



Opportunity identification and exploitation in value chains:

A study of innovative food entrepreneurs in Thailand

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Abstract

Research focus and methodology

Entrepreneurship is a crucial behaviour that drives economic growth and to improve people's lives. It is seen as a source of income for those who can successfully identify and exploit opportunity to create value and profit. Entrepreneurs do not act in isolation, they are part of an industry's value chain. An Entrepreneur's interaction with other stakeholders and the surrounding context influences the opportunity process. Entrepreneurial opportunity may occur at any stage in the value chain. Entrepreneurs all operate within a value chain and their activities are all part of value adding processes. Despite this, there are a small number of studies that consider entrepreneurs as actors within a value chain context. The roles of entrepreneurs within different parts of the value chain may therefore contribute to the literature focusing on how entrepreneurs identify and exploit opportunity.

This thesis is both exploratory and qualitative and is underpinned by a critical realist paradigm. It exercises the use of numbers in a qualitative study at a quantizing level. The data collection employs a semi-structured interview technique. The interviews were taken with 35 entrepreneurs owning various firms at all scale classification (small, medium, large). The sample is drawn from entrepreneurs operating in Thai food industries, particularly in the value chains of rice and fruits. Data collection also involved 2 elites and 9 experts, who were interviewed to provide a comprehensive background of entrepreneurship with a Thai context.

Finding and implication

Entrepreneurs identify opportunity by considering supply-side factors and demand-side factors. While businesses wish to be accepted by the market, but the supply-side factors appear to outweigh demand-side factors in their opportunity identification stage. Categorising entrepreneurs by firm's size, it reveals dissimilarity in their opportunity identification process. While small firm owners emphasize on supply-side factors, the medium and large sized entrepreneurs are more focus on demand factors. Further analysis of value chain perspectives also discovers the disparity of these factors within entrepreneurs operating in different sub-value chain as well as those operating different roles in the food chain.

Looking at opportunity exploitation, the finding discloses exploitation strategies in diverse stances of business activities, organisation structures, sources of knowledge, and other relationship with stakeholders. Dissimilarities in their size, sub-value chain, and roles in the value chains also affect choice of exploitation approach.

Entrepreneurs may benefit from the findings of this research. They can understand how entrepreneurs with different characteristics behave in order to identify and exploit opportunity. These insights may be especially important for entrepreneurs who wish to increase profits by introducing higher value-added activities within their businesses.

This study aims at helping policy makers to understand the varied nature of opportunity identification and exploitation among entrepreneurs. Policy formation mostly focuses on firm size as a unit of analysis, largely ignoring the fact that the entrepreneurs may possess multiple businesses or that they operate at different levels within a value chain. These factors influence how entrepreneurs identify and exploit opportunity. Consequently, policy makers should pay more attention to both the entrepreneur's individual and firm-level characteristics in order to design and implement more suitable supporting policies.

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Chapter One: Introduction

Entrepreneurship is a phenomenon that has gained attraction from academic and policy makers. This chapter provides a discussion on entrepreneurship from both scholars and practitioners standpoints. It starts with the significant of entrepreneurship in different perspectives, including the importance of entrepreneurship as a research field, importance of entrepreneurship in the context of developing economy, and the importance of entrepreneurship as a tool for policy makers to stimulate their economy. This section aims to highlight vital rationale for this thesis to discuss entrepreneurship questions. Next, the chapter presents background of the research problems, specifically, the focus of opportunity process that lead to the key research questions of this current thesis. The chapter then gives an overview of this thesis including research gaps, expected benefit, research questions, and objectives. Lastly, the chapter concludes by illustrating the thesis structure.

1.1 Importance of entrepreneurship research

1.1.1 Entrepreneurship research

Entrepreneurship is an activity undertaken in order to discover, evaluate and exploit an opportunity within a market, which could be a new product or service (Shane, 2003). Entrepreneurial activities contribute to society economically and sociologically. These activities have an impact on job creation and the levels of innovation and industrial participation (GEM, 2018). Consequently, entrepreneurship has been receiving more interest in the past few decades due to its importance to the global economy and to society (Miller, 2011).

Entrepreneurship is comparatively new in relation to other fields of research. Some of the terms used by scholars do not even have a consensus meaning, including the term entrepreneurship itself. Some academics define entrepreneurship as the activities undertaken to set up a new firm e.g. Low and MacMillan (1998), Gartner (1989), and Brush et al. (2003). Some researchers do not restrict entrepreneurship to actions relating to creating a new firm. For instance, Lumpkin and Dess (1996), Shane and Venkataraman (2000), and Browder et al. (2019). Therefore, it is important that researchers clarify the term “entrepreneurship” as used in their studies (Gartner, 1990). One of the most well-known entrepreneurship papers, by Shane & Venkataraman (2000), defines entrepreneurship studies as follows: *“the field involves the study of sources of opportunities, the process of discovery, evaluation, and exploitation of opportunities and the set of individuals who discover, evaluate and exploit them”* (p.128). Their paper highlights the uniqueness of the topic of

entrepreneurs, that is, entrepreneurial opportunity, which distinguishes the entrepreneurship field from other research realms.

Entrepreneurship as a field of research has different schools of thought, which seems to hinder the advancement of this field. Most researchers focus on one aspect of the entrepreneurial process, whether individual- or environment-centric. Shane (2003) suggested that entrepreneurship research should be more comprehensive by considering different aspects of the entrepreneurial process, including the effect of the individual, opportunity, industry and institutional environment.

Ucbasaran et al. (2001) observed that the focus of entrepreneurship research can be categorised into six themes: entrepreneurship theory, types of entrepreneurs, entrepreneurial processes, formation of organisations, external environment, and outcomes of entrepreneurial efforts. Focus on the entrepreneurial process has two main dimensions: how entrepreneurs recognise opportunity and how entrepreneurs manage to acquire the resources needed to exploit their perceived opportunity. Entrepreneurial opportunity is highlighted as having a uniqueness that distinguishes this area from other conventionally associated topics, such as economics and strategic management (Busenitz et al., 2014; Shane & Venkataraman, 2000). Shane (2003) believed that entrepreneurship requires the action of an individual to determine the opportunity that he/she wants to pursue. Thus, opportunity is a crucial part of the entrepreneurial process. Entrepreneurial opportunities vary and the entrepreneurial process of entrepreneurs is different according to the environment and the industry (Shane, 2003).

Entrepreneurial opportunity is the situation into which new materials, organising methods, production processes, and products are introduced (Kirzner, 1997; Shane & Venkataraman, 2000). This process is believed to generate economic activities and, as a result, foster economic growth. In particular, fast-growing new firms are seen as being responsible for job generation (Wong et al., 2005). Understanding entrepreneurial opportunities and the process of opportunity identification and exploitation would help scholars uncover how to assist entrepreneurs in turning their profitable opportunities into real profits. Policy makers could also recognise what facilities and environments they should provide to foster successful entrepreneurial opportunities.

The entrepreneur is a key player in the entrepreneurial process, who develops a new means-end framework for his/her profitable opportunity. The entrepreneur is distinct from an individual who optimises resources within existing means-ends to make a profit (Companys & McMullen, 2007; Eckhardt & Shane, 2003; Kirzner, 1997; Shane, 2003).

1.1.2 Entrepreneurship in a developing economy

Entrepreneurial activity is a source of economic growth (Fritsch & Mueller, 2008; Wennekers & Thurik, 1999). Entrepreneurial activities, particularly in the small business sector, are believed to generate employment growth. In some economies, such as North America, Asia and Oceania, more than 20% of their entrepreneurs are anticipated to create more than six jobs in the next five years (GEM, 2018). This forecast suggested a change from sole entrepreneurs to being employers. Efficiency-driven economies, such as Thailand, South Africa and China, have the highest rate of expected job creation compared with economies in other development phases, i.e., factor-driven and innovation-driven economies. However, statistical data show that the majority of entrepreneurs from every phase of development are not expected to hire more employees in the next five years. This is in line with Fritsch & Mueller (2008), who believed in the short-term effect of new firm creation on employment growth. The rationale for this effect is that it could be due to a variety of reasons, such as a lack of skilled labour, limited finance or technological changes that have enabled entrepreneurs to work on their own (GEM, 2018).

Entrepreneurs are closely linked with innovation, as they are the ones who introduce new products and/or services to the market. Following the definition used by a GEM report, innovation refers to the new products/services that entrepreneurs introduce to a market that has few or no competitors offering the same product/service. Such a product/service could be new to all or some of the customers in that market; thus, even a low degree of innovation is counted in its contribution to economic growth. Innovative entrepreneurial activities generate a great amount of economic activity, including research and development (R&D) and academic development, as well as government budget spending on R&D. Innovative economies such as the UK, Canada, the US and Germany have shown a link between innovative entrepreneurial activities and a high level of national income (GEM, 2018). The development of innovative activities could lead to higher competitiveness and sustainable economic growth in a country. Thus, in order to transform an economy into a higher-income country, innovation is one of the key issues that should be taken into account in any incorporation of entrepreneurial activities.

Some highly developed countries show industrial intensity in higher-value sectors, for instance, information and communications technology (ICT), finance and other services. This is different from less-developed economies, the majority of whose entrepreneurial activities are in the wholesale and retail sectors. More innovative entrepreneurial activities should lead to higher revenue.

Therefore, the growth in such activities would make a great contribution to economic growth (GEM, 2018).

Entrepreneurship policy and small and medium-sized enterprise (SME) policy are sometimes difficult to separate (Stevenson & Lundstrom, 2007). In a developing country such as Thailand, the government has emphasised entrepreneurship, particularly among SMEs, as one of the tools for economic development. As a result of the number of SMEs in the economy, around 99.79% of all enterprises in the country, SMEs are a strategic target for government to promote entrepreneurship (OSMEP, 2019). Thai SMEs have a 43.0% share of the country's gross domestic product (GDP), while large enterprises and other types of business (e.g., co-operatives) contribute 43.1% and 5.8% of the total GDP of the country, respectively. The SME contribution to country GDP has been gradually increasing over the past five years due to a growing number of households and rising private consumption, as well as the effect from both direct and indirect supporting policies to help small and medium-sized businesses (OSMEP, 2019).

1.1.3 Entrepreneurship and policy makers

The significance of entrepreneurship research has increased recently due to recognition of its important contribution to the development of an economy. Entrepreneurship is believed to generate income and employment. Therefore, in addition to academia, policy makers are also interested in this field of research (Rosa, 2013).

Policy intervention to promote entrepreneurial activities can be made through different channels, including the supply side and demand side of entrepreneurship (Audretsch et al., 2007). According to Audretsch et al. (2007), supply-side elements of entrepreneurship refer to the labour market of potential entrepreneurs. The aim of policy is mainly to enhance and encourage individuals to become entrepreneurs. Policy intervention could be an attempt to support potential entrepreneurs, such as a policy that would have a positive impact on the abilities and resources of potential entrepreneurs, or a policy to promote an entrepreneurial society and culture. From the other viewpoint, the demand side of entrepreneurship refers to business opportunities in a product market (Audretsch et al., 2007). Policy intervention to promote the demand side involves, for example, policies to support technology development (e.g., a government budget for R&D expenditure), policies to reduce market barriers for small firms and control the market power of large enterprises, and policies to influence market accessibility (Audretsch et al., 2007).

