs are adopted: Effectuation (Chandler et al., 2011; Sarasvathy, 2001b), Absorptive capacity (Cohen & Levinthal, 1990; van Doorn et al., 2017) and Partnership Integration (Rosca & Bendul, 2019). A quantitative approach is used, and we build a conceptualisation of long-term partnership commitment in relation to effectuation approach, then empirically test it. A sample of (n=161) artisan entrepreneurs' data was collected and analysed.

In our conceptual model (Fig. 1), based on the propositions from the qualitative study in the previous phase, we were able to conceptualise our six constructs in three stages. In the first stage, we define it as small artisans' entrepreneurial approach, we conceptualise effectuation as having a linkage to absorption, i.e. an absorptive capacity construct, and integration, i.e. partnership integration, in which both constructs are defined in the second stage as small artisans' transformation capability. In addition, we choose artistic integrity to be a moderator of the relationship between effectuation and absorption, and effectuation and integration. In the last stage, we link absorption and integration to satisfaction, i.e. partnership satisfaction and long-term commitment, i.e. long-term partnership commitment, which we define in this stage as partnership outcomes. Next, we present the quantitative methodology and results of the study.

3.2.2. Data collection

A face-to-face survey questionnaire is the key data-gathering instrument. The sample consisted of (n=161) entrepreneurs; all of them are current SACICT members who recently participated in two key events organised by SACICT. The questionnaire was developed through a back-translation process and included a pilot test. We initially developed an English questionnaire and translated it into Thai, and a professional language editor was employed to back-translate the questionnaire. The final items were compared with the original English to improve the accuracy of the translation. All the items were tested with 10 artisan entrepreneurs to check their understanding. The English and local language translations were cross-checked with experts in the field of management and organisation research. Ethical clearance was obtained from all respondents prior to undertaking the survey.

3.2.3. Sampling

We used a purposive sampling technique due to our specific study context and research objectives. We paid attention to the collaboration between small artisan entrepreneurs who are members of craft-supporting government initiatives. Thus, we focused on current members of SACICT, who are registered, participate and have experience of working with the focal organisation. The researchers attended key events (showcase and sales events) run by SACICT, in April and June 2019, to distribute questionnaires. Lists of entrepreneurs who participated in the events were obtained from SACICT. Again, we used the three criteria mentioned in the study

1 to recruit our respondents; 1) a member of a government initiative programme 2) the owner of a business 3) has participated in an initiative for at least one year.

During the data collection process, there were 190 members of SACICT who participated in key events. This group of entrepreneurs serve as a sample framework in this study. The entrepreneurs were contacted at events. They were asked to sign a consent form to participate in the study. Out of a total of 190 entrepreneurs who were contacted, 161 agreed to participate. The sample anticipated representing craft makers as small artisan entrepreneurs who participate in SACICT government initiatives, which SACICT works closely with them to provide several long-term projects, trainings (e.g., skills and business training), workshops, product competitions, sales exhibitions, co-creation projects and international export opportunities.

3.2.4. Common Method Bias

Survey research can suffer from common method bias due to social desirability biases. We address the potential presence of common method bias in our data by using four techniques recommended by Podsakoff et al. (2003): (1) creating a psychological separation between the measurement of predictor and criterion variables. (2) using different response formats in measuring our constructs: four types of scale endpoints, including 5-point Likert scale, 7-point Likert scale, satisfaction response format, and Agreement format, (3) protecting respondents' identity by stating in the introduction to our survey that we clearly offer a guarantee of anonymity, with a consent form with the researcher's signature to ensure the anonymity of respondents and (4) counterbalancing the question order. This approach supports reducing priming effects and item-context induced mood states. Thus, we took four different question constructs and randomly reordered them in the survey section.

3.2.5. Measurement

Effectuation scales. Fifteen of the most commonly used measurement items of effectuation were constructed (5-point Likert scales) based on validated scale research (Chandler et al., 2011). The questions were adapted to the context of artisan entrepreneurs. All the items were tested by ten artisan entrepreneurs to evaluate them and receive suggestions in terms of context fit, understanding and language accessibility.

Long-term partnership commitment scales. A long-term partnership commitment scale (5-point Likert scale) was adapted from the literature related to long-term partnership commitment. First, from a study on long-term partnership orientation (A. Wong et al., 2005) that pointed out that long-term commitment is crucial to developing a long-term relationship in partnership collaboration. Second, we adapted the continuance commitment construct from Kim and Frazier (1997).

Absorptive capacity scales. We used five absorptive capacity items (5-point Likert scales) from van Doorn et al. (2017), who studied the interplay between top management team Advice-Seeking and Absorptive Capacity. The items were adapted to fit the entrepreneurs' owner context. These scales suit this study as they show how decision-makers learn, receive and absorb new knowledge from the external environment.

Artistic integrity scales. The scale items for integrity are based on studies of people's ethics and integrity (Schlenker, 2008). Seven items (5-point Likert scales) were selected by considering sentences that fit this study context. We adapted the answers to suit arts and crafts by adding three questions with a focus on the morality and ethics of artistic production, such as: 'I would stick to my artistic integrity rather than respond to market needs.'

Partnership Integration and Partnership Satisfaction scales. Eight items (7-point Likert scales) of integration were developed based on Rosca and Bendul (2019), who studied value-chain integration. All items were adapted to fit the context of collaboration with the government. For partnership satisfaction, this scale was adapted from supplier partnership satisfaction (5-point Likert scale) to fit with the context of small artisan entrepreneurs and government initiatives (Paul et al., 2010).

Control variables. Four control variables were included: Education level, Revenue, Team size and Gender. Education level is a human capital driving force behind firm collaboration and entrepreneurial behaviour (Davidsson & Honig, 2003; Stuart & Abetti, 1990; Ucbasaran et al., 2008). Education is measured by asking respondents to indicate their highest completed level of education, which ranges from 1–6 (1 = secondary school, 2 = tertiary school, 3 = bachelor's degree, 4 = master's degree, 5 = doctoral degree, 6 = other). For revenue we asked respondents to indicate average revenue per month based on the previous year.

3.2.6. Analysis and results of Study 2

A latent variable was created to capture the interaction between effectuation, absorptive capacity, integration, partnership satisfaction and long-term partnership commitment. Education level, Revenue, Team size and Gender were included in our empirical model as control variables. We used SmartPLS 3.0, i.e. a partial least squares (PLS) structural equation modelling (SEM) technique was employed to analyse the data. PLS-based SEM modelling is widely accepted in management, marketing and organisation research. PLS-based SEM modelling is suitable for exploratory research, and to build a theoretical concept which also works with a small sample size (Hair et al., 2011).

To assess our model, we address the reflective components, construct reliability, convergent validity and discriminant validity of the model, as follows: Individual reliability of reflective items (Table 1). This reliability is considered adequate when an item has a loading of over 0.7 in its construct. The analyses show that most of the items meet this condition, and as this is exploratory research, we allow some items to be lower, but need to achieve at least 0.5. In the analysis, we delete one indicator for artistic integrity and one for long-term partnership commitment because their loadings are below the cut-off value of .50. For construct reliability, this is checked through an internal consistency measure called composite reliability and its value should be higher than 0.7 (Werts et al., 1974). In this case, this requirement is fulfilled for all constructs. For the assessment of convergent validity, average variance extracted (AVE) was measured, which scholar suggests that the value should exceed 0.5 (Fornell & Larcker, 1981). This condition was met in all cases except artistic integrity which achieved slightly under the condition at 0.465. We checked Discriminant validity (Table 2), where the square root of AVE should be greater than the correlation coefficients between the constructs. This condition was met in all cases.

Table 1:
Results summary for the outer model.

Constructs and items	Loading
<i>Absorptive capacity</i> (Alpha = 0.842, CR = 0.888, AVE = 0.616)	
I am aware of the latest knowledge introduced by SACICT.	0.67
I am able to quickly integrate and/or apply new knowledge introduced by SACICT	0.81
I soon know who is most knowledgeable with regard to newly acquired knowledge from SACICT.	0.82
I know how to quickly recognise the value of new knowledge introduced by SACICT.	0.83
I soon know who can help solve problems associated with new knowledge introduced by SACICT.	0.78
<i>Affordable loss</i> (Alpha = 0.837, CR = 0.883, AVE = 0.602)	
I was careful not to commit more resources than I could afford to lose.	0.75
I was careful not to risk more money by changing my products	0.78
I was careful not to risk money that would leave me in real trouble financially if things didn't work out.	0.84
I was careful not to commit more resources than I could afford to lose by following advice from SACICT.	0.74
I was careful not to risk more money by following ideas proposed by SACICT.	0.76
<i>Pre-commitment</i> (Alpha = 0.82, CR = 0.898, AVE = 0.746)	
I had a substantial number of agreements with SACICT.	0.92
I had some pre-commitments with SACICT. (Agreement)	0.88
I am committed to SACICT.	0.79
<i>Experimentation</i> (Alpha = 0.538, CR = 0.743, AVE = 0.560)	
I experimented with different products (types, styles, materials).	0.71
The product that I now have is substantially different from what I first imagined.	0.53
I tried a number of different approaches (product) until I found the right approach that worked.	0.85
<i>Flexibility</i> (Alpha = 0.776, CR = 0.859, AVE = 0.764)	
I allowed my business to evolve as opportunities emerged.	0.85
I adapted what I was doing to the resources I had.	0.89
I was flexible and took advantage of opportunities as they arose.	0.85
<i>Long-term commitment</i> (Alpha = 0.776, CR = 0.831, AVE = 0.647)	
I am committed to the relationship with SACICT.	0.88
I intend to continue the relationship with SACICT for many years.	0.92
I am uncertain whether our relationship with SACICT will last for a long time.	0.57
<i>Partnership integration</i> (Alpha = 0.924, CR = 0.946, AVE = 0.814)	
SACICT has helped me to promote my products.	0.93
SACICT has helped me to introduce my products to the market.	0.93
SACICT has helped me to develop new products.	0.94
SACICT has helped me to export/sell my products to international markets.	0.82
<i>Artistic integrity</i> (Alpha = 0.699, CR = 0.795, AVE = 0.465)	
Integrity is more important than financial gain.	0.64
The true test of character is a willingness to stand by one's principles, no matter what price one has to pay.	0.68
Promoting my artistic integrity is more important than business growth.	0.76
I would stick to my artistic integrity rather than respond to market needs.	0.75
I don't want to compromise my artistic integrity (e.g., traditional ways of crafting, traditional design)	0.55
<i>Partnership satisfaction</i> (Alpha = 0.944, CR = 0.960, AVE = 0.856)	
I am satisfied with SACICT.	0.89
I am satisfied with my partnership with SACICT.	0.93
I am satisfied with SACICT's involvement in my business.	0.93
I am satisfied with my collaboration with SACICT.	0.95

Table 2
Correlation among constructs

	Absorption	Effectuation	Integration	Integrity	Long-term commitment	Satisfaction
Absorption	0.785					
Effectuation	0.629	0.537				
Integration	0.522	0.524	0.902			
Integrity	0.344	0.283	0.229	0.682		
Long-term commitment	0.368	0.392	0.505	0.171	0.805	
Satisfaction	0.362	0.344	0.576	0.165	0.776	0.925

Values on the diagonal (bolded) are square roots of AVE, while off-diagonals are correlation coefficients.

Note: Absorption = Absorptive capacity; Integration = Partnership integration; Satisfaction = Partnership satisfaction; Long-term commitment = Long-term partnership commitment; Integrity = Artistic integrity.

3.2.7. Results of quantitative analysis and proposition testing

This part of the research discusses the findings which emerged from the statistical data from proposition testing. Table 4 shows that effectuation has significant, positive effects on absorptive capacity ($\beta = 0.598$, $t = 9.112$ $p < .05$), hence proposition 1 is supported. Effectuation has significant, positive effects on partnership integration ($\beta = 0.363$, $t = 3.766$ $p < .05$), hence proposition 2 is also supported. As for the mediation effect in this model, we found that absorptive capacity mediates the relationship between effectuation and partnership integration ($\beta = 0.171$, $t = 2.651$ $p < .05$), thus proposition 3 is also supported. The results show that partnership integration mediates the relationship between effectuation and partnership satisfaction ($\beta = 0.183$, $t = 3.099$ $p < .05$), hence proposition 4 is supported. Partnership satisfaction has a significant influence on long-term partnership commitment ($\beta = 0.706$, $t = 10.743$, $p < .05$), which therefore supports proposition 5. This mediation analysis, together with conceptual model testing provides compelling evidence that absorptive capacity and partnership integration serve as underlying mechanisms influencing effectuation and long-term partnership commitment.