While many countries believe that promoting entrepreneurship could be a source of economic growth and a generator of employment, some scholars argue that not everyone can be an entrepreneur with growth potential. Also, not every enterprise is a job generator (Shane, 2009). Policy makers should not invest budgets equally for promoting typical entrepreneurs (Shane, 2009) or routine entrepreneurs (Acs et al., 2016), who may have less potential to grow and create jobs. Entrepreneurship research is, therefore, a tool to understand the phenomenon of entrepreneurs in the economy. Understanding the entrepreneurial phenomenon would help policy makers design policies and plan budgeting appropriately in order to stimulate economic growth.

1.2 Background to the research problem

1.2.1 Opportunity identification and exploitation process

Opportunity identification is a development process whereby entrepreneurs utilise creativity to obtain new ideas for new products (Dimov, 2007). A great number of researchers have studied the personal factors that influence opportunity identification (Gielnik et al., 2012). For example, the study of opportunity identification and creativity, motivation, alertness, risk, and financial rewards (Corbett, 2007). However, the entrepreneurial process does not occur in isolation. The people and situations with which entrepreneurs interact have an impact on the process of entrepreneurial opportunity (Dimov, 2007). Therefore, it is necessary to understand the opportunity identification process comprehensively, rather than simply attempting to explain one single factor that affects the process (Ardichvili et al., 2003).

Opportunity exploitation refers to *“the decision to act upon a venture idea, and the behaviors that are undertaken to achieve its realization”* (Davidsson, 2003, p.340). Entrepreneurs do not exploit every opportunity they identify (Shane & Venkataraman, 2000). Therefore, entrepreneurship researchers try to understand how entrepreneurs make the decision of whether or not to exploit an identified opportunity. Some demographic differences between entrepreneurs are believed to contribute to their decision making in order to exploit opportunity, such as education, career experience, age, and social position. Whereas education and experience are found to relate positively to the possibility of opportunity exploitation, age shows a curvilinear relationship with entrepreneurs’ decision to exploit opportunity (Shane, 2003). As they age, entrepreneurs acquire some of the experience necessary for exploitation. When they get much older, however, they tend to take less risk, resulting in a reduced possibility to exploit opportunity. Social status is another factor found to link positively with opportunity exploitation. In situations of uncertainty and

information asymmetry, entrepreneurs with higher social status perform better in persuading others to trust in their identified opportunity and, therefore, are more likely to exploit opportunity (Evans, 1989).

Knowledge of the customer is also important for the decision to start exploiting opportunity (Choi & Shepherd, 2004). This is especially the case for innovative products, as some customers may not be familiar with the innovation and there could be a risk that customers might not perceive the value of the new invention (Aldrich & Fiol, 1994). It is, therefore, necessary to understand customer demands before an entrepreneur can start to exploit an identified opportunity. These elements contribute to exploitation activities. Entrepreneurs with the appropriate components tend to start a new business. However, some scholars, e.g., Kuckertz et al. (2017), exclude the customer aspect from their definition of opportunity exploitation, as they believe that its impact on the process is quite vague.

The choice of exploitation mode can be a new start-up or the beginning of a new project in an existing firm (Shane & Venkataraman, 2000). However, most of the entrepreneurship literature regards the opportunity exploitation mode as the creation of a new firm (Venkataraman, 1997).

The opportunity process is usually considered a linear relationship from discovery to the exploitation stage (Companys & McMullen, 2007). However, sometimes, opportunity can be a back-and-forth process (Davidsson, 2003; McKelvie & Wiklund, 2004). An entrepreneur may identify and exploit an opportunity that leads to the identification of another, as the information gained during the first opportunity exploitation could help entrepreneurs in the recognition of a new opportunity. The phases between opportunity identification and exploitation could involve an intertwined process (Low & MacMillan, 1988). These stages sometimes overlap. Prior study has shown that successful entrepreneurs follow an overlapping process between opportunity identification and the exploitation phase (McKelvie & Wiklund, 2004). In general, however, studies on the opportunity process assume a separation between the identification stage and the exploitation stage. More studies are needed into the non-linear opportunity process (McKelvie & Wiklund, 2004).

There are a variety of factors that affect the opportunity identification and exploitation of different entrepreneurs, such as alertness, a systematic search, prior knowledge, social capital, human capital, and environmental conditions. These factors are studied by some scholars to determine how they influence entrepreneurial opportunity. Most of the prior literature does not explain the opportunity process from identifying to exploitation by applying those factors as part of the process

but focus instead on a point in the opportunity process. This thesis seeks to understand the entrepreneurial process, from how entrepreneurs identify an opportunity, until they are able to exploit it. This approach may reveal the roles of these factors as part of the process.

1.2.2 Entrepreneurial opportunity in Thailand

Entrepreneurship is believed to be a tool for stimulating a country's economy. Particularly in developing countries, entrepreneurship is a source of income for many people. In Thailand, 16,322,746 people were employed by enterprises in 2018. Of this number, SMEs accounted for 85.47% of the total employment in the country (OSMEP, 2019). Thailand is a developing country of approximately 69 million people and has struggled at the middle-income level for decades. In the past, Thailand had competitive advantage in terms of low production costs, but this advantage decreased as the minimum wage has been rising in the past few years. It now aims to move from being a low-cost production place to a more innovative environment. Thailand is currently undergoing a transformation process to upgrade its economy.

The government has launched the first long-term national development plan, named the 20-year National Strategy (2018-2037), to drive every aspect of the country's growth. In particular, Thailand aims to be a high-income country. Economic prosperity is expected to be achieved through technology and innovation and the government aims to apply innovation to Thailand's advantage of possessing a variety of natural resources and cultural uniqueness. In doing so, entrepreneurship is seen as one of the key topics in Thailand's transformation (NESDB, 2017b). The country's master plan focuses on value creation and entrepreneurs are the main target. Entrepreneurs and their innovative opportunities are expected to enhance economic growth as well as reduce poverty.

According to the country's master plan, some strategic industries have been selected as targeted sectors for national transformation, including the food industry (Ministry of Industry, 2016). The food industry is significantly linked to the Thai people, as it is closely associated with the agricultural sectors in which many people find a means for living. Materials from the agricultural sector (e.g., farming, fisheries, and livestock) are processed through technologies and manufacturing operations produce high-quality standardised food for consumers (OIE, 2008).

The food industry in Thailand is extensive. It covers a wide range of businesses, from agriculture, manufacturing, commerce, and supporting activities (e.g., R&D and logistics). It can be said that the Thai food industry covers the whole value chain (VCH), from upstream to downstream activities. The VCH concept is described as *"the full range of activities which are required to bring a product or*

service from conception, through the intermediary phases of production (involving a combination of physical transformation and the input of various producer services), delivery to final consumers” (Kaplinsky, 2000, p.121). As a consequence of globalisation, each stage in a VCH could take place in different countries and customers can be international (Gereffi et al., 2005). Activities in a global VCH may take place in different parts of the globe and consist of players in different countries, which could offer better value for investment. Some Thai entrepreneurs take a variety of roles in a VCH. Many entrepreneurs may operate their business as an original equipment manufacturer (OEM), whereby they manufacture a product for a business customer who will promote that product in the market and make a profit by adding the value of the brand. The structure of the food industry in Thailand includes the full range of activities of transforming raw materials from an agricultural product until it becomes a final product/service that can be delivered to end customers. Food entrepreneurs may also operate as an OEM, but some Thai entrepreneurs prefer to market their brands domestically and internationally, as this could be another way of adding value at a later stage in the VCH and could offer more profit. A food VCH in the Thai context, therefore, represents the full range of the VCH concept for the study of what to seek in order to understand the actors in the VCH.

For the above reasons, Thailand offers an interesting context for entrepreneurial study. The country has plenty of natural resources, including agricultural products, and a number of technology and innovation developments are taking place. Awareness of the use of innovation is also increasing. Some entrepreneurs are alert to the benefits and apply innovation to their business with the aim of increasing the value of a product and making more profit. Many supporting agencies are working towards applying innovation to business in order to help entrepreneurs who might not be able to conduct R&D on their own. The circumstances in Thailand could represent a situation in which entrepreneurs perceive the benefits of innovation as a tool for enhancing their business growth and supporting agencies greatly promote the use of innovation to help the private sector. Entrepreneurial opportunity in this context involves innovation as one of the drivers of entrepreneurs’ opportunity identification and exploitation.

Despite the significance of entrepreneurship in the Thai economy, there are only a few examples of entrepreneurial opportunity research in the Thai context. Current entrepreneurship studies in the Thai context emphasise financial performance (Paulson & Townsend, 2004; Wonglimpiyarat, 2013), success factors for e-commerce (Sebora et al., 2009), and organisational culture (Engelen et al., 2014). Entrepreneurial opportunity, particularly in the process of opportunity identification and

exploitation, is not widely studied. The lack of understanding of the entrepreneurial opportunity process might hinder policy makers from providing better supporting schemes for entrepreneurs. It also deters policy development. Without knowledge of the entrepreneurial opportunity process, policy makers are not able to design appropriate assistance that would help entrepreneurs to tackle obstacles to their opportunity development.

1.2.3 Expected benefits of this thesis

The uniqueness of the entrepreneurship field lies in acquiring knowledge of entrepreneurial opportunity. In particular, understanding the opportunity identification and exploitation process would allow researchers to explore stages in entrepreneurs' opportunity development and what factors they consider during the phases of opportunity identification and exploitation. Instead of explaining one static factor that influences entrepreneurial opportunity, this thesis expects to demonstrate the multi-stage nature of opportunity development, from identification to exploitation, before entrepreneurs can make a profit from those opportunities. The findings are expected to reveal how and why entrepreneurs identify and exploit opportunity and the determinants of their considerations during each stage.

Entrepreneurial activities do not only occur in small firms, but also in large enterprises (Wennekers & Thurik, 1999). The knowledge derived from this study is also expected to reveal the differences between entrepreneurs operating in different circumstances and contexts. The size of the business that represents the variety of resources of an enterprise may contribute to the opportunity process. Some studies, such as Chandler & Hanks (1994), suggest that firms with a greater variety of resources seem to perform better in growing their business. They are also more likely to be larger in size. However, Park (2005) argued that a large firm with abundant resources might not always be a good place for opportunity recognition and exploitation. The current study will offer empirical knowledge regarding the effect of firm size on opportunity identification and exploitation and how entrepreneurs utilise advantages relating to having many resources or manage with limited resources in their opportunity process.

SMEs and large enterprises both contribute to an economy in a variety of aspects. While the governments in many countries allocate a large amount of their budget to promote these types of business, it is important to study their opportunity process in order to help them develop further contributions to the economy. Large firms, on the other hand, may have a lower number of enterprises but contribute greatly to total GDP. They generate high economic value. Thus, it would

be beneficial to understand their entrepreneurial activities in developing a new opportunity. What large firms do might not be easily duplicated by smaller firms due to limitations in their resources but supporting agencies could take part in completing what smaller firms might miss.

Other than the size of a business, other firm characteristics, e.g., the key activities in which they operate and the specific VCH they are in, might influence how they deal with opportunity. Applying the VCH concept would enable exploration of another angle of analysis for this entrepreneurial opportunity study. This concept involves the roles entrepreneurs play in their industry, which influence how they identify and exploit opportunity. Entrepreneurs might not, in general, realise that their activities in recognising a new opportunity and turning an idea into reality can be defined academically as an opportunity identification and exploitation process. Understanding the opportunity process may offer entrepreneurs a viewpoint for successful exploitation. Entrepreneurs will be able to learn what they should consider at each stage of their opportunity, at either the identification or exploitation stage. In practice, entrepreneurs might not have to distinguish clearly at which stage of opportunity they are, although they should realise what they might face along the process before they can successfully make a profit from each opportunity. They can then proactively prepare and plan for what will come in order to facilitate their opportunity process.