We illustrate the results by incorporating statistical tests into our conceptual framework (Fig. 2). We consider the findings further in the next discussion section. In the next step, we tested the moderation analysis of artistic integrity and the relationship between effectuation and partnership integration.

Table 4: Structural estimates

Proposition	Beta	T value	P value	Decision
P1: Effectuation → Absorption	0.598	9.112	<0.001**	Supported
P2: Effectuation → Integration	0.363	3.766	<0.001**	Supported
P3: Effectuation → Absorption → Integration	0.171	2.651	0.008**	Supported (mediation effect)
P4: Effectuation → Integration → Satisfaction	0.183	3.099	0.002**	Supported (mediation effect)
P5: Satisfy → Long-term commitment	0.706	10.743	<0.001**	Supported

Note: Absorption = Absorptive capacity; Integration = Partnership integration; Satisfaction = Partnership satisfaction; Long-term commitment = Long-term partnership commitment; Integrity = Artistic integrity.
Test 1000 bootstrap samples.

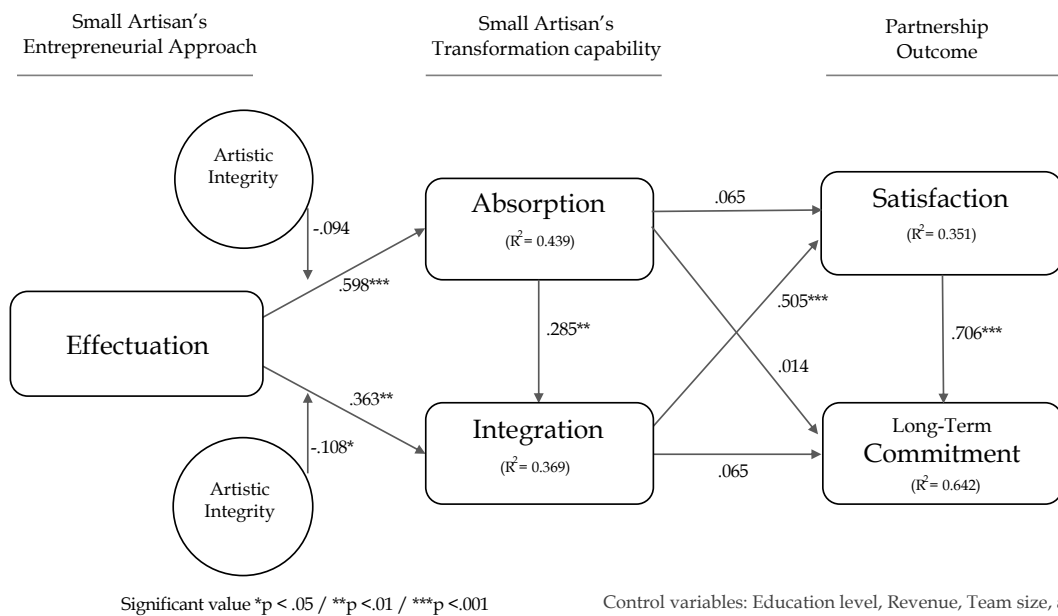


Figure 2. Measurement model

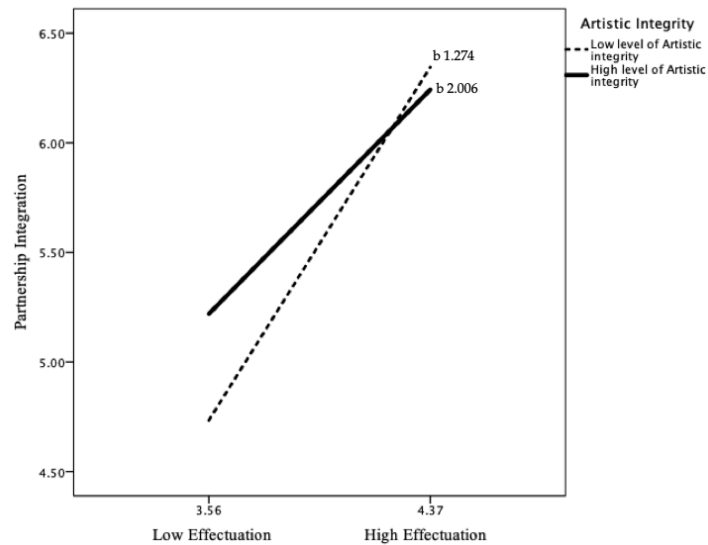


Figure 3 Moderation analysis

In this step, we tested whether artistic integrity would have a moderating effect on the relationship between the effectuation of artisans and their partnership integration. The PLS product-indicator approach is used to assess moderation analysis. PLS can improve the validation of theories by providing relatively higher accuracy when estimating moderator effects, and this effect is enabled by addressing errors that lessen estimated relationships (Chin et al., 2003).

To complement the moderation analysis, we further used the macro software ModLR (version 250619), written by Ahmad Daryanto, to assess the moderating regression analysis; effectuation (predictor) and artistic integrity (moderator) were multiplied to create an interaction construct (effectuation artistic integrity) to predict partnership integration (Daryanto, 2019). Figure 3 plots the interaction between effectuation and artistic integrity. This plot suggests that under low levels of artistic integrity, effectuation is an effective way for artisan entrepreneurs to integrate with government initiatives. The estimated path coefficients for the effect of the moderator on partnership integration ($\beta = -0.108$, $t = 2.230$, $p < .05$) were significant. This indicates that artistic integrity among artisans moderates the relationship between the effectuation of artisans and their partnership integration. Hence, proposition 6 is supported. Thus, artistic integrity serves as a unique moderator of effectuation in partnership integration.

4. Discussion and Implications

In this paper, we aim to explain the mechanisms underlying how small artisan entrepreneurs engage with government partnership initiatives. Since this is scarcely studied in the entrepreneurship and marketing literature, we use a mixed-methods approach to address this topic. Specifically, we conducted a qualitative study with in-depth interviews to develop research propositions. Then, we tested these qualitative propositions in a quantitative study using PLS path modelling. With empirical evidence, the study reveals the factors that influence the relationship between effectuation and long-term partnership commitment from a sample of Thai small artisan entrepreneurs who participate in government initiatives (SACICT).

Effectuation improves absorptive capacity. The results show that the effectuation approach used by small artisan entrepreneurs improves their absorptive capacity (e.g., ability to absorb new ideas, plans and knowledge from partnerships). For example, artisans who use an effectuation approach (e.g., flexibility, experiment, affordable loss and pre-commitment) tend to be flexible and open to adopting new marketing and branding knowledge suggested by the government to test with their business ideas. As they do not restrict to a fixed business plan, they tend to adopt and test new ideas quickly, then understand how these tools help them during the process. Therefore, the higher the degree of an effectuation approach used by artisan entrepreneurs, the greater the possibility of small artisan entrepreneurs transforming themselves to learn, adapt and integrate with a partnership.

This association is supported by the study of Borgatti and Cross (2003), who found that the ability to collaborate with external organizations influences how the organisation and members seek new knowledge and learn behaviours. Our finding provides a novel theoretical concept, as we extend and associate absorptive capacity with the effectuation approach (Sarasvathy, 2001b) to explain how entrepreneurs who have limited resources, and are unable to build on their strategic assets, can better transform themselves by using effectuation approach, learning to adapt and working within a partnership. This finding is in line with proposition 1 in this study.

Effectuation improves partnership integration. An effectuation approach directly improves partnership integration, which this improved partnership integration contributes to greater partnership satisfaction, leading to long-term partnerships' commitment to government initiatives. For example, an effectuation approach allows artisan entrepreneurs to explore and adopt new marketing tools, financial knowledge, and new market opportunities offered by SACICT. Thus, the ability of artisan entrepreneurs to transform themselves in partnerships becomes a critical mechanism in an effectuation approach. We found that in a partnership context, scholars have conducted research on networks and partnerships by focusing on network-building, which recognizes partnership as an essential advantage of effectuation that may affect growth and expansion (Prashantham et al., 2019). Our results are partially in line with this literature, which we empirically demonstrate the positive effects of effectuation and partnership integration. This finding is in line with proposition 2 in this study.

Partnership integration and absorptive capacity are mediators. We found that both partnership integration and absorptive capacity are unique mediators that play a crucial role in an effectuation approach. Interestingly, for partnership integration, the results suggest that although an effectuation approach enhances the ability to absorb new knowledge and goals from partnerships, there is no direct influence from absorptive capacity on partnership satisfaction. It means that an impact from an effectuation approach on partnership satisfaction is only possible through partnership integration.

This sophisticated relationship between each construct indicates that when artisan entrepreneurs have a higher absorptive capacity to realise, learn and adapt new knowledge from government initiatives, there is a higher possibility of transforming themselves, reducing conflict and collaborating with the government. This leads to higher partnership integration, finally resulting in greater partnership satisfaction and long-term commitment. These results are supported by a previous study, for example, van Doorn et al. (2017) conducted a study to understand the interplay between top management team advice-seeking and absorptive capacity, in which they found that absorptive capacity was an important influential driver to improve

entrepreneurial performance. Our results reveal the importance of absorptive capacity, by explaining how it relates to effectuation theory. This finding is in line with propositions 3 and 4 in this study.

Partnership satisfaction has a direct effect on long-term commitment. We found that partnership satisfaction has an impact on long-term partnership commitment. When artisan entrepreneurs are satisfied with a partnership, they may gain more than financial benefits but also be geared towards happiness, willingness and achievement to make a long-term commitment to government initiatives. Thus, the results indicate that the higher satisfaction with partnerships in effectuation, the greater the possibility of artisans committing to long-term partnership commitment to government initiatives. This finding is in line with proposition 5 in this study.

Artistic integrity emerged and influences how artisan entrepreneurs integrate with partnerships. Artistic integrity emerged in our study as an important aspect that influences how small artisan entrepreneurs integrate with partnerships; the results of our research suggest that with low levels of artistic integrity, effectuation is an effective way for artisan entrepreneurs to integrate with government initiatives (e.g., change their products to fit market opportunities offered by the government). Interestingly, artistic integrity is found to negatively moderate an effectuation approach and partnership integration. In this way, artisans who have high artistic integrity may stick with their product designs, ways of working and markets, which may influence their effectuation approach and to limit their integration with partnerships. These results are especially supported by some of the literature on artisan entrepreneurs, which argues that personal goals (e.g., lifestyle goals) may influence the impact on entrepreneurship behaviour (Tregear, 2005), and our findings suggest more specifically a detailed mechanism as to how these personal factors affect the relationship between effectuation and partnership integration. This finding is in line with proposition 6 in this study.

Regarding implications for practice, policymakers including SACICT should be aware that an effectuation approach (e.g., flexibility, experiment, affordable loss and pre-commitment) has a positive effect on long-term partnership commitment. Furthermore, effectuation approach helps small artisan entrepreneurs to improve the transformation ability (e.g., adapt to partnership initiatives), because when a new collaboration between artisan entrepreneurs and government initiatives is better integrated they are more willing to adapt to the goals of government initiatives.

For example, we suggest that SACICT should focus on activities with long-term collaboration. For example, instead of conducting a one-off session (e.g. one-day workshop about branding) to educate small artisan entrepreneurs about branding, SACICT should propose a more engaging and committing activity that focuses more on learning-by-doing, which requires all small artisan entrepreneurs and SACICT officials to collaborate on a real-life project with a least a three-month timeframe. This activity would encourage small artisan entrepreneurs and government officials to work together to develop a stronger relationship commitment.

In addition, to encourage more working integration during the activity programme, SACICT should also provide communication platforms such as an online forum or instant chat program (e.g. Line account, Facebook Group) for small artisan entrepreneurs to communicate with government officials. In this way, we can expect more working integration between both parties, leading to greater satisfaction and long-term partnership commitment to SACICT.

Policymakers should understand that absorptive capacity (e.g., ability to absorb new ideas) is important to create a successful partnership with small artisan entrepreneurs. Thus, when small artisan entrepreneurs have a higher ability and willingness to learn and adapt new knowledge from government initiatives, there is a higher possibility of reducing conflict when collaborating with the government initiatives.