For example, the process of opportunity identification may not be similar between different entrepreneurs. Therefore, the comprehensive study contained in this thesis could contribute to an overview of how innovative entrepreneurs identify and exploit opportunity in a specific sector/ value chain. Entrepreneurs' experiences in the opportunity process might be diverse. Learning from others' experience could be another way for entrepreneurs to develop their knowledge and broaden their indirect experience. The findings of this research would offer a tool for entrepreneurs and potential entrepreneurs to learn how other entrepreneurs proceed in relation to opportunities. This may benefit their next experience of opportunity identification and exploitation.

This study is expected to provide insight into the process of entrepreneurial opportunity that may benefit policy design. Policy makers should understand how a variety of entrepreneurs identify and exploit potential opportunities in order to plan supporting programmes and budget allocation. Before entrepreneurs can exploit their opportunities in the market, there are some processes in which outsiders, such as the government, might not be directly involved. However, the government, as regulators and policy makers, can influence an appropriate environment that could support the entrepreneurial process. Instead of understanding the way in which one single factor influences the

opportunity process, this study expects to enhance knowledge about the process, starting from identification until the exploitation stage. By understanding the process, the factors that drive it, as well as the differences in the processes operated by different entrepreneurs, this thesis could advance the effectiveness of supporting policy. Policy makers should then be able to pinpoint in which stage of the opportunity process they would like to intervene, and design specific supporting schemes for different entrepreneurs with particular characteristics. This approach would help the government escape from a kind of one-size-fits-all approach to policy.

1.3 Research gap and expected contributions

Gap in knowledge

The majority of the previous literature has focused on opportunities sourced from supply-side factors, such as a change in a product, materials, or production process (Eckhardt & Shane, 2003). Demand factors (such as a change in consumer demography) also play a role in entrepreneurial opportunity, but there seems to be a dearth of knowledge about the demand-side factors that contribute to entrepreneurial opportunity.

The common assumption of entrepreneurial activities concerns new firm creation (Casson et al., 2006; Short et al., 2010; Venkataraman, 1997). However, the mode of opportunity exploitation could be the formation of a firm or exploitation within an existing organisation (Shane & Venkataraman, 2000). Most of the studies on entrepreneurial opportunity consider the formation of a new firm as a mode of opportunity exploitation (Venkataraman, 1997), but some entrepreneurs may choose to exploit a new opportunity within their current companies. Not everyone intends to have more than one firm. The process related to their opportunity, however, might not be a one-off (McKelvie & Wiklund, 2004). The exploitation of an opportunity may lead to the identification of another opportunity. This thesis did not assume that the opportunity process is a linear process, from identification to exploitation. Instead, the exploratory inductive approach applied in this study allowed the author to obtain new knowledge about entrepreneurs' experience without a pre-set assumption.

The entrepreneurial network appears to be one of the most common topics considered as part of entrepreneurial opportunity. The network facilitates entrepreneurial opportunity in various aspects. Entrepreneurs do not work in isolation. They are part of the value chain and are also linked with

others, in addition to a circle of entrepreneurs (Freeman & Liedtka, 1997). However, there has been little discussion of the proactive roles of entrepreneurs' stakeholders, such as suppliers and customers, who contribute to opportunity identification and exploitation by entrepreneurs.

The role that entrepreneurs play contributes to how they operate in a value chain. Their entrepreneurial opportunity may be influenced by their role as a player in the VCH of the product or service in which they operate. Their opportunity identification and exploitation could be influenced by their position in the value chain. Relations with other stakeholders with whom they connect may also affect the opportunity process. There is little existing research that considers the VCH as the context for entrepreneurship. Similar concepts, such as stakeholder analysis, have been recognised by some authors, for example, Freeman & Liedtka (1997). Nevertheless, those studies did not comprehensively consider an entrepreneur as a VCH actor who is affected by the role he/she occupies as a part of that chain. The VCH is a popular concept used by policy makers (Henriksen et al., 2010; Kaplinsky & Morris, 2000). Applying the VCH concept to an entrepreneurship study would offer another viewpoint that could benefit a wider audience than entrepreneurship theorists, such as the policy makers who aim to utilise entrepreneurship as a trigger for economic development.

Gap in methodology and context

The entrepreneurship field appears to be dominated by deductive research (Rosa, 2013). Most quantitative studies have utilised self-report questionnaires, which isolate the link between the researcher and the entrepreneur (Miller, 2011). The current thesis planned to apply a qualitative approach, using semi-structured interviews with entrepreneurs and relevant experts. In doing so, the researcher had the opportunity to connect with informants and learn about their opportunity processes. The knowledge directly obtained from the entrepreneurs themselves is expected to explore the topic of entrepreneurial opportunity and decrease the lack of inductive studies on entrepreneurship.

The research context of Thailand also offers the interesting circumstances of a developing country that is undergoing a transformation process to advance its economy through entrepreneurship and innovation. Prior studies in the Thai context show a shortage of knowledge of how entrepreneurs identify and exploit opportunity. Majority of the existing Thai literature does not explain entrepreneurial opportunity as a process. Instead, a great number of entrepreneurship studies in the Thai context focus on some of the factors that affect entrepreneurs' businesses. To the best of the researcher's knowledge, there are only a few empirical studies on entrepreneurial opportunity

that focus on the Thai food industry. Thus, there is a gap in the research on entrepreneurial opportunity, specifically in the process of identification and exploitation in Thailand. The lack of prior study of entrepreneurial opportunity in the Thai context also stresses the need for inductive exploratory research on the topic.

1.4 Research questions and objectives

1.4.1 Research questions

1) Opportunity identification

1.1 How do innovative entrepreneurs in a food VCH identify opportunity?

1.2 Why do innovative entrepreneurs identify opportunity?

2) Opportunity exploitation

2.1 How do innovative entrepreneurs in a food VCH exploit the identified opportunity?

2.2 Why do innovative entrepreneurs exploit the identified opportunity?

3) What are the differences or similarities in the opportunity identification and exploitation process between entrepreneurs operating in an agro-food VCH?

3.1 What are the differences or similarities between entrepreneurs owning small, medium and large businesses?

3.2 What are the differences or similarities between entrepreneurs in different sub-VCHs in a food VCH?

3.3 What are the differences or similarities between entrepreneurs playing different roles in a VCH?

4) What are the roles of supporting agencies (e.g., government agencies and research institutes) during the process of opportunity identification and exploitation?

1.4.2 Research aims and objectives

This research aims to explore the opportunity identification and exploitation process of entrepreneurs in the context of a Thai food VCH. To achieve these aims, the study was guided by the following objectives:

1. To understand how and why entrepreneurs identify and exploit opportunity.

2. To explore the factors that influence entrepreneurs' opportunity identification and exploitation process.
3. To investigate the differences in opportunity identification and exploitation among entrepreneurs with different profiles.
4. To explore the roles of supporting agencies in the process of opportunity identification and exploitation.

1.5 Structure of the thesis

Chapter 2 - Research Context: This chapter discusses the context of the research: Thailand. It highlights the importance of entrepreneurship and innovation for Thailand and how Thailand is an interesting context for entrepreneurship study. The recent national development plan is discussed to highlight how entrepreneurial activities could contribute to the country's prosperity. This will show why entrepreneurship research undertaken in the Thai context is significant. The more specific context of the food industry is also presented in the chapter to underline the context of the entrepreneurial process focused upon in this study.

Chapter 3 - Literature Review: This chapter contains a systematic literature review as a starting point for reviewing the existing literature in the realm of entrepreneurial opportunity. It progresses to discussion of the current research regarding the entrepreneurial opportunity process, particularly in terms of opportunity identification and exploitation. The chapter explores the development of entrepreneurship research and identifies research gaps in the field.

Chapter 4 - Methodology: This chapter shows how the study was conducted. It starts by presenting the philosophical paradigm and research ethic that underpin this study. It continues by discussing the research design, which was exploratory qualitative research that involved quantitative data at the quantising level. It then discusses the process of the data collection, including the techniques and strategies used for collecting the data. A later section explains the data analysis process, including the inductive coding and score calculation for the ranking system. The chapter then discusses the qualities of the research i.e., the validity, reliability, triangulation, generalisation and limitations of the study.

Chapter 5 - Results (opportunity identification): This chapter provides answers to the key research questions of how and why entrepreneurs identify opportunity. It also attempts to demonstrate the

differences in the opportunity identification process of entrepreneurs operating in a VCH. Entrepreneurs are categorised according to their firm size, sub-VCH and actor roles in the VCH. The results reveal dissimilar processes of opportunity identification between these groups of entrepreneurs and the rationale behind the phenomenon.

Chapter 6 – Results (opportunity exploitation): This chapter answers the questions regarding opportunity exploitation process. It illustrates that the key factors that entrepreneurs consider when discussing their opportunity exploitation. Then, the chapter exhibits comparative discussion on how entrepreneurs in different groups (categorised by the same criteria as in Chapter 5) exploit opportunity.

Chapter 7 - Results (roles of supporting agencies): This chapter displays the function of supporting agencies in the process of opportunity. It shows how the agencies provide help and support to the entrepreneurs. Apart from entrepreneurs' viewpoints, the chapter shows experts' standpoints on supporting programmes/policies that are actually in place to assist entrepreneurs.

Chapter 8 - Conclusion: The final chapter illustrates the process of opportunity identification and exploitation and the similarities and dissimilarities among different types of entrepreneur. It also shows how this research contributes to the knowledge in the entrepreneurship field, particularly the topic of entrepreneurial opportunity. Recommendations for policy makers and suggestions for further entrepreneurship research are also presented in this chapter.

The next chapter focuses on the context of Thailand where this entrepreneurship study take place.

Chapter Two: Research context – Thailand

The aim of this chapter is to illustrate the significance of Thailand as a context for this study. This chapter shows how the country offers an interesting context for entrepreneurship study. It then provides an overview of entrepreneurship situation in Thailand. The further section focuses on food industry which is crucial for many Thais in both economic and societal aspects.

2.1 Why entrepreneurship research in Thailand?

Country transformation: Escaping the middle-income trap

As global context is changing and the country has strong ambition to upgrade the country from a developing country to be a developed country. The Thai government has initiated the first long-term national development plan called “20-year National Strategy (2018-2037)”. Its key objective is to transform Thailand into a developed country (NESDB, 2017b). Together with this plan, other crucial development plans such as the 12th National Economic and Social Development Plan (2017-2021) and the latest government initiative “Thailand 4.0” are also key roles in this national reform, where innovation is crucial for the development of every aspect (NESDB, 2017a).

According to the master plan, competitive enhancement is one of the vital strategies to uplift economic growth. It consists of 3 major objectives which are 1) applying its variety of natural resources and its unique culture with technology and innovation for modern economic and global context, 2) improving infrastructures for country development in different aspects e.g. telecommunication and transportation, technology science and digital infrastructure, including upgrading enabling factors for future industry and service. And 3) creating new value for the future through enhancing Thai entrepreneurs’ competencies and transform business model to meet the market’s needs (NESDB, 2017b). Entrepreneurs are, therefore, one of the key players taking part in this country transformation. Entrepreneurial activities and society are expected to trigger economic growth and also reduce economic inequality and poverty.