For instance, government agents should provide a dedicated team and person to work alongside artisan entrepreneurs to ensure that small artisan entrepreneurs can learn and adapt new partnership advice, instead of focusing on one-time training.

Based on our findings, long-term partnership commitment with the partnership initiatives will be stronger because small artisan entrepreneurs are satisfied (e.g., feeling of happiness, fulfilment, sense of well-being) with government initiatives.

For example, policymakers (e.g., SACICT) should consider some forms of motivation to improve satisfaction in partnerships, not only revenue, such as also learning new skills, opening up new business and life opportunities, and achieving more handicraft awards from government initiatives. In addition, the government should focus more on building relationships between artisan entrepreneurs and government agencies such as conducting informal network events to ensure higher satisfaction in partnerships rather than on business outcomes as the starting point.

In addition, policymakers should aware that artistic integrity is an important aspect for artisans who use an effectuation approach because this allows or restricts them to acquire new resources from integration with partnerships, or the degree of participation with other stakeholders. Hence, it is crucial that the government changes the way they see artisan entrepreneurs by focusing more on the artistic side of business (e.g., the value of craft products, the passion and inspiration of entrepreneurs to create craft products), passion and personal goals, instead of focusing only on better business outcomes.

For instance, artisan entrepreneurs may not want to have a better financial outcome (i.e. sales performance) if it means losing their passion and identity in their work. Thus, instead of focusing only on the business side, the government should understand the integrity side of craft businesses when creating any new project (e.g., asking artisans to explain their personal goals, artistic goals and passion for working on a particular project). Our findings indicate that when partners, such as the government, understand more about the creative side of artisans, satisfaction in collaboration will be improved significantly, leading to a higher possibility of success in long-term partnership commitment.

5. Limitations and directions for future research

While our findings provide important implications regarding effectuation and partnerships, a number of important limitations need to be considered. First, as our study was based on a sample of a specific group of small entrepreneurs who are small artisan entrepreneurs, so the findings may not be generalized to all types of entrepreneurs and firms. Further research should study this effectuation and partnership model in different settings and contexts to determine whether the model is equally valid and useful in other research scenarios. Second, similar considerations should be considered where this partnership model is based on entrepreneurs and government initiatives. Entrepreneurs with different partnership contexts (e.g., start-ups and investors) may have experienced different key drivers and effectuation partnership behaviours.

Future research should consider how the underlying mechanisms revealed in this study can better explain key motivations and constraints when using effectuation within different partnership contexts. We empirically test the underlying mechanisms between the relation of effectuation to long-term partnership commitment and examining the specific dimensions that influence partnership outcomes of effectuation. Our effectuation and partnership model taps into new opportunities of effectuation research with theoretical clarity on the effects of relevant yet overlooked constructs, such as absorptive capacity, artistic integrity and partnership satisfaction.

In addition, we reveal that artistic integrity as an individual aspiration plays a significant role in the context of small entrepreneurs, where the more integrity they have, the less is the impact of effectuation approach on partnership outcomes. In addition to conducting similar research in different contexts, it would be interesting to analyse how some variables, such as artistic integrity or absorptive capacity, might play a moderating and mediating role in the relationship between effectuation and partnership. Also, it could be worthwhile to study the relationships between all the drivers and dimensions used in this research.

Chapter 4

Small Artisan Entrepreneurial approach to managing the Covid-19 crisis

Abstract

This study presents qualitative research evidence focusing on small artisan entrepreneurs managing the Covid-19 pandemic. The insights into entrepreneurial approaches used by small artisan entrepreneurs in response to the crisis are still limited. This exploratory research addresses this gap by revealing characteristics and entrepreneurial approaches used during the crisis. We also demonstrate how different entrepreneurial approaches may be associated with the way they understand themselves as regards success and failure in managing the Covid-19 crisis. We found that small artisan entrepreneurs used different entrepreneurial approaches (effectuation-oriented and causation-oriented) depending on various entrepreneurial characteristics such as personal goals and human capital. Those who used an effectuation-oriented approach tended to be flexible and take more risks in capturing business opportunities during the crisis. In comparison, those who used a causation-oriented approach tended to be more conservative during the crisis, and strict with guaranteed revenue before investing effort and time. In addition, we discovered that an effectuation-oriented approach may be associated with success in managing the Covid-19 crisis.

Keywords: Effectuation, Causation, Entrepreneurs, Pandemic, Covid-19

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1. Introduction

In December 2019, the Covid-19 pandemic emerged in China, it has had a massive effect on the world economy, industry and entrepreneurs. In March 2020, the World Health Organization (WHO) declared the Covid-19 outbreak was a pandemic. Due to its economic impact and preventative steps to restrict the spread of the virus, small entrepreneurs were among the most disrupted businesses, both socially and economically (Kuckertz et al., 2020).

Covid-19 has had a significant impact on our society, economy and entrepreneurship. Covid-19 cases had risen to 735,210 in almost 100 countries as of 30 March 2020. And the number of deaths reached 34,808, demonstrating the virus' severe effects (Sohrabi et al., 2020). Concerning action by governments, borders were closed in countries with higher numbers of cases to prevent the epidemic's spread, and major lockdowns were enforced. For example, several states in the United States proclaimed a state of emergency, and several other nations imposed lockdowns.

More attempts were made to implement social distancing, resulting in many nations forcing most firms to close and curtail their interactions, resulting in a significant economic slowdown, both domestically and internationally (Sergi et al., 2019). Several countries were thrown into turmoil in less than three months, resulting in a global recession (Cervelló-Royo et al., 2020).

To overcome the crisis, small artisan entrepreneurs faced a tough challenge to immediately revisit their entrepreneurial approaches (e.g., business and product plans). Even though some small entrepreneurs could overcome these challenges and thrive during the pandemic, many others faced more severe challenges and were forced to shut down their businesses permanently (Cucculelli & Bettinelli, 2015; George & Bock, 2011).

Although extant research has studied the impact of the pandemic on the economy in general (Doern, 2016; Williams & Vorley, 2015), not much emphasis has been put on how small entrepreneurs responded to the crisis, and what entrepreneurial approaches they used to address the pandemic. For example, most studies on entrepreneurship have been conducted in a context of non-extreme business challenges (e.g., economic shift, new competitors, a new policy), while rarely addressing the challenges and entrepreneurial strategies used during a pandemic (e.g., Covid-19).

The present study addresses this gap in the literature by empirically exploring the entrepreneurial approaches that small artisan entrepreneurs (SAEs) have used during Covid-19. The objectives of this study are threefold: First, we seek to identify different characteristics of SAEs to get insights into how these characteristics relate to entrepreneurial approaches. Second, in relation to the first objective, we investigate the entrepreneurial approaches that SAEs have used during the crisis. Third, we further seek to understand the potential linkage between SAEs' entrepreneurial approaches and how they understand themselves as regards success and failure in managing the Covid-19 crisis.

This study further contributes to the existing literature in the following three aspects. First, we identify the different characteristics of SAEs which influence how they used entrepreneurial approaches during the crisis (Biggs, 2011; Castro & Zermeno, 2020).

Second, we contribute to the entrepreneurship and effectuation literature by emphasizing the entrepreneurial approaches used during crisis (Covid-19), and in this study we focus on effectuation and causation approaches as used by small artisan entrepreneurs (Sarasvathy & Dew, 2008; Sarasvathy, 2001a, 2001b; Sarasvathy et al., 2008). Third, this study makes an essential

contribution to entrepreneurial research by understanding the potential linkage between an entrepreneurial approach and how entrepreneurs understand themselves as regards success and failure in managing Covid-19 (Biggs, 2011; Castro & Zermeño, 2020).

We begin our paper by providing a brief overview of the Covid-19 pandemic situation, focusing on small artisan entrepreneurs in Thailand. Then, we provide an overview of entrepreneurial approach theories, after which the procedures of data collection and analysis used in the study are explained. In a subsequent section, we discuss the findings of our qualitative study. Finally, our results are presented and discussed. We conclude with key findings and research implications.

2. Literature review

2.1. Covid-19 and small artisan entrepreneurs in Thailand

This research examines insights into small entrepreneurs based on the context of artisan entrepreneurs in Thailand by considering small businesses that operate in the tourism industry. We begin with a review of the overall impact of Covid-19, followed by the artisan entrepreneur context in Thailand.

Small entrepreneurs were harmed because of the negative effects on the transport and tourism sectors. Airlines were forced to reduce ticket prices and flight numbers due to a shortage of passengers (Nepal, 2020). According to the International Air Transport Association (IATA), the sector lost US\$ 113 bn. The International Air Transport Association (IATA) expected to lose 11 to 19 per cent of global passenger sales by the end of the year. It is also predicted that tourism would continue to fall in 2020 (Syriopoulos, 2020). It suggests that the crisis will shape how small entrepreneurs do business and manage to overcome this unprecedented event.

Small artisan entrepreneurs in Thailand were affected by Covid-19 and the policy adopted by the government. Thailand's response to the Covid-19 pandemic was led by the Ministry of Public Health with the following aims: first, all Thai citizens in Thailand and abroad are to be protected from Covid-19. Second, the evaluation of health, economic, social and national security impacts; and third, reducing the virus' transmission to Thailand by national lockdowns starting in April 2020 (Dechsupa et al., 2020). Among the various industries affected by Covid-19 lockdowns is the tourism sector, with artisan entrepreneurs heavily relying on tourism. According to the World Tourism Organization, (UNWTO, 2020) the tourism industry and artisan entrepreneurs worldwide were faced with the most critical challenges of Covid-19. The pandemic directly affected the supply of and demand for travel in the first two months of 2020, which led to a 22% decrease in foreign tourist arrivals in 2020, according to the UNWTO (2020).

Artisan entrepreneurs in Thailand specialise in handicraft products. Handicrafts are a category of souvenirs bought by travellers visiting locations (Prins et al., 2006). During Covid-19, Thai artisan entrepreneurs suffered from a decrease in domestic and foreign tourist numbers and were forced by government policy to close their souvenir shops. Craft events, fairs and markets were cancelled, and those are the main channel for their products. Overall, despite the growing statistical information on the impact of Covid-19 on various businesses points of view, our knowledge, insights and understanding of how small artisan entrepreneurs responded to the crisis are severely lacking. Thus, our study aims to address this gap.

2.2. Effectuation as an entrepreneurial approach

Due to the limited effectuation literature in the context of pandemics, we briefly review the principles of effectuation. Effectuation is an entrepreneurial logic that guides how entrepreneurs act in response to emerging opportunities or respond to obstacles as they arise. Sarasvathy (2001a) attempted to explain how entrepreneurs make decisions and start to operate in a context where a market has not yet been formed; thus, no predictions and historical data are available or accessible to entrepreneurs.

Effectuation explains the context of entrepreneurship rather than that of established corporations. Effectuation describes how and why the outcome of a product or service for individuals differs from its original plan. Individuals learn by doing rather than analysing and planning (Sarasvathy & Dew, 2008; Sarasvathy, 2001a). They exploit new opportunities that arise while they are operating. Any risky investment that may potentially harm them might not be accepted as they prefer to look at themselves and decide to what extent they are ready to take losses (Sarasvathy, 2001a; Sarasvathy et al., 2008).

We are also aware of another entrepreneurship theory that is relevant applicable to small entrepreneurs, which is the theory of bricolage (Baker and Nelson, 2005). It is stated that an entrepreneur makes do with any materials and objects to hand in order to achieve a task and tends to avoid challenges. Theoretically, entrepreneurship bricolage may fit better in a context where individuals have extremely limited resources and may thus seek to avoid new challenges (Fisher, 2012). However, based on initial informal interviews with our participants, it seems that small artisan entrepreneurs in our context actively seek to adapt and work with partners in order to acquire new capabilities and resources to achieve tasks during Covid-19. Furthermore, small artisan businesses in Thailand are primarily lower-middle-class individuals, and they are not, in all cases, constrained by an extreme lack of resources. Thus, we conclude that effectuation theory has more potential to fit our context.

Effectuation can be explained by four principles that reveal insights into what entrepreneurs think and how they behave (Sarasvathy, 2001a): First, short-term experiments with what they have rather than long-term planning; 2) instead of calculating investment, revenue and loss, the fundamental focus shifts to how much they can accept as an affordable loss, 3) a strategic alliance is key to reducing the uncertainty of their future, and 4) they must be flexible to allow new emerging opportunities to be exploited. We explain the four principles of effectuation as follows.