Thailand was said to be an efficiency-driven economy (GEM, 2018). It used to have competitive advantages of low-cost production and low cost of labour. However, these advantages no longer exist. While it has lost these competitive advantages but the economy has not advanced to be

innovation driven stage of economic growth, Thailand has been struggling with middle-income trap¹ for decades, so the recent government initiates Thailand 4.0 policy, an economic development model to drive country's competitiveness (Ministry of Industry, 2016). By adding creativity, innovation, technology, and R&D to Thailand's existing competitive advantages, which are bio-diversity and cultural diversity, the model expects to shift the country to value-based and innovation-driven economy. Thailand aims for generating higher income in order to get out-off middle income range through more innovative economic activities. Following the master plan and government policy, the ministry of industry has announced food industry as one of target industry for Thailand's economic revolution (Ministry of Industry, 2016).

Country profile

Thailand is a developing country of more than 66 million people (DOPA, 2019). It is situated in southeast Asia. It covers an area of 514,000 square kilometres and is bordered by Laos, Myanmar Cambodia and Malaysia. The country consists of 76 provinces. It is divided into 6 regions, which are North, East, North East, West, Central and South.

Table 2-1:Fact about Thailand (BOT, 2019)

Population (2017)	66.19 million
Literacy Rate	98%
GDP (2018)	US\$505 billion (around 407.78 billion GBP)
GDP per capita (2018)	US\$7,445.4 (around 6012.12 GBP)

¹ Middle-income trap refers to the situation in which a country is *“unable to compete with low income, low wage economies in manufacturing exports and unable to compete with advanced economies in high skill innovations. Put another way, such countries cannot make a timely transition from resource-driven growth, with low cost labor and capital, to productivity-driven growth”* (p.34) ADB (2011) *Asia 2050: Realizing the Asian Century*. Manila, Philippines: The Asian Development Bank (ADB).

GDP growth (2018)	4.1%
Minimum Wage	308 - 330 Baht/day (around 7.8 – 8.3 GBP/day)
Currency	Thai baht
Exchange rate	£1 = 39.46 baht (June 2019)

2.2 Entrepreneurship in Thailand

As Thailand is under transitory time to upgrade its economy, it is categorized as efficiency-driven economy where the economy is more competitive with higher production efficiency that deliver good quality of products (GEM, 2018). Illustrated by Figure 2-1, Thailand has high rate of total early-stage entrepreneurial activities (TEA) at over 17% of adult population, except year 2015. In 2017, Thailand has high entrepreneurship rate where more than 21% of adult population involves in early-stage entrepreneurial activities and 15.18% of adult population engage in established business ownership (GEM, 2018). However, in 2018, the TEA figure was slightly lower than the previous year, whereas the number of established businesses increased from 15.18% in 2017 to 19.58% in 2018. This could show a sign of sustainable growth for former TEA that fed into a category of established business after 42 months since the start of businesses.

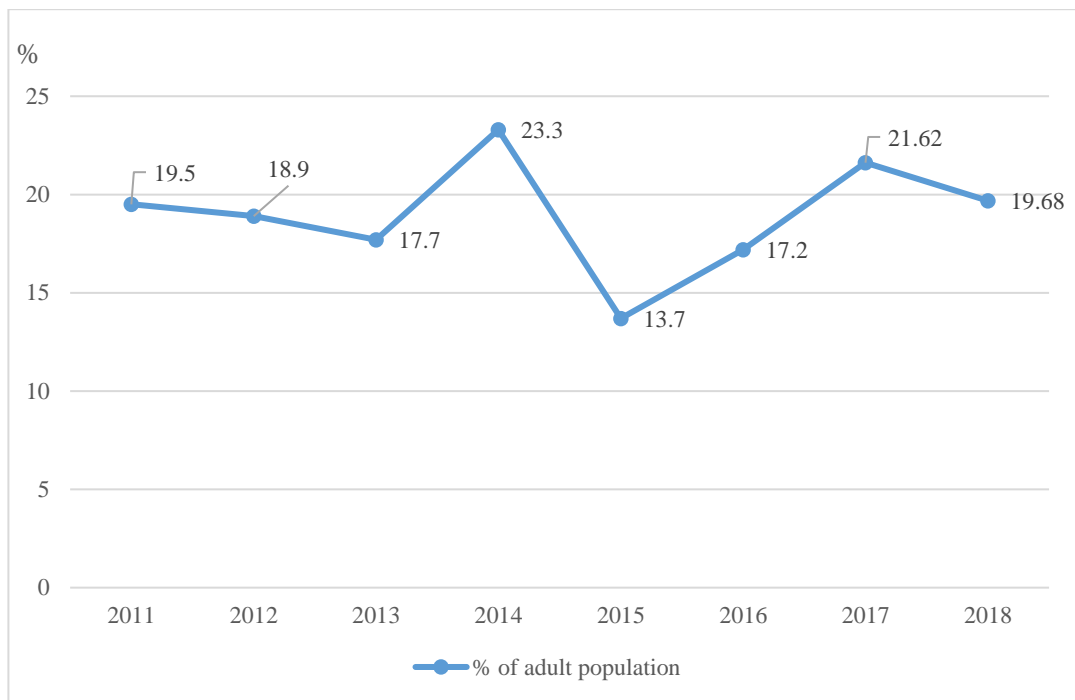


Figure 2-1: Total early-stage entrepreneurial activity in Thailand 2011 – 2018 (Guelich,2017 and GEM, 2019)

In comparison to average entrepreneurship of countries in each development phase, Thailand has shown high rate of entrepreneurial activities showing vital roles of entrepreneurship in its economy. The average Thai TEA rate from 2011 – 2018 (shows in Figure 2-1) is 18.95% of adult population, which is higher than average TEA rate in other countries as presented in Figure 2-2 below.

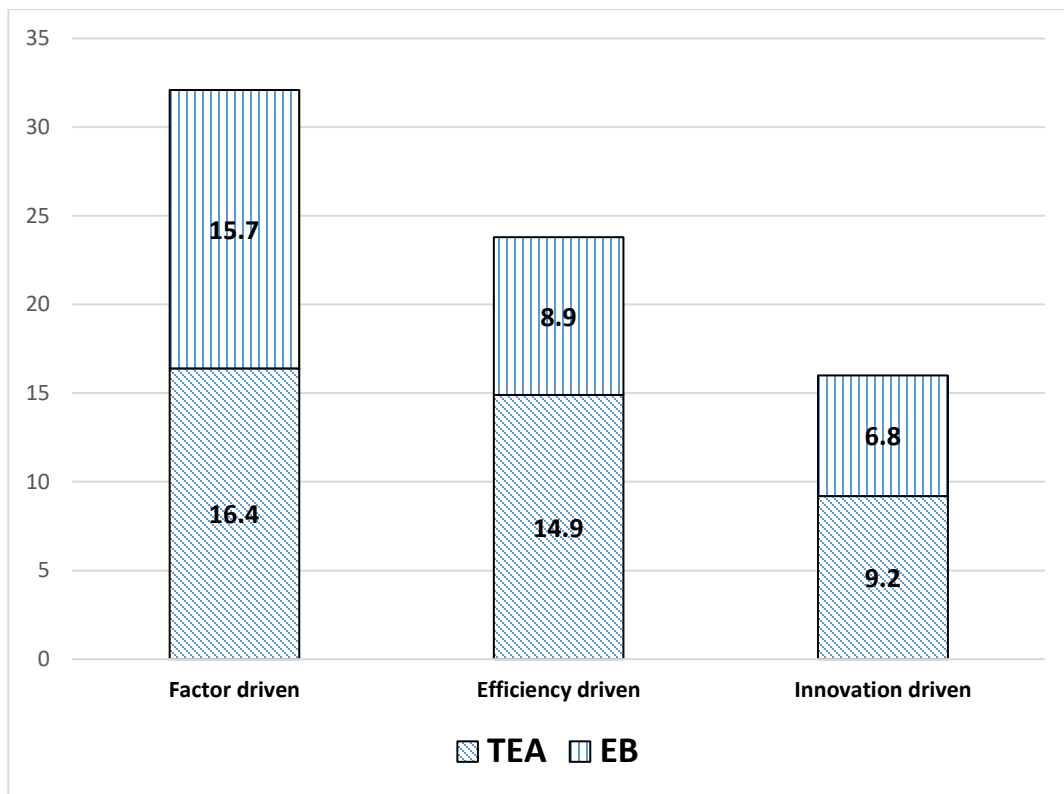


Figure 2-2: Development phase averages for total early-stage entrepreneurial activities (TEA) and established business ownership (EB) in 54 countries (GEM, 2018)

Another entrepreneurship indicator is established business ownership rate. The rate in Thailand has fallen in the past few years as presented in Figure 2-3 below. One possible explanation is higher rate of business discontinuance. In 2017, business discontinuance rate raised to 9% from 4% in 2014 (Guelich, 2018). Majority of established-business owner who stop running business were women entrepreneurs with low level of education.

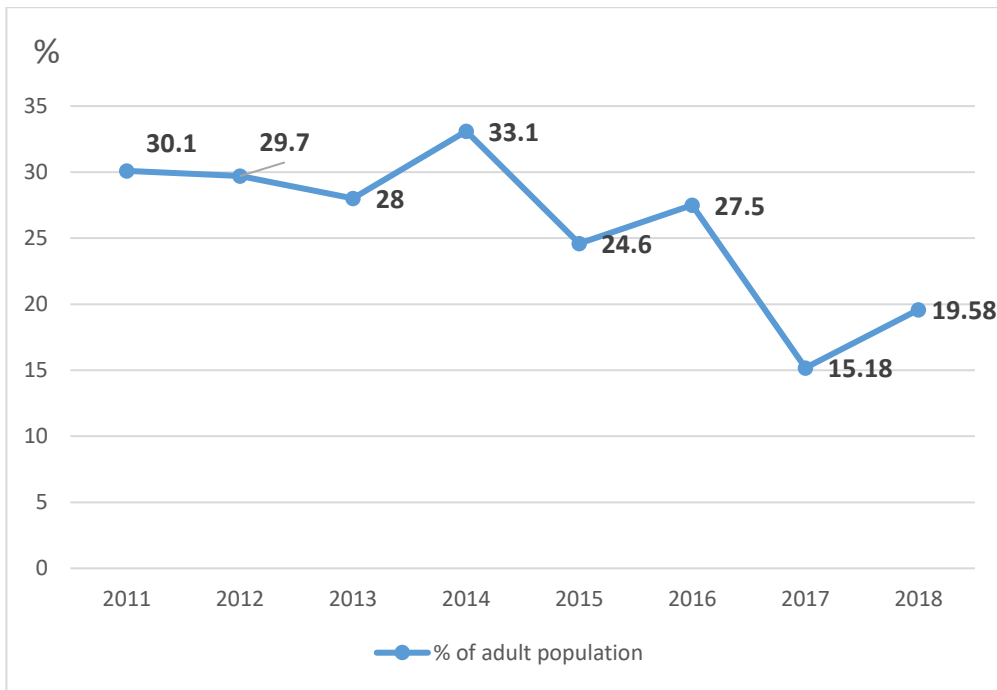


Figure 2-3: Established business ownership rate in Thailand 2011 – 2018 (Guelich, 2017 and Guelich, 2018)

In Thailand, the majority of the enterprises are small and medium enterprises. The definition of Thai SME can be described as the following criteria shown in Table 2-2.