For the first principle, entrepreneurs use short-term experiments with what they have rather than long-term planning. That is, entrepreneurs tend to make do with what they have and improve themselves by experimenting with different ways of doing what they do (Sarasvathy, 2001a). Scholars have found that when organisations need to work with practical actions towards the future, an experimental approach to creative innovation is categorised as a lower-cost method (Eisenhardt et al., 1997; Koberg et al., 2003).

The second principle is affordable loss; entrepreneurs consider the amount of investment they can afford to lose before they take action. Sarasvathy (2001a) states that “Effectuation predetermines how much loss is affordable and focuses on experimenting with as many strategies as possible” (p. 252). This dimension of effectuation is a crucial approach for new ventures, entrepreneurs and individuals who decide on their initial investment. In this approach, instead of

predicting revenues and the cost of operations, effectuation tends to focus on what they can afford to lose.

The third principle is flexibility; entrepreneurs remain flexible to capitalise on new opportunities as they emerge. This has been seen in the literature as one of the advantages that start-up companies have over large corporations. Entrepreneurs following an effectuation approach tend to remain flexible and not be restricted by rules, policies, directions and business vision, as they depend on their own decisions. They are aware of emerging opportunities, so they tend not to commit to and allow a condition that reduces their flexibility to capitalise on new opportunities (Sarasvathy, 2001a).

The fourth dimension of effectuation is pre-commitment. Entrepreneurs develop and use agreements with stakeholders to gain resources and reduce risks. Effectuation theory is viewed as a co-creation process where a strategic alliance is put at the heart of the process model. It is argued that although entrepreneurs may need to face an uncertain future for markets and demand (Sarasvathy, 2001a), entrepreneurship with the effectuation principle tends to use pre-commitment, such as agreements, supporting deals and networking, to reduce the uncertainty of their future scenario.

Table 1. Summary of the Effectuation approach

Effectuation principles	Meaning and definition
Experiments	Aim to conduct short-term experiments with what they have rather than engage in long-term planning.
Affordable loss	Focus on what they can afford to lose instead of predicting revenues and the cost of operations.
Flexibility	Aware of emerging opportunities and allow a condition that reduces their flexibility to capitalise on new opportunities.
Pre-commitment.	Use agreements, supporting deals and networking to reduce the uncertainty of their future scenario.

Adapted from (Sarasvathy, 2001a); (Chandler et al., 2011)

Regarding the use of effectuation during a crisis, we found that most studies in the field of effectuation and entrepreneurship have been conducted in a normal situation (i.e. a non-pandemic period). Thus, it is important to explore the effectuation approaches used by different types of entrepreneurs, and how these may be associated with success and failure during the pandemic.

Another view of an entrepreneurial approach is causation, which is a logic and approach that relies on planning and sufficient information to make decisions. Scholars tend to view effectuation as opposed to causation in terms of process. For example, effectuation starts from what entrepreneurs have in their hands, while causation starts from what goals and markets entrepreneurs want to achieve (Sarasvathy, 2001a). Meanwhile, literature in the field of entrepreneurship tends to agree that both logics can be combined and incorporated since, in practice, entrepreneurs tend to use more than one approach when doing business (Fisher, 2012). In the next section, we review the basic principles of causation.

2.3. Causation approach as an entrepreneurial strategy

We found that prior literature related to a causation approach in the context of pandemics is limited, thus, we briefly review the principles of causation. In a causation approach, entrepreneurs need to acquire sufficient information and resources to enable them to identify and evaluate opportunities before exploiting them confidently. Causation logic argues that when decision-makers need to act, they must rely on a particular set of logic that allows them to manifest and predict a future phenomenon. However, the main limitation is that such predictions of the future involve a complex and unbounded reality, so that decision-makers tend to be selective and systematically manage information to make it more relevant and thus obtain analysable data. (Sarasvathy, 2001a) describes some of the key characteristics of the causation process as follows.

The first principle is foreseeing a goal at the beginning, this means that the entrepreneur tends to have a clear and consistent vision of what they want to do, (e.g., a business that plans to achieve a sales target within a target timeframe).

The second principle is maximising expected returns, which means that entrepreneurs tend to analyse and select opportunities which they think will provide the best returns. For example, a business may create a different scenario using business tools such as ROI (Return on Investment) to evaluate its business direction.

The third principle is predicting an uncertain future with business planning, it refers to the activity of entrepreneurs in designing and planning business strategies. When it comes to decision-making, some businesses use a business model canvas to support building a consensus.

The fourth principle is exploiting pre-existing knowledge, it means that some businesses tend to rely on historical data when deciding and planning their action. For instance, a business may study how other companies reacted in a certain situation, together with the outcome, to obtain a better understanding of their future decisions.

Table 2. Summary of the Causation approach

Causation principles	Meaning and definition
Foreseeing goals	Aim to have a clear and consistent vision of what they want to do.
Maximizing expected returns	Analyse and select opportunities which they think will provide the best returns.
Predict an uncertain future	Focus on researching, designing and planning business strategies as important activities.
Exploiting pre-existing knowledge	Rely heavily on historical data when deciding and planning.

Adapted from (Sarasvathy, 2001a), (Chandler et al., 2011)

According to the rationale of the causation approach, (Sarasvathy, 2001a) argues that historical data such as sales trends, market size and past performance must be accessible for a causation approach to be applied. Thus, decision-makers can evaluate possibilities and opportunities to exploit a new product or service. The formulation of goals and strategic plans can only be determined when decision-makers recognise sufficient market data, information and measurable indicators. Once an opportunity is recognised and analysed, decision-makers can

engage in the process of creation and innovation by investing more resources to leverage that identified opportunity (Alsos et al., 2019; Fisher, 2012; Read, Dew, et al., 2009). For example, once a product has been launched onto a market, feedback can be collected to analyse a new business decision based on assessed information (Fisher, 2012).

2.4. Entrepreneurs' characteristics

Entrepreneurial characteristics play a vital role in influencing how they should adapt and respond to a crisis. Previous studies have suggested an association between characteristics and entrepreneurial resilience and the ability to adapt and innovate in a crisis (Castro & Zermeno, 2020). We pay attention to the following aspects when understanding the characteristics that separate one group of artisans from another. We look at demographic characteristics: education, occupation, previous experience, lifestyle and behaviours. We take into consideration human capital: connectivity, strategic partners, suppliers, family. In addition, we also understand goal orientation, such as business or lifestyle goals.

2.5. Crisis management

Regarding the focus on the period of the crisis in this research, according to the literature on crisis management, pre-crisis, crisis and post-crisis are three separate temporal phases. Pre-crisis refers to the period before a disaster, in-crisis refers to the aftermath of the disaster. Post-crisis refers to the time between the end of the crisis and a return to normalcy (Hensgen et al., 2003; Robert & Lajtha, 2002). Due to the ongoing situation of Covid-19 in Thailand and the objectives of our study, we focus on the in-crisis stage.

3. Methodology

We use a qualitative method to address our research questions. This study is based on an exploratory research approach which aims to reveal the entrepreneurial approaches used during the ongoing Covid-19. We use exploratory research because we lack insights into and literature on the current pandemic in relation to the approaches used by small artisan entrepreneurs. According to recent studies on entrepreneurship, this methodology is considered to be an appropriate approach because it allows the researcher to understand the feelings and lived experiences of actors (Mzid et al., 2019; Williams & Vorley, 2015).

Our context is small artisan entrepreneurs (SAEs) in Thailand who have suffered from Covid-19 directly. Craft businesses are considered to be tourism-related industries, and the Covid-19 pandemic has had a significant impact on them. The tourism industry and artisan businesses have faced the most severe threats from the coronavirus pandemic (UNWTO, 2020). During the pandemic, craft products made by SAEs have suffered from a drop in domestic and foreign tourists and been compelled to close their souvenir shops according to government policy. In addition, this group of entrepreneurs is appropriate to study to address our research questions and theoretical interest (effectuation approach) because they are small entrepreneurs with limited resources and lack support from the government and organisations.

We used two main strategies to identify, recruit and select the respondents. First, we used a purposive sampling approach, which is based on selecting the most relevant and interesting

subjects associated with the aims of the study (Easterby-Smith et al., 2008). In this stage, we initially identified five respondents to participate in the study. Second, following the previous step, we adopted a snowballing approach (Bryman, 2004) in which the five respondents were asked to identify other matching respondents based on the requirements of the study. In this snowballing process, we recruited 15 more respondents. A total of 20 respondents were thus recruited to participate in our study.

The data collection and instrument design were based on the concept of narrative interview, which encourages respondents to express and share their stories about a subject (Bryman, 2004; Hamilton & Bowers, 2006). All the interviews lasted from 30 minutes to 1 hour, and as part of the research procedure to encourage open involvement, all respondents were promised anonymity. Our data were obtained from 20 SAEs in Thailand. In this study we address three research questions and present them below:

- 1) What are SAEs' characteristics in Thailand?
- 2) What entrepreneurial approaches have SAEs used during the crisis?
- 3) How do SAEs understand themselves as regards success and failure in managing the crisis?

For data analysis, we used thematic coding (Braun & Clarke, 2012), which included recognising patterns, settings, the entrepreneur's role and challenges, and the relationships between these elements. When using a narrative approach and thematic analysis, the researcher collects stories from multiple respondents and inductively creates conceptual groupings from the data. Thematic analysis is considered appropriate since it aims to find common meanings and experiences within the data set. Underlying insights into small artisan entrepreneurs' characteristics, entrepreneurial approaches and the ways in which they understand themselves as regards success and failure in managing the Covid-19 crisis were identified. Thematic analysis has been shown to be flexible and accessible to researchers, which is another good factor that encouraged the decision to utilize this method of analysis (Braun & Clarke, 2012).

Specifically, to address the first research question, we identified and adapted the characteristics of each respondent based on the approach used by Toledo-López et al. (2012). To do this, we organised SAEs into sub-groups that reveal the characteristic aspects of SAEs during the crisis. We also used semi-structured characteristics of entrepreneurs, such as gender, age, education, revenue stream and experience in their craft business to understand potential differences in their characteristics.

For the second research question, we captured the entrepreneurial approaches used by SAEs (effectuation and causation). We asked them to express the motives and reasons behind their actions and entrepreneurial approaches. We refer to the description of effectuation and causation dimensions in the literature (Sarasvathy, 2001a; Sarasvathy et al., 2008).

For the third research question, we briefly identify their understanding of success and failure in managing the crisis. We prompted them to express their business and life situation, and how they see themselves as regards success or failure in managing the Covid-19 crisis.

We use thematic analysis and counting the number of themes to understand the findings for both the second and third research questions. Regarding a counting approach in a qualitative study, it is suggested that counting numbers can complement and enhance narratives

(Sandelowski, 2001). In addition, researchers can use numbers and counts to re-present and give an overview of qualitative findings (Sandelowski, 2001).

Table 3. Summary of Respondent profiles

No.	Business background	Education	Age	Group characteristic
RD 1	Handwoven clothes and craft workshop	Master's degree	36	Artisan family
RD 2	Thai silk/silk fabrics	Master's degree	39	Artisan family
RD 3	Tie-dye clothes	Bachelor's degree	45	Multiple lifestyle
RD 4	Craft decoration	Higher Vocational Certificate	51	High-profile artisans
RD 5	Ceramic products	Bachelor's degree	46	High-profile artisans
RD 6	Banana latex and products from bananas	Bachelor's degree	45	Multiple lifestyle
RD 7	Clothing with natural dyeing	Bachelor's degree	66	Opportunity-seeker
RD 8	Paper craft	Higher school level	52	Culturalist Artist
RD 9	Fabric work, embroidery	Bachelor's degree	37	Culturalist Artist
RD 10	Terrarium	Bachelor's degree	40	Multiple lifestyle
RD 11	Crafting quilts, dolls	Bachelor's degree	46	Opportunity-seeker
RD 12	Tie-dye clothes and hand-made product	Bachelor's degree	47	Opportunity-seeker
RD 13	Hand-woven fabrics in department stores	Higher Vocational Certificate	50	Artisan family
RD 14	Craft developer /speaker	Bachelor's degree	55	High-profile artisans
RD 15	Tie-dye clothes	Bachelor's degree	47	Opportunity-seeker
RD 16	Leather designer and natural colours	Bachelor's degree	30	Culturalist Artist
RD 17	Natural dyed clothes	Bachelor's degree	49	High-profile artisans
RD 18	Tie-dye and craft products	Bachelor's degree	47	Culturalist Artist
RD 19	Tie-dye clothes, products from nature	Bachelor's degree	39	Multiple lifestyle
RD 20	Craft markets and souvenirs	Bachelor's degree	40	Opportunity-seeker

4. Findings

4.1. What are SAEs' Characteristics in Thailand?

To understand small artisan characteristics, we assign a different level such as low-high to each characteristic (Toledo-López et al. (2012)). These characteristics are personal goals (artistic, business or hybrid), human capital (low, medium and high), craft background (low, medium and high) and entrepreneurial approach (effectuation-oriented, causation-oriented). For instance, when talking about personal goals, one artisan mentioned no interest in growing their business – this we coded as ‘low’ business growth intentions. In contrast, when an artisan shows a strong interest in growing their business and expanding new product lines to aim for more profit, we would code this as ‘high’.