Table 2-2: Thai SME definition according to Small and Medium Enterprises Promotion Act, B.E. 2545

Industry	Small enterprise		Medium enterprise	
	No. of employees	Value of assets	No. of employees	Value of assets
Manufacturing Industry	≤ 50	≤ 50m. THB (≤ 0.95m. GBP)	51 – 200	more than 50m. – 200m. THB (more than 0.95m. – 3.81m. GBP)
Wholesale Industry	≤ 25	≤ 50m. THB (≤ 0.95m. GBP)	26 - 50	more than 50m. – 100m. THB (more than 0.95m. – 1.9m. GBP)
Retailing Industry	≤ 15	≤ 30m. THB (≤ 0.57m. GBP)	16 - 30	more than 30m. – 60m. THB (more than 0.57m. – 1.14m. GBP)
Service Industry	≤ 50	≤ 50m. THB (≤ 0.95m. GBP)	51 – 200	more than 50m. – 200m. THB (more than 0.95m. – 3.81m. GBP)

* Land cost is not included in assets

**Exchange rate of 52.48 THB/GBP (Bank of Thailand, 19 May 2016)

According to the Office of Small and Medium Enterprise Promotion, in 2018, there were 3,077,822 SMEs (out of 3,084,291 total enterprises in the country) or 99.79% of overall enterprises in the country (OSMEP, 2019). 99.5% of Thai SMEs was small sized enterprises, while 0.5% of them were medium size. Numbers of employment in Thailand was around 16 million employees. There were only 2.3 million people employed in large enterprises, while the other 13.9 people were employed by SME sectors. These SME could be categorized by the establishment types which were juristic

status (23.03% of total SME), private and other types of SME (74.26%) and community enterprise (2.7%).

In 2018, Thai SME contributed 43 % of country GDP. The contribution of SME in the country GDP has increased continuously showing its significance to Thai economy as presented in Figure 2-4.

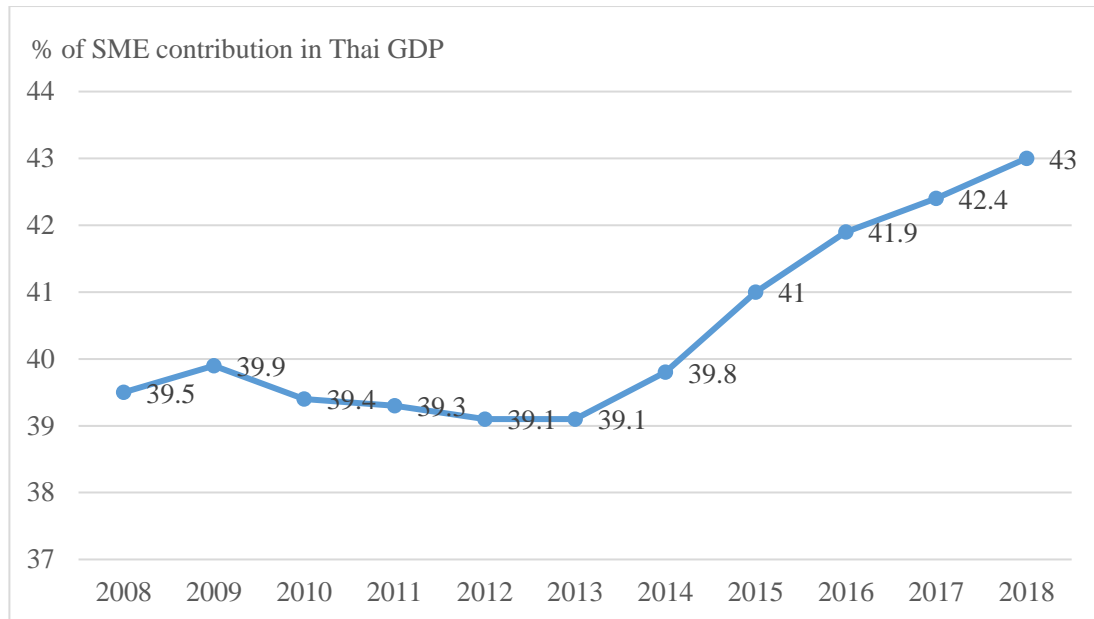


Figure 2-4: SME contribution in Thai GDP in 2011-2018 (OSMEP, 2019)

Considering the GDP growth, SME GDP had higher growth than country GDP as showed in Figure 2-5. This illustrates an increasing importance of SME on economy growth.

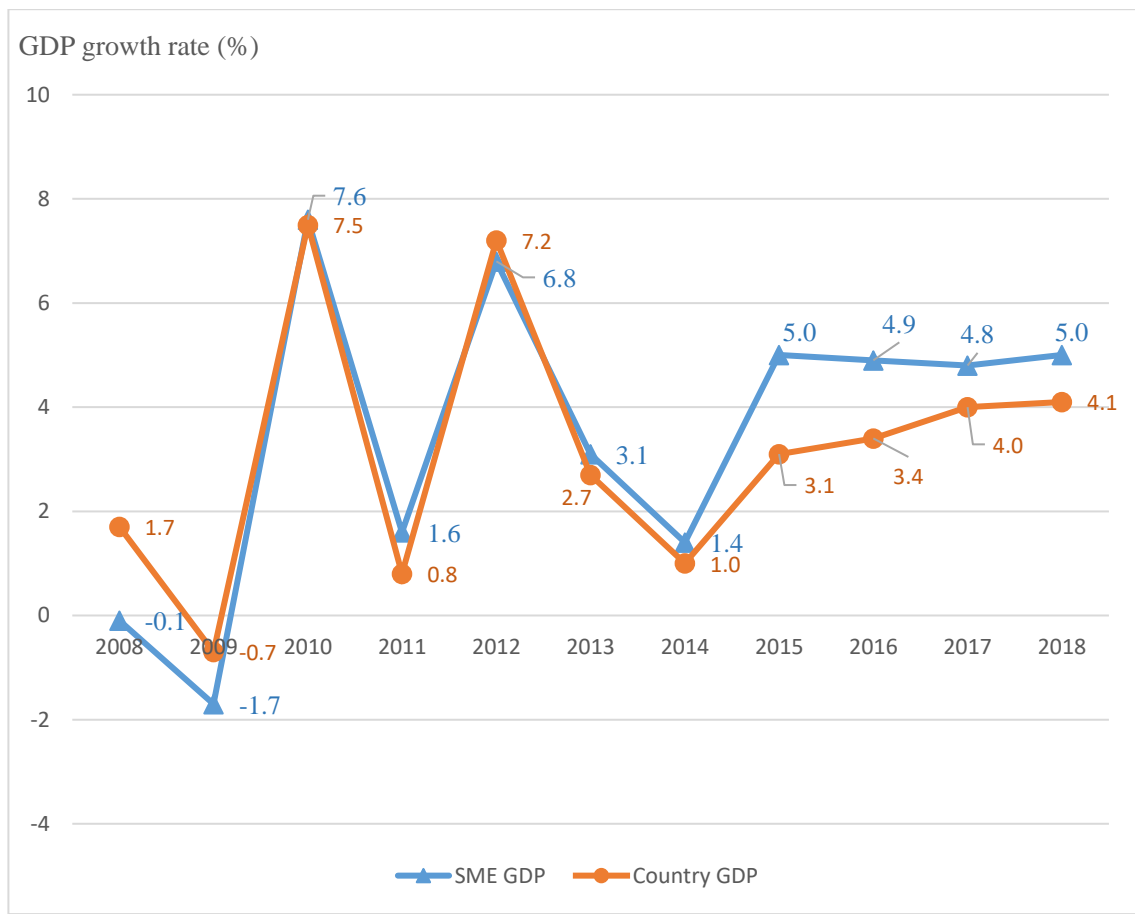


Figure 2-5: Growth rate of Thai GDP and Thai SME GDP in 2008 – 2018 (OSMEP, 2019)

2.3 Thai food industry

The food industry is significant to the Thai economy and its society as it is closely linked to the agricultural sector where the majority of Thai's find a means for living. The food industry is defined as the industry which the main inputs are from the agricultural sector such as farming, livestock, and fishery. These materials would be processed through various technologies and manufacturing procedures in order to produce quality and standardized food for consumers (OIE, 2008). As illustrated by Figure 2-6, the structure of the Thai food industry has covered the whole value chain of food, starting from agriculture, manufacture, and trade, including supporting activities such as R&D and logistics.

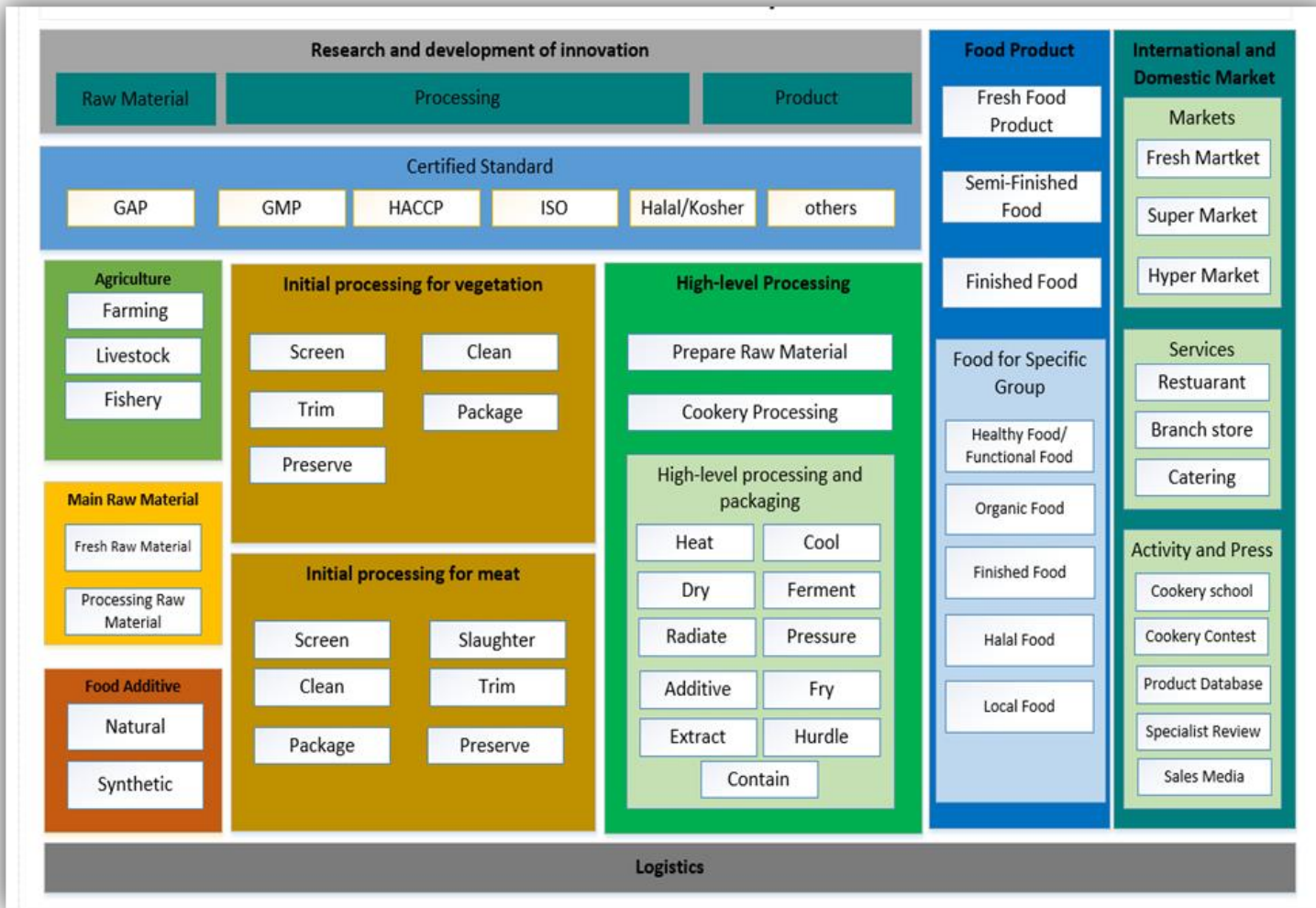


Figure 2-6: The structure of Thai food industry (OIE, 2012)

The food industry is facing a new challenge of a growing number of world population from 7.3 billion people (in 2016) to 9.7 billion people in the next 35 years (Statista, 2019). The increasing numbers introduce a challenge of resource allocation to properly feed higher consumption in the future. Also, the consumer demand is changing. Consumers' lifestyles are moving toward urbanization. More people are living in urban areas. People tend to live longer as a consequence of more advance medical science. Social structure is moving to be an aging society. Consumers look for better quality of life. Food products, therefore, requires to be at good quality and response to more variety of consumer' preferences as the people's lifestyles is changing.

Thailand used to have a competitive advantage of low production cost. However, these advantages are no longer available because of higher wage of workers (showed in Figure 2-7). Besides, as a globalization, there are some international trade laws and regulation that Thailand has to comply with. These requirements urge the need for Thailand to reconsider its former selling point of low-price products. Other developing countries with lower manufacturing cost seem to be more attractive for foreign investment. So, the government has initiated new development model namely "Thailand 4.0" which aims to increase country's competitiveness in the world market. By applying innovation and new technology to the strength of the country, which is natural resources, Thailand expects to restructure food industry to become a value creation economy. This plan is expected to advance Thai economy to be out of middle-income trap and upgrade to high income country. Food industry is selected to be one of the strategic sectors for country's transformation plan as the industry is closely linked to agriculture sector which is a strength of the country (NESDB, 2017b).

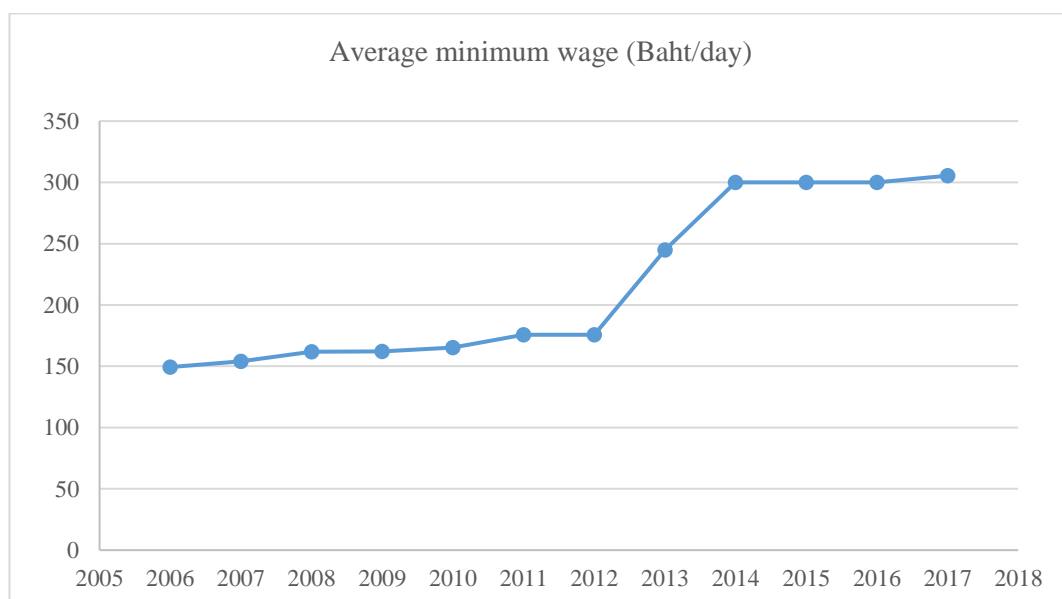


Figure 2-7: Average minimum wage in Thailand from 2006 – 2017

Source: 2006 – 2015 (MOL, 2015) and 2016-2017 (MOL, 2019)

(Exchange rate: 39.2 Baht/ 1 pound, Bank of Thailand as of 27 October 2019)

Food industry is targeted to be more innovative in terms of production process and ended products. Innovation and technology play crucial roles in the development of food sector. As Thailand has less competitiveness of low-cost labour, so the manufacturing technology could take part in labour replacement. Besides, innovation can lead to more variety of products to offer variety of choices for consumers with various needs (NFI, 2016).

2.4 Chapter summary

This chapter has provided an overview discussion on entrepreneurship in Thai context. Entrepreneurship is a crucial tool for country's transformation to become a higher income country. The Thai government, therefore, emphasises on promoting entrepreneurial activities in order to stimulate economic growth. Food industry is one of the key sectors in national strategy as it is crucial for the country in both economic and social aspects. Hence, Thailand has offered an interesting context for a study of entrepreneurial opportunity for this thesis.

The next chapter is going to focus on the literature review, which provides an understanding on opportunity theory underpinning this study and locates the gaps in this research field.

Chapter Three: Literature Review

This chapter starts by explaining an overview of entrepreneurship as a field of research. The section seeks to explain the development of this research realm by demonstrating different definition of entrepreneurship and its key school of thoughts. The chapter then proceeds to explore existing knowledge on entrepreneurial opportunity by using both systematic and conventional approach. The chapter covers a range of topic relating to entrepreneurial opportunity including source and form of opportunity, process of opportunity, opportunity identification, opportunity exploitation, and some factors that influent the process. Further to the entrepreneurial opportunity, the chapter describes a topic of innovation which is the key for entrepreneurs to identify and exploit new opportunity. Then, it is followed by the discussion of the value chain concept which is a unique analysis viewpoint for this entrepreneurship thesis. The chapter ends by illustrating a conceptual framework that guides this thesis and by presenting the research gaps derived from literature review.

3.1 Entrepreneurship research

3.1.1 Definition of entrepreneurship

There is no absolute consensus amongst scholars on a definition of entrepreneurship (Davidsson, 2003; Kirby, 2003; Rosa, 2013; Wiklund et al., 2019). Scholars also hold different points of view regarding the nature of entrepreneurship (Gartner, 1990).

Table 3-1: Definitions of entrepreneurship

Source	Definition
Low & MacMillan (1988)	Entrepreneurship is the <i>“creation of new enterprise”</i> and entrepreneurship research should seek to <i>“explain and facilitate the role of new enterprise in furthering economic progress”</i> (p.141).
Gartner (1989)	<i>“Entrepreneurship is the creation of organizations”</i> (p.47).
Amit et al. (1993)	<i>“the process of extracting profits from new, unique, and valuable combinations of resources in an uncertain and ambiguous environment”</i> (p.816).
Lumpkin & Dess (1996)	<i>“The essential act of entrepreneurship is new entry. New entry can be accomplished by entering new or established markets with new or existing goods or services. New entry is the act of launching a new venture, either by a start-up firm, through an existing firm, or via internal corporate venturing”</i> (p.136).
Wennekers & Thurik (1999)	<i>“Entrepreneurship is the manifest ability and willingness of individuals, on their own, in teams, within and outside existing organizations, to:</i>

	<p>– <i>perceive and create new economic opportunities (new products, new production methods, new organizational schemes and new product market combinations) and to</i></p> <p>– <i>introduce their ideas in the market, in the face of uncertainty and other obstacles, by making decisions on location, form and the use of resources and institutions.” (p. 46-47)</i></p>
Shane & Venkataraman (2000)	“ <i>the field involves the study of sources of opportunities, the processes discovery, evaluation, and exploitation of opportunities and the set of individuals who discover, evaluate and exploit them” (p.218).</i>
Alvarez & Busenitz (2001)	“ <i>we argue that entrepreneurship is about cognition, discovery, pursuing market opportunities, and coordinating knowledge that leads to heterogeneous outputs” (p.757).</i>
Shane (2003)	“ <i>Entrepreneurship is an activity that involves the discovery, evaluation and exploitation of opportunities to introduce new goods and services, ways of organizing, market, processes, and raw materials through organizing efforts that previously had not existed” (p.4).</i>
Brush et al. (2003)	“ <i>creation (of new ventures and organizations, new combinations of goods and services, etc.). Such creation might occur at multiple levels of analysis (individuals and teams, new ventures and organizations, etc.) and in a wide variety of contexts (new ventures and organizations, existing corporations, family businesses, franchises, etc.)” (p.310).</i>
Rindova et al. (2009)	“ <i>efforts to bring about new economic, social, institutional, and cultural environments through the actions of an individual or group of individuals. (p.477).</i>
Parker (2011)	“ <i>Entrepreneurship ... is the act of developing a new venture outside an existing organization” (p.20).</i>
Browder et al. (2019)	“ <i>the action of coordinating resources for commercial projects under uncertainty. This definition aligns with views of entrepreneurship as project-based (Shepherd et al., 2009) and action-oriented (Klein, 2008; McMullen and Shepherd, 2006), where resources are often not directly controlled or owned by founders (Stevenson and Jarillo, 1990)” (p.460).</i>

Table 3-1 shows that some of the previous literature accounted for the creation of new firm as a description of entrepreneurship, such as Low & MacMillan (1988) and Gartner (1989). Later definitions of entrepreneurship, such as those by Lumpkin and Dess (1996) and Brush et al. (2003), show broader explanations, which include the activities undertaken in an existing organisation.

Browder et al. (2019) reveal a contemporary definition of entrepreneurship as being influenced by a modernised context in the world of the internet, the gig economy, and the sharing economy. In the modern world, entrepreneurs may not be the owners of resources, but coordinators who collect the materials needed for production. Their actions are project-based, not a full-time job. For example, individuals may commit to a particular activity for a short period

of time and then change to do something else after finishing that activity. The use of the internet for accessing online resources and digital platforms enables entrepreneurs to connect easily with resources, customers, and the global value chain. Although there are a number of entrepreneurship definitions, there is a growing consensus that entrepreneurship is *“the process through which new economic activities and organizations come into existence”* (Davidsson, 2015).

Recent literature, such as Fotopoulos & Storey (2019), holds a viewpoint that distinguishes between SMEs and entrepreneurship. The literature urges the point that entrepreneurship policy should focus on the creation of a new enterprise, while SME policy should emphasise existing small and medium size firms. This shows that some entrepreneurship scholars stress the definition of entrepreneurship as the creation of new enterprise. However, this is not always the case, as some individuals believe that entrepreneurship does not necessarily only occur in the creation of a new firm (Kirby, 2003). Most of the later definitions are broader in their explanations, as shown in Table 3-1. They account for entrepreneurial action as that which can occur inside or outside an existing organisation.

Entrepreneurs are *“economic actors who seek to exploit opportunities in the pursuit of wealth creation”* (Alvarez et al., 2013, p.302). Entrepreneurs are believed to be distinct from the other individuals in that they are able to realise opportunities that cannot be perceived by other people (Casson & Giusta, 2007). Casson (1982) describes an entrepreneur as *“someone who specializes in taking judgemental decisions about the coordination of scarce resources”* (p.23). According to this definition from Casson (1982), entrepreneurs differ from other people as they may have a wider vision of a situation. They could also possess more of the information required to respond to a certain situation, so are able to take a higher risk.

Since the definition of entrepreneurship and entrepreneur varies depending on different scholars' standpoints, it is important that researchers clarify the meaning of the terms used in their studies (Gartner, 1990). This research regards entrepreneurship as a process of identifying and exploiting opportunity that is induced by innovation, whether it be a new product/service, process, or market. The entrepreneurs who participated in this research are actors in entrepreneurial activities, able to identify potential opportunities and exploit them. Their actions may take place in an established organisation or in one that is newly formed.