Based on our findings, we organised SAEs into five different groups of characteristics: High-profile Artisans, Multiple-Lifestyle, Artisan Family, Opportunity-seekers and Culturalist Artists. We categorise these five SAEs into two dimensions each with two levels (Goal: artistic & design vs profit & business, Resources & Human capital: high vs limited) as presented in Figure 1. We explain each entrepreneurial characteristic in the next section.

4.1.1. What are SAEs characteristics in Thailand?

		Goal	
		Artistic & Design	Profit & Business
Resources & Human-capital (e.g., network, education, resources)	High	<ul style="list-style-type: none"> • High-profile artisans • Artisan family 	<ul style="list-style-type: none"> • Multiple lifestyle artisans
	Limited	<ul style="list-style-type: none"> • Culturalist artist artisans 	<ul style="list-style-type: none"> • Opportunity-seeker artisans

Figure 1: Matrix of SAEs' characteristics in Thailand

High-Profile Artisans. These are highly educated artisans with a bachelor's or master's degree education. They have high skills and capabilities in terms of product development and product design or are craft teachers. Furthermore, they have their craft brand with unique craft products. Thus, the government has invited high profile artisans to be advisors, which sometimes created new opportunities and revenues during Covid-19. For example, Respondent 14 described how they could use their privilege to gain access to new craft opportunities:

I work on crafts in 2 dimensions. First, develop products for the community and let them sell. Another type is a designed product from the community for selling by myself. I ran a craft business for 3-4 years ... a TV programme invited me to specialize and be a fabrics judge, since many people know me and that led to a lecturing and speaking job.

Previous studies of entrepreneurial characteristics have identified human capital and attitudes towards a crisis as crucial components of adaptation and resilience (e.g., Alonso & Bressan, 2015; Biggs, 2011; Larsson et al., 2016; Williams & Nadin, 2013; Williams & Bryan, 2013). These findings suggest that human capital is one of the key drivers used in response to Covid-19. Those who have a strong connection with the government or an organisation that asked them to work as speakers and trainers teaching the local community could earn revenue from session fees.

Multiple-Lifestyle Artisans. These artisans turned their craft into a business and ran it in parallel with their primary job. These entrepreneurs see their craft as a side-project and hobby. They enjoy creating and knowing about craft products, and most of them have an active lifestyle, so they are open to doing many kinds of jobs simultaneously. For example, Respondent 4 described how their multiple jobs brought them to a craft business:

I have another job as a designer to renovate houses ... During Covid-19, I have a lot of design work to do and I have a friend who is working with villagers; they have many dried corns in their area. So, I went to help the villagers develop ideas for new products. Therefore, another craft brand for my product was born.

It demonstrates that they also earn money from other businesses to continue supporting their craft activities. Moreover, Multiple-Lifestyle Artisans have strong connections and networks to partners and colleges; thus, they still have job offers or freelance jobs during the crisis. Extant literature links the characteristics of entrepreneurs in terms of their relationship with the entrepreneurial ecosystem (Martinelli et al., 2018; Williams & Vorley, 2015), and this group of SAEs demonstrated their broader range of networks to manage and overcome the crisis.

Artisans Family. These artisans are the second generation who came from a traditional artisan family, and have a higher education background. They live and work with their family and rely on traditional crafts and community. As a family business, their parents already have superior product knowledge; so they focus more on business aspects, such as marketing, sales channels and product expansion. Moreover, they have learned and absorbed the family business' knowledge and craft skills to set up their brand. For example, Respondent 2 described how they work with family:

I sell silk fabrics in Kalasin Province. I run this business with my mother who founded this business ... I am mainly responsible for marketing.

Previous studies of family businesses have identified family as one of the resources available to businesses to overcome the crisis, including financial and social aspects (Mzid et al., 2019). These findings suggest that with the characteristic of having more profound advantageous support, entrepreneurs have more opportunities to choose and use the entrepreneurial strategy that best fits the situation.

Opportunity-Seeker artisans. They seek opportunities in the market to maximise profit, while leaving their passion for design behind. These artisans see crafts as being for business and revenue creation. They are also educated entrepreneurs and have prior experience in business, marketing and product design. However, they have limited knowledge and network in the craft business. Now crafting is their primary job, and they rely on the revenue from crafts for everyday living. However, their main goal is to create revenue and run the business. They tend to pay less attention to artistic aspects or unique craft skills in their products. However, limited knowledge of craft products and low engagement restrict them from exploring new business opportunities. For example, Respondent 11 described their background and coming to crafting work:

At the beginning, I worked as an officer and made a place involving refrigeration as an additional occupation. Then, I wanted to find a personal career, and work from home. When I was determined to do this, it became the main occupation to focus on and study,

This group of SAEs is concerned with sales and growth as the main priority. Furthermore, our findings demonstrate that their business orientation characteristics (e.g., focus

on sales & revenue) tend to prevent them from searching for opportunities to leverage within the craft industry. They seek a risk-free alternative source of revenue, which can be outside the craft area, as a new career path. As a result of their commitment to sales and high expected return, they lost opportunities they could have afforded to invest in and explored new business/products during the crisis.

Culturalist Artists. They dedicate their time and effort to passionately craft products that they love, while not fully responding to market needs or demands. Culturalist Artist artisans have strong passion and high skill in their craft area. As for demographics, they are in their 30s to 55s, individual artists who believe that crafting products is the happiness and love of their life. Most of them mentioned that they work in the craft business because this is what they love. Their craft products are unique and limited editions. For example, Respondent 18 explained the background to becoming an artisan:

I put my passion for craft before finding markets to sell into, I started to do craft because I love it and am passionate about it. When I first became a member of the Silpachi Center, I was happy with my life crafting products. I want to add new ideas to make my products unique, and better. So I go deeper into craft.

Our findings indicate that the respondents saw artistic integrity as their priority when making decisions. Such businesses have suffered from their limitations to adapt, respond and innovate for new business. The main reason is their lack of openness, and flexibility.

In Figure 1, we illustrate the SAEs' characteristics in Thailand in a matrix for an initial analysis. We find that those who fall into the upper right quadrant (Multiple lifestyle artisans) and the upper left quadrant (High-profile artisans and Artisan families) tend to use the effectuation approach as their entrepreneurial approach. A common characteristic of those in the upper right and the upper left quadrant is strong human capital (e.g. strong connections, education background, and financial background). Specifically, for Multiple lifestyle artisans, even if they do not have a very strong craft background and focus more on profit from their business, they tend to use an effectuation approach to test new business opportunities by using stronger connections with partners outside craft businesses. Meanwhile, High-profile artisans and Artisan families, with better resources and a passion for developing better craft products, actively use effectuation to use the assets they have to explore and test new opportunities during a crisis. Overall, among these three groups, we find that more substantial resources and human capital may allow them to use more of an effectuation approach.

For Culturalist Artists and Opportunity-Seeker artisans who fall into the bottom left and the bottom right quadrant respectively, one common aspect of their characteristics is limited resources and less human capital to profit from new opportunities during a crisis. As a result, they appear to be able to face the challenge of acting quickly during the Covid-19 crisis. We found that both groups tend to make limited use of effectuation. Thus, to respond to the crisis, they need to act more conservatively and focus more on risk avoidance and planning approaches (e.g. causation approach). In the next section, in relation to the first research question, we present further insights into and details of the entrepreneurial approach used by different SAEs.

4.2. What are SAEs' Entrepreneurial Approaches used during the crisis?

We give details of entrepreneurial approaches including effectuation and causation used during the pandemic (see Table 4). We can summarise the entrepreneurial approaches used by five SAEs group during Covid-19 into two sub-groups, those who are effectuation-oriented (mainly use an effectuation approach during the crisis) and those who are causation-oriented (mainly use a causation approach during the crisis).

Table 4. Summary of effectuation and causation approaches used during the crisis.

Entrepreneurial approach	Examples of activities matched with theoretical concepts (Effectuation dimension and/or Causation dimension)
Effectuation-oriented Used by <ul style="list-style-type: none"> ▪ High-Profile Artisans ▪ Multiple-Lifestyle Artisans ▪ Artisan Family 	<i>Effectuation</i> <ul style="list-style-type: none"> • Experiment: Build a new business model (e.g., new market, new channel). • Flexibility: Adapt work & personal life to fit a new revenue stream. • Pre-commitment: Connect new opportunities through new networks. • Affordable loss: Invest in time and resources to test new products and business.
Causation-oriented Used by <ul style="list-style-type: none"> ▪ Opportunity-seeker ▪ Culturalist Artist 	<i>Causation</i> <ul style="list-style-type: none"> • Foreseeing goals: Avoid taking risks and unknown outcomes during the crisis. • Expected returns: Maximise profit to cover lost sales. <i>Effectuation</i> <ul style="list-style-type: none"> • Affordable loss: Stop investing in any non-sales related activity.

4.2.1. Effectuation-oriented in a crisis

We found that three groups of SEAs, High-Profile Artisans, Multiple-Lifestyle and Artisan Family, used an effectuation-oriented approach during Covid-19. All the respondents with these three characteristics tend to describe that they reacted to the pandemic by being more proactive and responsive in their working approach.

We found that among these three characteristic groups, a majority of respondents adopted four effectuation approaches as their primary entrepreneurial approach. We found no support to identify the use of a causation approach during the pandemic. Hence, we found that effectuation-oriented provided the best fit with our data to explain their entrepreneurial approach used during Covid-19. The four effectuation approaches are presented as follows:

Effectuation: use ‘Experiment’ to explore hidden business model opportunities in a crisis.

They used an experimental approach to build a new business model (e.g., new market, new channel) to overcome the pandemic. Respondents in these groups attempted to quickly explore new business opportunities regardless of current focuses and products. Using their strong human capital and networks, these groups of entrepreneurs were not reluctant to explore new possibilities for themselves and their businesses. For example, Respondent 6 (Multiple-lifestyle artisan) mentioned:

During Covid-19 I can make some tweaks like doing an E-book and thinking about doing online learning ... I feel that by making an E-book, I can do it. I invest in learning and doing a new thing.

We found that it was challenging for them to do a business model experiment during the pandemic because the pandemic influenced them to save their money and avoid activity that might incur new risks. However, among these three groups of SAEs, the value of experimenting and trying new business models outweighed the decision to wait and save on costs. They believe that waiting until the pandemic is over equals walking backwards. They instead use this change in the macroeconomic situation as a stage on which to explore new business ideas. For example, Respondent 14 (High profile artisan) decided to slow down current production, build up a new product line-up, create a new website and learn more about digital tools. They believe that they need to prepare and be ready to come back whenever the pandemic eases:

Now I am using the Covid-19 crisis time to prepare for my new products. The latest products that I plan to launch are more than 10 items which are better than before.

They started to explore new activities and see if they can do more to cover sales instead of waiting for support from the government. The experimentation approach in effectuation is based on a trial-and-error process in response to a new product or new business innovation (Chandler et al., 2011). Thus, they can test a new product and business model during a crisis, even in high-risk situations. As a result, experimentation enhances entrepreneurs' approach to make progressive decisions to react during a crisis.

Effectuation: Keep ‘Flexibility’ in business and life during a crisis.

They saw flexibility as key to adapt their work and personal life to fit new revenue streams. We found that these groups of respondents attempted to change their business and lives to fit the new business activity. Respondent 14 (High profile artisan) said, “I don't separate work and life, and now I create content on making craft products during a crisis for a new community through my Facebook.” Similar to Respondent 17 (High profile artisan) they described:

I did not focus on sales during lock-down, instead I focused on building craft communication and groups, making it known to craft people.

It indicates that to execute a new business activity and revenue model successfully, they need to change their lifestyle rapidly. For example, some SAEs found new primary revenue model by being guest speakers for the craft community and working as trainers in the local community. Thus, being flexible in their work and life is an essential approach for SAEs to cope with the pandemic. For example, Respondent 17 (High profile artisan) explained that:

I created a clubhouse for discussion craft ideas among craft lovers. So, if we get to know more people, we might exchange our skills and materials to make our products. With knowledge of fabrics and as a speaker, I help the community to develop and create a new model for working with the community.

They seek opportunities to innovate products and markets during a crisis. Our data link the extant literature on effectuation to uncertainty about products or markets (Sarasvathy & Dew, 2008; Sarasvathy, 2001a; Sarasvathy et al., 2008). Previous studies on effectuation suggest that effectuation provides a possible logical approach in an uncertain environment, emphasizing during high uncertainty (e.g., crisis and pandemic). It is addressed by taking a more flexible working approach and reacting quickly to capture emerging opportunities, but seeking feedback early in the process (Dew et al., 2009; Wiltbank et al., 2009).

Effectuation: ‘Pre-commitment’ to connect to new networks.

They used pre-commitment to connect to new opportunities through new networks. (e.g., new market, new role). We found that instead of working on people and partners whom they already know, they tend to open up new networks by contacting those who they think have the potential to collaborate with them, even during the pandemic. The respondents tend to search across different industries, areas and professions to find new opportunities for partnership. This network expansion is possible because Multiple-Lifestyle, High-Profile Artisans and Artisan Family tend to have more flexibility in choosing and adapting to a new business model. It suggests that these groups tend to have more connections and networks, more freedom in their lifestyle, and less commitment to stick with traditional products. For example, Respondent 6 (Multiple-lifestyle artisans) mentioned:

...when Covid-19 shut down my shop, I contacted those in my networks who know about digital, and I started to learn and develop my own social media as a tool to teach and provide knowledge to customers; finally, I plan to create E-Books and sell them as I have knowledge of artwork, and computer programming a bit.

Similar to Respondent 10's (Multiple-lifestyle artisan) conversation, where they described the connection and commitment from their network:

Some friends asked me to create new types of products by specifying criteria and making the products more suitable based on the customers' location then let me design the products and sell them.

During the crisis, respondents who used an effectuation-oriented approach demonstrated their ability to form and establish informal support networks. These depended on their established reputation and privileged network and the government's promise of new job opportunities such as craft advisors (Asgary et al., 2020; Branicki et al., 2017; Martinelli et al., 2018). It suggests that their human capital and openness to new possibilities in their networks enables them to connect with new networks, leading to new capabilities and pre-commitment from new partners to create new business opportunities to overcome the pandemic.

Prior studies of effectuation have identified pre-commitment as an approach to assemble and engage people to participate in initiatives (Chandler et al., 2011; Fisher, 2012; Sarasvathy, 2001a). Sarasvathy (2001a) suggests that entrepreneurs use pre-commitment to increase their resources and reduce risk in a high uncertainty situation. Thus, our data support the association between effectuation and commitment from stakeholders, both formal and informal network, during the crisis.

Effectuation: Use ‘Affordable loss’ as a view to take more risks during a crisis

Lastly, they adopted higher affordable loss to invest in time and resources to test new products and businesses. Respondents with these three characteristics tend to use affordable loss as their yardstick to take acceptable risks, test new business ideas and capture new opportunities during a crisis. This allowed them to assess how much they should invest during the pandemic and not be over-conservative in their investment. They believed that to cope with the pandemic, they should invest in new opportunities, to risk the amounts they can afford to lose. As Respondent 13 (Artisan Family) put it:

...so, I need to adjust the working model to focus more on customers on FB and an online channel. I can adjust my plan immediately. Then, I can invest more in online marketing, with small and step-by-step investment. I hired a team to take pictures and started learning online techniques. At first, I hired a team to set up a sales system for various online channels; after that, I did it myself. I just started learning how to sell products online.

Previous studies of effectuation have identified affordable loss to inform their availability of resources in a certain period and support the amount they should invest (Chandler et al., 2011; Fisher, 2012; Sarasvathy, 2001a). Our findings indicate that the respondents considered financial or time investment during the crisis as an essential consideration, because without investing in adapting to new products or actions, it is difficult to access new market opportunities. Such activities also offered an opportunity to innovate in their business and enter new markets.

A general view amongst the interviewees was that they were not stuck in the traditional craft community. Instead, they have freedom, professional and highly educated networks and flexibility to change, adapt and move into new craft-related activities. Overall, for these three groups' characteristics, the results indicate that during Covid-19, effectuation was their main approach, and it was used effectively to cope with challenges by focusing on networks, knowledge and adapting to new opportunities.

Next, we present the findings for the causation-oriented approach used by Opportunity-seekers and Culturalist Artists.

4.2.2. Causation-oriented in a crisis

We found that Opportunity-seekers and Culturalist Artists used a causation-oriented approach to operate during Covid-19. The majority of these two characteristic groups tend to be reactive in their action to cope with the pandemic, rather than seek committed and expected revenue before investing their time, money or effort.

Our data support identifying two causation approaches as their main approach and one effectuation-supporting approach. We found no support for the use of other effectuation approaches such as experiment, flexibility and pre-commitment. Next, we present details of the use of an entrepreneurial approach among Opportunity-seekers and Culturalist Artists.

Causation: ‘Foreseeing goals’, avoid taking any possible risks during a crisis

These groups of SAEs had low responsiveness during the pandemic. We found that when the pandemic started to affect the market and sales channel, they needed to think and plan what they would do carefully. During Covid-19, they focused more on foreseeing goals: Avoid taking risks and unknown outcomes during a crisis. Furthermore, they tend to see the worst-case scenario of business and life as uncontrollable before making key decisions and avoid being in that situation, rather than preparing to adapt.

Furthermore, instead of quickly exploring new market opportunities, they were forced to avoid immediate action and tap into areas unknown to these two groups of SAEs. The shocking pandemic forced them to act less responsively to the situation and be more concerned about risks that might relate to consumers, the future of their business and personal life. One individual (Culturalist Artist) stated that ‘thinking only about art may not be enough, Covid-19 warned us to think more about risks and plan for an unexpected life’. For example, RD 16 (Culturalist Artist) said:

The lesson learned is that we need to make a new plan and be prepared to be ready in many ways: planning online and planning another business. There must be another job to accompany the job that I love. I can't be only an artist.

Causation: ‘Expected return’ and only seek guaranteed profit before investing.

We found that these groups of SAEs only waited for guaranteed sales orders and full commitment from buyers during the pandemic. Furthermore, they limited their offers to current products. At the same time, they would not allow any new investment in their business and product development activities. It means that the possibility to search for new solutions to overcome the pandemic was restricted. As a result, they were struggling to respond to the pandemic effectively. For example, RD 18 (Culturalist Artist) described how they failed to manage their business during Covid-19:

The limitation was that I didn't adjust my products much and customers are now saving more. In addition, I am put customers first. I do not dare to offer new products to customers even when my new work is complete because I think that customers might not want my products now. They should pay for necessary items first. I felt that the timing of new product presentation was not suitable.

Previous studies have described causation as a logic in which a clear goal and return are set before taking any action (Sarasvathy & Dew, 2008). Our findings indicate that the respondents who used a causation-oriented approach saw the crisis as an uncontrollable event they suffered from, with an unknown future regarding economics and business. Such concerns also influenced them to have more risk-avoidance plans, such as a committed sales return, a contract with the buyer, an agreement with partners before taking any action. None of our respondents with these two characteristics had sought to invest in any activity that might not have a guaranteed sales return. Previous studies associate a causation approach with planning; however, our study found that planning during the crisis could mean attempting to predict the exact level of sales and investment during the crisis, which is challenging.

The aspects of causation and effectuation have been considered as independent elements in extant literature (Futterer et al., 2018). However, several studies have pointed out the dual use of causation and effectuation (Harms & Schiele, 2012), and our study supports this duality of using both entrepreneurial approaches.

Effectuation: Use 'affordable loss' to limit the damage to personal life.

Although those who use effectuation- and causation-oriented approaches both use affordable loss, they use it in a slightly different way. In the causation-oriented group (Opportunity-seekers and Culturalist Artists), they tend to avoid all investment in any non-sales related activity. Furthermore, they believe that investing during this pandemic equals taking a high risk. In comparison, for the effectuation-oriented group, affordable loss was used as a way to encourage them to take acceptable risks to explore new opportunities. Thus, among these two groups, affordable loss was mainly used to reduce risk. For example, Respondent 12 (Opportunity-seeker) said:

During Covid-19, I planned to reduce costs, reduce stock – and do more planning. I plan not to come out with too many new products. I will not keep a lot of stock because events may be cancelled at any time.

The approach of these two SAE groups that they have in common is to extremely limit every aspect of their investment. Their main expense is the cost of making products such as raw materials, but they rarely spend on future and insecure revenue, such as developing a new e-commerce website. Furthermore, they tend to focus on what they already have as resources to run their business. For example, one RD16 mentioned that “The limitation of adaptation is that I am not good at sales, marketing and photography, not my lifestyle. I am an artist. I am not focused on boosting sales online ... I have never studied to do online before. I only make products I am good at, and when it comes to Covid-19, I adapt slowly.”

We found that affordable loss was the only effectuation dimension that these SAEs used as their strategy to cope with the pandemic. At the same time, other effectuation approaches, including flexibility, exploration and pre-commitment, were limited.

4.3. How do SAEs understand themselves as regards success and failure in a crisis?

We also sought to provide insights into how SAEs understand success or failure in managing the Covid-19 crisis. Four themes emerged in our study to explain the meaning of success (Survival strategies, Business continuation, Financial security and Making ends meet), and another four themes to explain the meaning of failure (Business Operational challenges, Revenue crisis, Switching careers and Financial struggle) in managing the Covid-19 crisis (Table 5). We present one theme from each success and failure category below.

A theme related to success in managing Covid-19 is 'Survival strategies'. SAEs mentioned that during Covid-19 they only aim to survive in their business and life, not profit or higher revenue. As Respondent 6 said, "My success is about surviving, and to adapt to the situation, find new opportunities such as new markets, new products to continue doing my craft and sustain my life." All the respondents mentioned a similar view; it indicates that success in managing the crisis is related to changing, adapting and surviving in their business and private life.

Meanwhile, a theme related to failure is 'Business Operational challenges'. They mentioned that Covid-19 has affected how they do their everyday tasks, such as having no income to run the production line, not having enough money for payroll, or needing to reduce their business's scale tremendously. For example, as Respondent 18 explained, "I had a hard time telling the team that I was late in responding to the situation, our production may be reduced, I may not be able to keep everyone, and we may need to shut down our craft business." All the respondents tend to share a similar view of failure in managing the crisis. It indicates that failing to address a crisis can lead to business closures and struggles in everyday life.

To capture themes related to the understanding of success and failure in managing Covid-19, we prompted each respondent to express their thoughts about their business situation during the Covid-19 crisis. We counted the themes expressed by each group of SAEs, as seen in Table 5. Again, as we mentioned in the methodology section, the purpose of a counting presentation is mainly to advise the potential dominance of information, which can assist in gaining insights into narrative interviews (Sandelowski, 2001).

Table 5. Qualitative Data: Counting themes of success and failure in managing the crisis

Entrepreneurial approach	Effectuation-Oriented			Causation-Oriented	
Entrepreneurial characteristic	High-profile artisans	Multiple-lifestyle	Artisan Family	Culturalist Artists	Opportunity-Seekers
Number of respondents	3	5	3	4	5
Success themes mentioned					
Survival strategies	10 (3)	16 (5)	10 (3)	1 (1)	1 (1)
Business continuation	7 (3)	15 (5)	7 (3)	11 (3)	8 (3)
Financial security	2 (2)	3 (2)	3 (1)	0 (0)	0 (0)
Making ends meet	1 (1)	3 (2)	2 (2)	2 (2)	2 (1)
Counted Themes	<u>20</u>	<u>37</u>	<u>22</u>	14	11
Failure themes mentioned					
Business Operational challenges	5 (2)	13 (3)	4 (2)	23 (4)	18 (5)
Revenue crisis	2 (2)	6 (3)	4 (2)	18 (4)	18 (5)
Switching careers	2 (1)	2 (1)	0 (0)	4 (3)	12 (4)
Financial struggles	0 (0)	1 (1)	0 (0)	2 (2)	1 (1)
Counted Themes	9	22	8	<u>47</u>	<u>49</u>

Note: The numbers outside brackets represent the themes mentioned by the respondents, and the numbers in brackets represent the numbers of respondents (RDs) who mentioned the themes.