According to Shane (2003), entrepreneurship is an interdisciplinary field of study that requires a variety of knowledge domains, including economics, psychology, organisation management, technology management, finance, strategy and public policy, in order to conceptualise its

framework. As shown in Figure 3-1, Shane (2003) illustrates that entrepreneurial opportunity requires explanations from different disciplines to form and support the phenomenon.

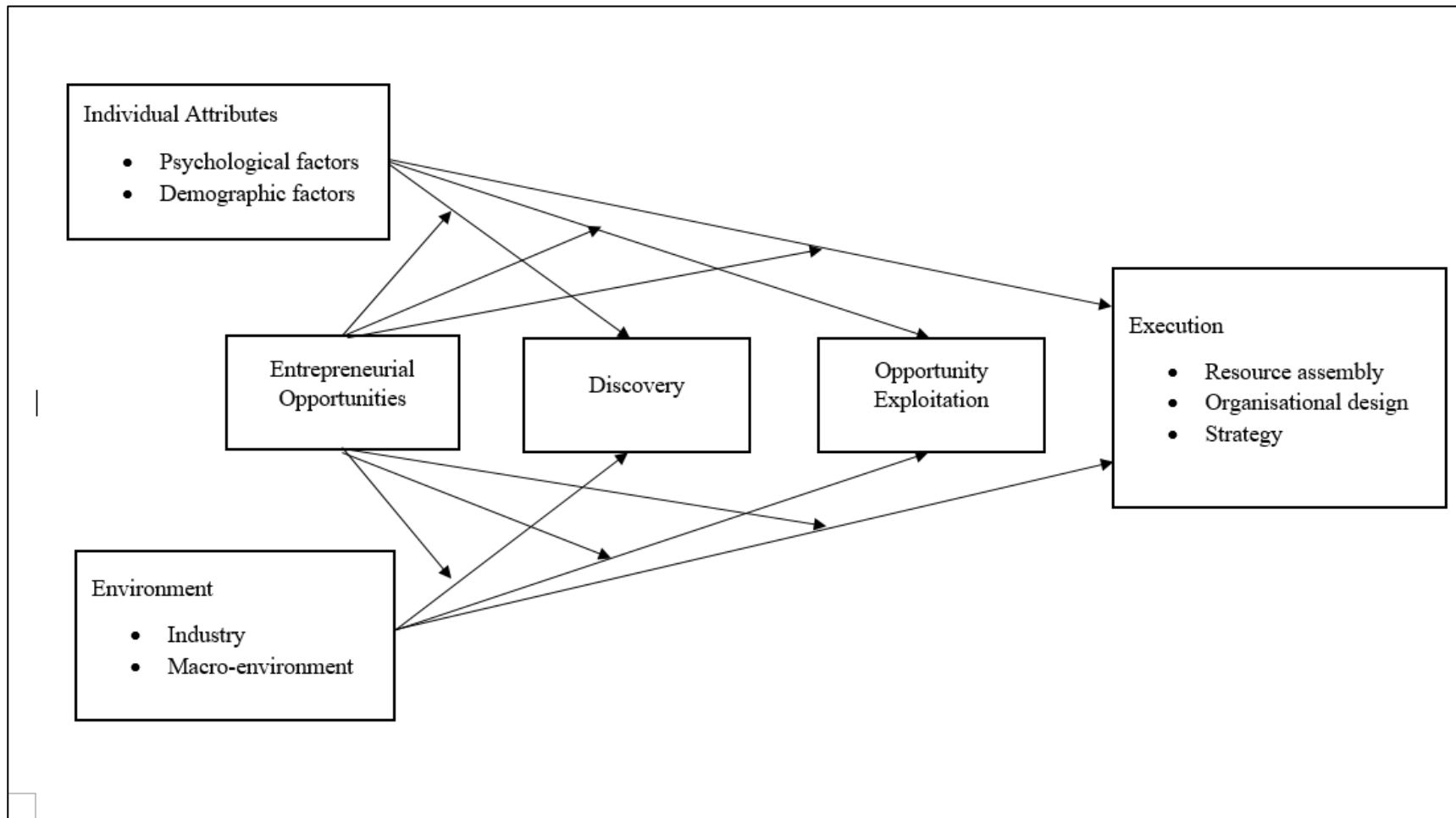


Figure 3-1: Model of the entrepreneurial process (Shane, 2003)

Entrepreneurial opportunity has been recognised as a unique area of entrepreneurship research (Shane & Venkataraman, 2000). Shane (2003) defines entrepreneurial opportunity as “a situation in which a person can create a new means-ends framework for recombining resources that the entrepreneur believes will yield a profit” (p.18). Thus, an entrepreneurial process needs innovation, regardless of innovation degree. Innovation does not need to be absolutely new to the world; what Schumpeter (1934) describes as disruptive innovation. It could be a milder version of innovation, described by Kirzner (1997) as a recombination of resources. The entrepreneur makes a judgement-based decision to organise opportunity, either by the creation of a new firm or the use of a market mechanism.

3.1.2 Schumpeterian versus Kirznerian viewpoints

There are two main schools of thought that seek to explain where opportunities come from: Schumpeterian and Kirznerian (Shane, 2003). As illustrated in Table 3-2, Schumpeterian opportunities come from the creation of new information, particularly new technology. A new development leads to a radical innovation that was not generally seen in the market previously. It creates creative disruption, moving the market away from its equilibrium. Opportunity in the Schumpeterian view is created by entrepreneurs who take advantage of a new technology to make a profit (Buenstorf, 2007). On the other hand, Kirznerian opportunities are originated by information asymmetries, as entrepreneurs are able to access dissimilar levels of information. The Kirznerian standpoint believes that entrepreneurs discover an opportunity that is hitherto unexploited. That means the opportunity exists in the market, even without entrepreneurial action. In the Kirznerian school, opportunity waits to be noticed by an entrepreneur who is alert to it. The emergence of Kirznerian opportunities, as opposed to Schumpeterian, equilibrate the market (Casson et al., 2006). Shane (2003) observes that, in the Kirznerian school, entrepreneurial opportunity does not necessarily need to be new to the world; simply new to the entrepreneur’s perception. It could be a re-organisation of resources, such as creating a new recipe or rearranging teams of employees for better service. Table 3-2 illustrates the differences between the two viewpoints of opportunity.

Table 3-2: Schumpeterian versus Kirznerian opportunities (Shane, 2003)

Schumpeterian opportunities	Kirznerian opportunities
Disequilibrating	Equilibrating
Require new information	Do not require new information
Very innovative	Less innovative
Rare	Common
Involve creation	Limited to discovery

3.2 Systematic review of the literature on entrepreneurial opportunity

This study employed a systematic literature review (SLR) as a process for reviewing existing studies. The process aims to increase reliability and reduce researcher bias by applying a systematic procedure to explore current literature (Adolphus, 2015). The approach also helps to highlight research gaps within a field of study. The papers obtained through the SLR process will guide the author to explore the existing literatures. However, SLR is not the approach applying to this thesis. The researcher also explored relevant literatures by applying conventional method of literature review, such as a specific search based on the references in a paper and a search conducted on a particular subject. The search was also extended to cover other types of publication, including books and theses.

This section will be specifically discussing the results derived from SLR process. The methodology aspect of the process will be presented later in the chapter of methodology.

3.2.1 Articles categorised by year of publication

As discussed by a number of scholars, e.g., Bruyat & Julien (2001) and Miller (2011), entrepreneurship research has become popular in the 21st century due to its significance in economic development. In the current study, the SLR process identified the growing trend of entrepreneurial opportunity research, as shown in Figure 3-2. The articles categorised by publication period show that, after 2000, this research topic received attention from many scholars, as illustrated by the rising number of papers. This is particularly the case in the recent years of 2012-2017, as the number is almost double that of the previous period. These numbers represent the popularity of entrepreneurial opportunity amongst researchers.

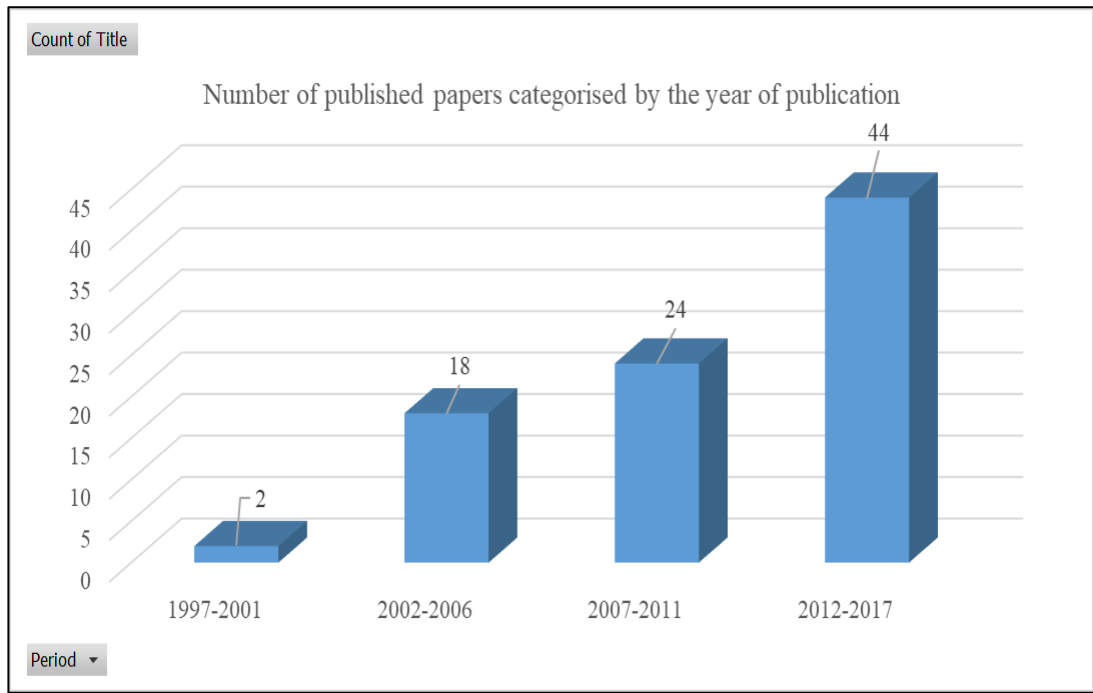
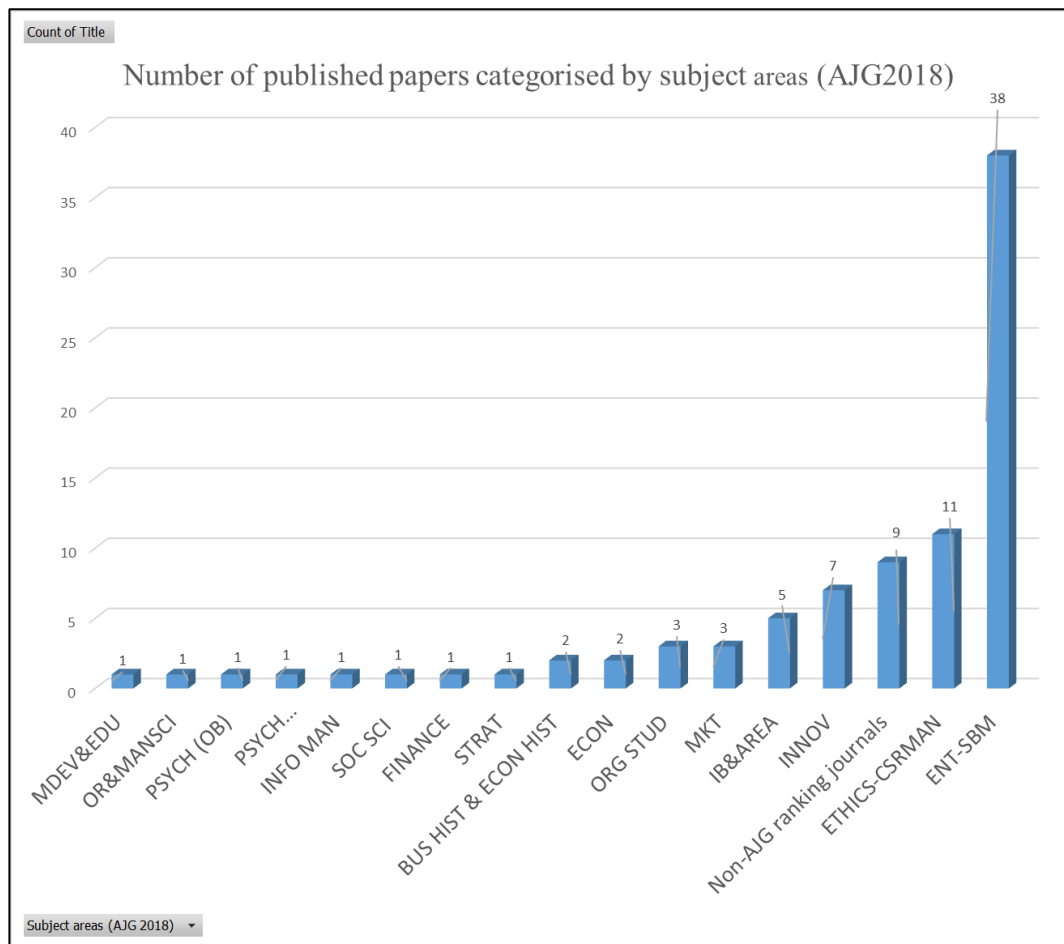