To address research question three, we associate the themes of ‘success’ and ‘failure’ with a characteristic of each group of SAEs. Our qualitative findings support that three SAEs groups who adopted an effectuation-oriented approach, including High-Profile Artisans, Multiple-Lifestyle and Artisan Family (11 Respondents), tend to express and understand themselves as successful entrepreneurs in managing the Covid-19 pandemic. When the participants explained their success in managing Covid-19, a majority commented that success is related to surviving by exploring, connecting and pursuing new business opportunities during the crisis. Although the pandemic affected entrepreneurs in terms of economy and life, the crisis was seen as an opportunity to innovate and adapt to a new market situation to continue their business. This finding indicates a potential association between an effectuation-oriented approach and success in managing the Covid-19 crisis.

Meanwhile, we associate the themes of ‘failure’ as a majority with two groups of SAEs who adopted a causation-oriented approach, including Opportunity-seekers and Culturalist artists (9 respondents). These SAEs tend to understand themselves more as entrepreneurs who have failed in managing the Covid-19 crisis. They described a situation where they are struggling to continue their business (e.g., insufficient cash flow) and need to shut down their company, lay off their employees and, in some cases, terminate their business. They understood that they failed during the crisis, as they could not innovate or change to overcome lost sales. More importantly, business problems also affected their personal and family life. This finding indicates a potential association between a causation-oriented method and failure to manage the Covid-19 crisis from an SAE perspective.

Taken together, these qualitative insights suggest that there is a potential association between the use of an entrepreneurial approach and an understanding as regards success and failure in managing the crisis. Specifically, those SAEs who use a effectuation-oriented approach tend to understand their current business more in relation to success in managing the Covid-19

crisis, while those SAEs who use a causation-oriented approach tend to understand their current business more in relation towards the failure in managing the Covid-19 crisis.

5. Discussion

The present study makes several noteworthy contributions to the small artisan entrepreneurial approach in managing the pandemic (Covid-19). The current findings add to a growing body of literature on an entrepreneurship approach in the following aspects.

First, we identified five distinctive characteristics of SAEs who used entrepreneurial approaches differently during the Covid-19 crisis. We discovered that High-Profile Artisans, Multiple-Lifestyle and Artisan Family are SAE groups that have characteristics associated with large human capital and resources. Common characteristics among these three groups are a strong network, large human capital, open-mindedness and a solid craft background. Meanwhile, for Opportunity-Seekers and Culturalist Artists, common characteristics among these two groups are more conservative, avoiding risk and a lack of flexibility during the crisis. The study extends a recent systematic review of entrepreneurs' characteristics in relation to resilience during a crisis conducted by (Castro & Zermeño, 2020) by empirically demonstrating that key characteristics such as the human capital and business goals of SAEs can assist in identifying and categorising the SAEs in our study into five different groups to better understand their characteristics relating to the ability to adapt, approach and manage a crisis as found in this study (Biggs, 2011; Castro & Zermeño, 2020).

Second, we have demonstrated how SAEs used effectuation-oriented and causation-oriented approaches during Covid-19. We show that among High-Profile Artisans, Multiple-Lifestyle and Artisan Family who used an effectuation-oriented approach, they tend to display all the effectuation dimensions: affordable loss, experiment, flexibility and pre-commitment. These dimensions can be seen as a beneficial approach in coping with high uncertainty situations. For example, we have demonstrated that experiments enabled several SAEs to test their new business models (e.g., from crafting products to e-books on craft) and leverage hidden opportunities even during the crisis (e.g., becoming craft speakers for the government). In another example, the Artisan Family group used pre-commitment to form and establish informal support networks during the crisis, enabled by family connections.

Meanwhile, among Opportunity-seekers and Culturalist Artists, we have demonstrated that a causation-oriented approach was used as a plan to ensure careful risk avoidance. For example, Opportunity-seekers who use a causation-oriented approach tend to make zero investment unless they have a revenue commitment from buyers and avoid exploring new opportunities that may need additional investment. This finding is similar to Culturalist Artists, a focus on planning and forecasting situations rather than taking action during a crisis. For example, they tend to avoid new product ideas (e.g., making crafted facial masks as a response to the pandemic) if it is not in their identity and are unwilling to take risks and try new ideas during a crisis.

These results suggest that an effectuation-oriented approach allows SAEs to explore new opportunities even during a crisis and encourages them to take risks to test new business opportunities. While a causation-oriented approach influences SAEs to avoid risks as much as possible, be more conservative with their plans and have a contingency plan, which prevents

them from stepping out to search for new opportunities during a crisis. The current findings add to a growing body of literature on effectuation research (Sarasvathy & Dew, 2008; Sarasvathy, 2001a; Sarasvathy et al., 2008) by revealing insights into the different characteristics of entrepreneurs related to the use of effectuation and causation approaches during a crisis. We have also extended the context of effectuation studies to small artisan entrepreneurs in a crisis.

Third, our study offers insights into SAEs' understanding of success and failure in managing the Covid-19 crisis, which is associated with the use of effectuation-oriented and causation-oriented approaches. We found that those SAEs who adopted an effectuation-oriented approach tend to understand and see themselves as more successful in managing the Covid-19 crisis. Meanwhile, those who adopted a causation-oriented approach tend to understand and see themselves more as failing to manage Covid-19. The main reasons driving their understanding of success or failure are: the ability to adapt during a crisis; the intention to capitalise on new emerging opportunities; and business and life situations during the crisis. Our study extends the literature in a similar context to (Toledo-López et al., 2012), who found that the definition of success among subsistence entrepreneurs is motivated by maintaining a standard of life rather than economic expansion. Going beyond the definition of business success found in their study, we contribute additional evidence by suggesting that using a particular entrepreneurial approach (e.g. an effectuation approach) can be associated with SAEs' characteristics and their understanding of success and failure in managing a crisis. For example, we have shown that the effectuation-oriented approach associated with certain characteristics (e.g., High-profile artisans) leads to more openness to new emerging opportunities during a crisis, which influences SAEs to be more successful in managing a crisis.

6. Implication

Our findings have notable implications for policymakers as follows. First, our findings demonstrate that the characteristics of SAEs are unique and different entrepreneurial approaches were used during the pandemic. Thus, we suggest that policymakers provide specific support to different types of SAEs.

For instance, Culturalist Artist and Opportunity-seeker artisans tend to have less proactive mindsets for exploring new opportunities during a crisis and are geared more towards a conservative view. Moreover, Culturalist Artist and Opportunity-seeker may have financial-related issues. Thus, they may need a mentor to shape their attitude towards being more open and utilising what they have on hand to adapt to opportunities in a crisis. For example, we suggest that the government, perhaps a Department for Promoting Craft Business, should run mentor-sharing sessions, presented by SAEs who have succeeded in adapting to new business ideas during the Covid-19 pandemic. This activity would allow SAEs who may be struggling with a conservative mindset to identify a potential role model and effectuation approach that they could learn from.

For those who were successful in managing the pandemic, building networks outside the craft community (e.g., business partnerships, export and import organisations) may strengthen their business in a crisis as they attempt to capitalise on opportunities using an effectuation-oriented approach (e.g., a spin-off business with new products or businesses idea). For instance, a sample activity could be to conduct networking events where SAEs can meet potential distributors,

educators, writers, publishers and suppliers. Such events would allow each of them to discuss potential collaboration ideas and devise tangible actions for small artisan entrepreneurs.

Second, SAEs should be encouraged to adopt an effectuation-oriented approach because of the potential for artisan entrepreneurs to succeed in managing a crisis. Our findings demonstrate that an effectuation-oriented approach is valuable during extreme uncertainty, such as the Covid-19 pandemic, as effectuation creates flexibility that proactively enables entrepreneurs to capitalise on new or unidentifiable opportunities, even in a crisis.

For example, policymakers should promote an effectuation approach to SAEs, along with support for a specific effectuation approach (e.g. affordable loss, experiment, flexibility or pre-commitment). For example, to promote a pre-commitment approach to effectuation, a sample activity could be to develop a member website for SAEs to input their current products, knowledge and connections (e.g. a suggested concept is LinkedIn for Craft), connect to other entrepreneurs and see each other's profiles and needs to enable new potential partnerships, not only with entrepreneurs at the organisation level, but also entrepreneurs to entrepreneurs. Furthermore, via the action plans above, policymakers could better support those who may struggle to adopt an effectuation-oriented approach, namely, Opportunity-seekers and Culturalist Artists.

It is important to note that, from our findings, we found that small artisan entrepreneurs used both effectuation and causation approaches. Even those who understand themselves toward failure in managing the crisis also use causation and effectuation approaches (affordable loss). Despite that, overall, our insight suggests small artisan entrepreneurs who use an effectuation-oriented approach tend to see themselves as more successful in managing the Covid-19 crisis.

7. Limitations

The findings in this report are subject to at least three limitations. First, the number of SAEs included in our study was small due to the limitations on travel, contact and communication during Covid-19. Therefore, this paper cannot be generalised to all SAEs due to practical constraints and its focus on the arts and crafts community. Second, the reader should bear in mind that the study is based on SAEs in Thailand, which means that the reader should interpret the results with caution when applying them to other contexts. Third, the use of an entrepreneurial approach (e.g., effectuation) and how we understand success or failure in managing Covid-19 is based on artisan entrepreneurs' perspectives. It is beyond the scope of this study to conduct a large-scale survey to ensure generalisability. Hence, future research may consider extending this research's findings via a quantitative approach to determine if artisan entrepreneurs' characteristics and entrepreneurial approaches align with or differ from this present study.

Chapter 5

Conclusion

This thesis investigates the impact and role of effectuation on small artisan entrepreneur performance, such as improving business performance, strengthening long-term partnership commitment and managing the Covid-19 crisis. Three studies were formulated and executed as building blocks to answer the objectives. As a result, our three studies brought us to a novel understanding of the impact of and insights into the use of an effectuation approach in the context of small artisan entrepreneurs in Thailand.

The three research projects presented in this thesis can be briefly summarised as follows. In Chapter 2, we reviewed the literature on the effects of effectuation on business performance (e.g., sales, revenue, innovation) by conducting a meta-analysis study to synthesise relevant literature in the field and integrate empirical evidence of the effects of effectuation. The overall effect of effectuation on performance across various literature fields was assessed, and meta-regression was deployed to understand potential moderator variables that explain the heterogeneity in effect sizes. In Chapter 3, we developed and tested research propositions and a conceptual framework for small artisan entrepreneurs' commitment to government initiatives by conducting mixed methods research to study how an effectuation approach enhances or constrains long-term partnership commitment. The research context was small artisan entrepreneurs who engage with government partnership initiatives in Thailand. We include two studies in this paper. In study one, we conducted empirical qualitative research with small artisan entrepreneurs to build research propositions and a conceptual framework. Next, in study two, quantitative research was conducted to test our research proposition and examine the influential mechanisms of effectuation that affect long-term partnership commitment. In Chapter 4, during the Covid-19 crisis, we conducted empirical qualitative research to understand the small artisan entrepreneurial approach use in managing the Covid-19 crisis. We also explore the potential linkage between different entrepreneurial characteristics of small artisan entrepreneurs and the use of an effectuation approach during the pandemic. In addition, we examined how the entrepreneurial approach used by small artisan entrepreneurs may relate to their understanding of success and failure in managing a crisis.

In this concluding chapter, we summarise and integrate the findings that have been discussed in each chapter. Then, we conclude this chapter and thesis by making suggestions for future research.

A unified perspective of three studies

This thesis consists of three independent studies, which are interconnected to form cornerstones to address the objectives of the study. We discuss and unify these studies to present a summary of the findings in this section.

A review of the effects of effectuation on business performance

For a review of the impact of effectuation on performance (e.g., sales, revenue, innovation), this thesis has addressed the following aspects. We have reviewed and assessed the impact of effectuation on performance and contexts in which the effects can be strengthened or constrained. In Chapter 2, we found that an effectuation approach impacts positively on performance, which means effectuation can be an advantageous and beneficial approach for entrepreneurs. Interestingly, we have identified a novel aspect of effectuation, as we discovered that an effectuation approach has a more substantial impact on innovation-related performance (e.g., product and service innovation performance) than financial-related performance (e.g., market share, sales, profits).

This is the first study to assess two different performance aspects by using a meta-analysis approach. This finding, therefore, provides an exciting opportunity for future research to advance our understanding of the impact of effectuation in the context of innovation.

Our findings also reveal that effectuation does affect performance regardless of the size and country where businesses operate. In addition, we found that when all effectuation dimensions (i.e. affordable loss, flexibility, exploration, pre-commitment) are used, they have a more substantial effect on firm performance than using specific sub-dimensions. This finding emphasizes the importance of all the sub-dimensions of an effectuation approach.

In addition, in Chapter 4, we investigated the use of an effectuation approach by small artisan entrepreneurs during the Covid-19 crisis, using exploratory research. We discovered that the effectuation approach used by small artisan entrepreneurs could potentially influence how they understand themselves more as regards success in managing the Covid-19 crisis (e.g., sales, ability to keep trading during a crisis). This study extends the systematic literature review in Chapter 2 mentioned earlier by suggesting that an effectuation approach is beneficial for small entrepreneurs, even in extremely uncertain conditions, as we found that an effectuation approach may be associated with the ability to adapt to opportunities during a crisis (e.g., new business opportunities, connect to new networks, new revenue streams).

Underlying factors in effectuation and partnerships of small artisan entrepreneurs

As mentioned in Chapter 3, we explored the underlying mechanism between small artisan entrepreneurs and long-term partnership commitment with government initiatives. In study 1 of this chapter, based on in-depth interviews, two emerging factors, absorptive capacity and artistic integrity, may play an essential role in the relationship between an effectuation approach and long-term partnership commitment. Thus, in study 2, we then tested the research propositions developed. Interestingly, the influence of an effectuation approach on long-term partnership commitment may not be direct but mediated by the sophisticated underlying mechanism found in this study. Specifically, we discovered that an effectuation approach improves partnership integration and absorptive capacity and leads to partnership satisfaction, which ultimately positively influences long-term partnership commitment.

Furthermore, we demonstrated that both partnership integration and absorptive capacity are unique mediators that play a crucial role in an effectuation approach in relation to long-term

partnership commitment. In addition, for absorptive capacity, our findings suggest that the effectuation approach used by small artisan entrepreneurs improves their absorptive capacity (e.g., ability to absorb new ideas, plans and knowledge from partnerships). While artistic integrity (passion, integrity of a product) has a moderating effect that influences whether artisan entrepreneurs want to integrate with partnerships. Interestingly, our analysis suggests that with low levels of artistic integrity (e.g., less strict about product identity and product design) effectuation is an effective way for artisan entrepreneurs to integrate with partnerships, which leads to better long-term partnership commitment. In sum, this study makes a major contribution to the research on effectuation by using an empirical study to demonstrate an underlying mechanism that influences the effectuation approach and long-term partnership commitment. In addition, this finding also contributes to the field of effectuation theory by demonstrating the potential association of newly discovered constructs in this study (e.g., absorptive capacity and artistic integrity), which enhances our understanding of and sheds new light on insights into an effectuation approach in relation to the aspect of partnership.

Entrepreneurial approach used during the pandemic by small artisan entrepreneurs

As described in Chapter 4, we have presented qualitative research evidence focusing on small artisan entrepreneurs managing the Covid-19 pandemic from our empirical data. In this chapter, we began by identifying five different small artisan entrepreneurial characteristics (namely: High-profile artisan, Artisan family, Multiple-lifestyle artisan, Culturalist artist and Opportunity-seeker). According to these five characteristics, in relation to the use of an entrepreneurial approach to manage the Covid-19 crisis, the characteristics of those that use an effectuation-oriented approach are those who are open to new opportunities and have substantial human capital and resources (e.g., reputation in business, financial support, strong background, various networks), these group characteristics are High-profile artisan, Artisan family, Multiple-lifestyle artisan. In addition, they demonstrated the use of effectuation to form and establish informal support networks during the crisis to adapt to and create new business opportunities. Meanwhile, the results suggest that those who understand themselves as failures in response to Covid-19 tend to be more conservative and rely more on a causation approach. The characteristics of those that use a causation-oriented approach are more conservative and less proactive in taking risks to adapt their business during a crisis. They tend to have less substantial human capital and more limited resources (e.g., reputation in business, financial support, strong background, various networks), these group characteristics are Culturalist artist and Opportunity-seeker.

In general, we found evidence that small artisan entrepreneurs used both effectuation and causation approaches. Despite that, our insights suggest that small artisan entrepreneurs who use an effectuation-oriented approach tend to see themselves as more successful in managing the Covid-19 crisis. We hold that those who understand themselves as successful entrepreneurs in managing the pandemic tend to use an effectuation-oriented approach to navigate and motivate them to explore new opportunities and initiatives. Specifically, they used affordable loss and exploration to create and trial new markets trial for their products during the pandemic and be open to opportunities even if the return on investment may not yet be clear.

Meanwhile, those we identified as adopting a causation-oriented approach tend to understand and see themselves more as failing to manage Covid-19. The main reasons that drove their perception of failure are: the struggle to adapt their business during the crisis; unable to respond to emerging opportunities; finding in business and life situations a challenge during the crisis.

In sum, although both effectuation and causation were used by small artisan entrepreneurs to manage the Covid-19 crisis, our findings suggest that an effectuation-oriented approach has more potential to be dominant among those who considered themselves successful in managing the crisis.

Finally, we conclude that being effectuation-oriented can be an effective approach in a crisis. However, for those small artisan entrepreneurs embracing effectuation, their human capital and dynamics in thinking and flexible actions are drivers to success in managing a crisis. From a policymaker perspective, it is beneficial to promote an effectuation approach to small artisan entrepreneurs; however, any additional support from government or policies for small artisan entrepreneurs should be specifically tailored to the different characteristics of groups as we have presented.

Managerial Implication

This section briefly summarises the examples of managerial implications included at the end of each chapter.

Example of a practical plan to promote effectuation.

- Policymakers can include the effectuation approach and case studies as a curriculum (e.g. free training courses for small entrepreneurs) in regular national seminars for small artisan entrepreneurs. In addition, artisans should be able to quickly access and learn about effectuation's educational materials, such as the four effectuation approaches and benefits, via an online platform (e.g. short-form video).
- Managers can link each effectuation dimension to a company's key performance index (KPI). For example, the experiment-dimension can be translated into a KPI as a number of new activities/ projects that a company establishes in a year utilising only available resources. This linking of the entrepreneurial approach to a company's KPIs can lead to a more concrete and executable strategy.
- Managers can devise workshops about the effectuation approach for their work teams to learn about effectuation in practice. For example, set a challenge to develop a new real-life project that only uses what they have to hand (affordable loss and flexibility) in a short timeframe. They can ask for support from their own network (e.g. family and friends). Finally, they can present their ideas (experiment) to a small group of possible users.

Example of a practical plan to use effectuation to create a long-term partnership.

- Supportive activity from policymakers such as SACICT for artisan entrepreneurs should focus on long-term goals and collaboration. Instead of running a one-off workshop to educate small artisan entrepreneurs on a particular subject, the activity should focus more on long-term

collaboration that requires participants, both small artisan entrepreneurs and government officials, to participate and work closely on a real-life project.

- Policymakers such as SACICT should host networking events where small artisan entrepreneurs can meet potential distributors, educators, writers, publishers and suppliers; these extra seminars would allow small artisan entrepreneurs to explore potential collaborative projects in a tangible way.

Example of a practical plan to use effectuation during a crisis.

- Policymakers can organise mentor sharing sessions to encourage the use of effectuation, where entrepreneurs (e.g. small artisan entrepreneurs) who have been successful in adjusting to new business ideas during Covid-19 (e.g. using an effectuation approach) can share real-life case studies. This activity would provide an opportunity for those who may struggle with a conservative mindset to identify a prospective role model and see effectuation as a working approach.
- Policymakers can encourage small artisan entrepreneurs to use a combination of four approaches and should also address each effectuation approach during the crisis. For example, to promote the pre-commitment dimension of effectuation, a sample activity would be to promote a membership website for artisan entrepreneurs to connect with relevant partners by giving information about their current products, knowledge and needs. Thus, during a crisis (e.g. Covid-19), they can connect to other members to enable new potential partnerships between entrepreneurs and government officials and among entrepreneurs.

Perspective on Future Research

In addition to specific recommendations for future research proposed at the end of each chapter, in this final section, we introduce a number of general directions for future research.

In terms of effectuation and performance, our key findings in a systematic review using meta-analysis demonstrated that the impact of an effectuation approach is more substantial on innovation-related performance than financial-related performance. Hence, we suggest that further empirical research regarding the role of effectuation in enhancing innovation performance in various contexts and challenges in embracing innovation would be worthwhile to advance effectuation research. For example, further research could explore in what contexts and settings effectuation is beneficial in improving specific innovation performance, such as business model development, product and service development and social innovation. This research direction is in line with scholars who have also suggested extending our knowledge on how effectuation is related to innovation, such as innovation strategy (Guo, 2019).

For insights into effectuation and long-term partnership commitment, we have found two new emerging constructs related to effectuation in a partnership context: absorptive capacity and artistic integrity. In a partnership context, we discovered that an effectuation approach has a positive influence on the ability of small artisan entrepreneurs to absorb new ideas, activities and advice from partnerships. This finding suggests that future research could investigate how absorptive capacity (Cohen & Levinthal, 1990) can enhance or constrain the effect of effectuation in different contexts (e.g., non-artisan entrepreneurs). For example, in corporate contexts,

literature on absorptive capacity has pointed out that absorptive capacity plays a crucial role in explaining how some teams and organisations are better than others at recognising and transforming new knowledge into new commercial outcomes (van Doorn et al., 2017). Thus, further research should study this theoretical linkage of absorptive capacity which may be associated with an effectuation approach, especially in relation to a partnership, such as the ability to accept new collaboration from investors, internal team and partners.

Furthermore, this thesis reveals a deeper understanding of the partnership aspect of effectuation theory. In effectuation theory, partnerships are seen as a unique aspect when compared to other relevant entrepreneurship theories such as bricolage theory. Thus, for future research, our findings shed light on how effectuation theory can be particularly beneficial when studying entrepreneurs in contexts related to partnerships (e.g. start-ups and investor partnerships).

We also found that for small artisan entrepreneurs, artistic integrity has a moderating effect on the relationship between effectuation and partnership integration. This finding is related to previous research, as Tregear (2005) found evidence that artisan entrepreneurs tend to be low-growth oriented; they focus less on business and sales and more on design identity and passion for their products. This integrity, in turn, influences the attitude and effectiveness of working with other stakeholders, which in our study demonstrated a negative influence. This finding is particularly interesting, as effectuation has one essential dimension related to partnership, i.e. pre-commitment (Sarasvathy, 2001a), so it would be interesting for future research to integrate artistic integrity as one of the values that influence the effect of effectuation and partnership performance.

Our effectuation and Covid-19 chapter found that effectuation enabled small artisan entrepreneurs to overcome extreme uncertainty conditions (e.g., a pandemic). Further empirical research should investigate insights going beyond the Covid19 situation, in which the stages and development of a situation move from in-crisis to post-crisis. Further research can examine the links between entrepreneurial characteristics and an effectuation approach more closely during in-crisis and post-crisis, where quantitative research is recommended to test and extend the findings of our study.

Regarding the study context, the study of effectuation in the small artisan entrepreneur context has not been fully developed. Our findings open up more opportunities and set solid ground for further investigation and extending the body of knowledge into the small artisan entrepreneurs context.

Finally, with this thesis, we hope we have contributed insights into the effectuation approach and its impact on and role in business performance in the context of small artisan entrepreneurs, together with the underlying mechanism of effectuation in the context of small artisan entrepreneurs and government initiatives. In addition, insights into the entrepreneurial approaches used by small artisan entrepreneurs in light of Covid-19 should contribute to a new aspect of effectuation research in extreme uncertainty contexts. A number of possible future studies using the insights from our studies have been proposed to support scholars wishing to extend the body of knowledge on effectuation research.

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