Figure 3-2: Number of published papers categorised by the year of publication

3.2.2 Articles categorised by subject area (according to AJG2018)

The 88 articles considered for further analysis were grouped by the subject areas of the journals in accordance with the Academic Journal Guide (AJG) 2018. Nine of the 88 papers, indicated as Non-AJG ranking journals in the figure, could not be grouped into subject areas because the journals were not recognised in the AJG 2018 list.



BUS HIST & ECON HIST	Business and Economic History
ECON	Economics, Econometrics and Statistics
ENT-SBM	Entrepreneurship and Small Business Management
ETHICS-CSRMAN	General Management, Ethics and Social Responsibility
FINANCE	Finance
IB&AREA	International Business and Area Studies
INFO MAN	Information Management
INNOV	Innovation
MDEV&EDU	Management Development and Education
MKT	Marketing
OR&MANSCI	Operations Research and Management Science
ORG STUD	Organisation Studies
PSYCH (OB)	Psychology (Organisational)
PSYCH(GENERAL)	Psychology (General)
SOC SCI	Social Sciences
STRAT	Strategy

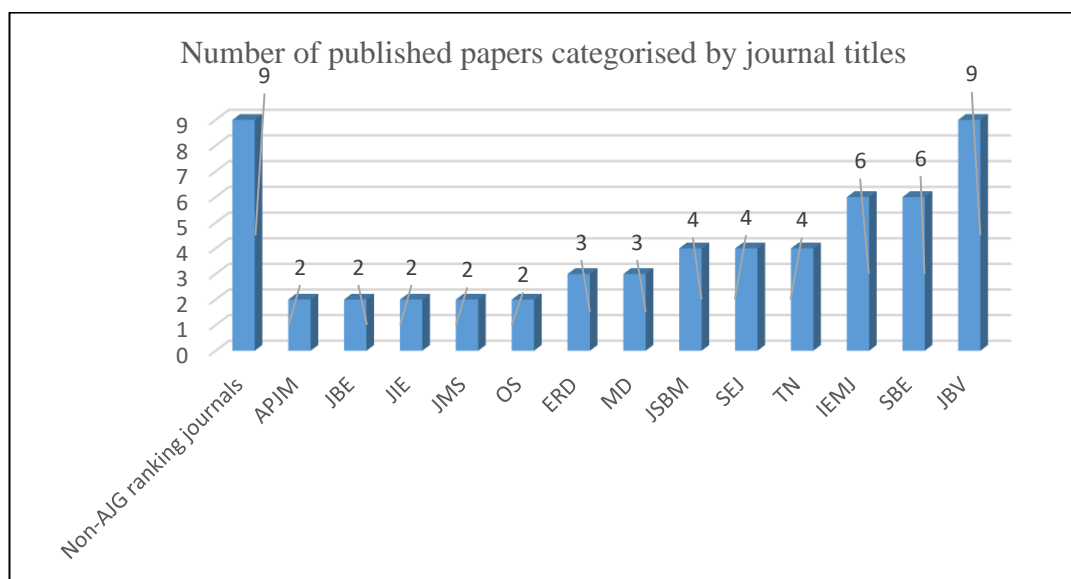
Figure 3-3: Number of published papers categorised by subject areas

Figure 3-3 shows that the highest number of works were published in ENT-SBM. This should not be a surprise, since entrepreneurial opportunity was expected to be a unique theme that would differentiate entrepreneurship from other relevant topics, such as management, business administration and innovation. However, the data reveal that this research focus is also found in a variety of journals other than those that cover the subject of entrepreneurship. Although

other subject areas contain a smaller number of articles, some of those papers have been influential. For example, Alvarez et al. (2013); Baron & Ensley (2006); Shane (2000) were published in OR&MANSCI subject areas, and Baron (2006); Choi & Shepherd (2004) were published in ETHICS-CSRMAN. As a result of applying broad inclusion criteria to include peer-reviewed journals from different subject areas, the researcher was able to identify some well-known works on entrepreneurial opportunity.

3.2.3 Articles categorised by journal

When considering the journal titles, as shown in Figure 3-4 the six highest numbers mostly apply to journals publishing in the entrepreneurship and small business management category. TN (*Technovation*) seems to be the only journal amongst the leaders that comes from another discipline: innovation. This suggests that innovation scholars have also been interested in entrepreneurial opportunity.



APJM	Asia Pacific Journal of Management
ERD	Entrepreneurship and Regional Development
IEMJ	International Entrepreneurship and Management Journal
JBE	Journal of Business Ethics
JBV	Journal of Business Venturing
JIE	Journal of International Entrepreneurship
JMS	Journal of Management Studies
JSBM	Journal of Small Business Management
MD	Management Decision
OS	Organization Science
SBE	Small Business Economics
SEJ	Strategic Entrepreneurship Journal
TN	Technovation

Figure 3-4: Number of published papers categorised by journal title

3.2.4 Citation report

Citation reports show how many times papers are cited. Figure 3-5 shows the total number of citations papers have gained since they were first published. The average number of citations per year shows how many times a paper has been cited each year. The latter helps to reduce the limitation that recent papers that might be popular have not yet gained many accumulated citation statistics because of the short time they have been in circulation.

The five most highly cited papers are the same as those among the top five for average citations per year. These papers were a mix of conceptual and empirical works that offer knowledge on prominent factors in entrepreneurial opportunity, such as prior knowledge, social capital, cognition/personality traits, alertness and systematic search (George et al., 2016). The work by Alvarez et al. (2013) is the most recent article in this list. Their work quickly drew attention from scholars, as indicated by the high number of citations, despite being comparatively new.

However, some recent papers may have been omitted from the list of the highest number of citations due to their short time in existence. The second list of average citations per year provides an opportunity for new papers with a fast-growing number of citations to show their popularity. As shown in the right-hand side of the figure below, some new articles are included in the list, e.g., Karimi et al. (2016); Suddaby et al. (2015); Welpel et al. (2012). Some of these recent works shared an interest in the integration between opportunity discovery and opportunity creation perspectives, such as Alvarez et al. (2013); Pacheco et al. (2010); Zahra (2008). This aligned with the projection by Short et al. (2010) that the direction of entrepreneurial opportunity research would move towards the middle ground proposition of discovery and creation perspectives.

Authors	Accumulated total citations	Authors	Average citations per year
Shane (2000)	1634	Shane (2000)	81.7
Ardichvili et al. (2003).	843	Ardichvili et al. (2003).	49.59
Galio and Katz (2001)	462	Baron and Ensley (2006)	30.5
Baron and Ensley (2006)	427	Baron (2006)	26.79
Baron (2006)	375	Galio and Katz (2001)	24.32
Choi and Shepherd (2004)	222	Alvarez et al. (2013)	20
Ucbasaran et al. (2008)	221	Ucbasaran et al. (2009)	19.36
Corbett (2007)	214	Ucbasaran et al. (2008)	18.42
Ucbasaran et al. (2009)	213	Corbett (2007)	16.46
DeTienne and Chandler (2004)	203	Suddaby et al. (2015)	14
Zahra et al. (2005)	190	Choi and Shepherd (2004)	13.88
Klein (2008)	157	Klein (2008)	13.08
Alvarez et al. (2013)	140	DeTienne and Chandler (2004)	12.69
Sine and David (2003)	117	Zahra et al. (2005)	12.67
Pachec et al. (2010)	113	Pacheco et al. (2010)	11.3
Vaghely and Julien (2010)	100	Welpe et al. (2012)	10.88
Dyer et al. (2008)	98	Karimi et al. (2016)	10.75
Zahra (2008)	97	Vaghely and Julien (2010)	10

Figure 3-5: Popular papers with high accumulated total citations and average citations per year

3.3 Entrepreneurial opportunity

Opportunities take place when market actors, buyers and sellers possess different information about prices. Individuals might not realise that they can sell or buy a product at a better price in the market, which is caused by information asymmetry (Kirzner, 1973). Some scholars define entrepreneurial opportunity as a situation in which new products or services are introduced through new means, new ends, or new means-ends relationships, rather than by simply maximising resources within the existing means-ends (Eckhardt & Shane, 2003; Kirzner, 1997; Shane & Venkataraman, 2000; Vaghely & Julien, 2010a).

Casson (1982) added the point of profitability to an entrepreneurial opportunity definition, in that it is a situation in which a new product can be sold at a higher price than its production cost. This was, however, criticised by McKelvie & Wiklund (2004) in that the definition ignores the impact of uncertainty, which may lead to an unprofitable opportunity. Furthermore, the term “opportunity” can also describe the range of phenomena that run from being unformed to being more developed with time (Ardichvili et al., 2003). Baron (2006) suggested that entrepreneurial

opportunity consists of three characteristics: economic value (e.g., the potential to make profit); newness (e.g., a new product, new service, or new technology); and perceived desirability (e.g., moral and legal acceptability towards a new product/service).

Opportunity is believed to exist in an imperfect market, in which economic actors possess unequal information about resources and other market factors, e.g., diverse information on new technology, transaction costs, and entry barriers. Economic actors hold idiosyncratic knowledge and operate economic activities under imperfect market conditions (Venkataraman, 1997). In this sense, opportunity can be either discovered, created, or other possible formation processes will operate in an imperfect market competition (Alvarez et al., 2013).

Entrepreneurial opportunity is the unique aspect of the entrepreneurship field that distinguishes this research realm from other social science topics (Busenitz et al., 2014; Shane & Venkataraman, 2000). However, it appears that scholars within the field have sometimes struggled to achieve agreement on the core phenomenon of entrepreneurship (Alvarez et al., 2013; Dimov, 2007; Suddaby et al., 2015). The nature of opportunity is debated widely in the entrepreneurship literature but an increase in the number of studies has brought other issues to the fore. For example, different words are used to describe the existence of opportunity, including creation, discovery, recognition, emergence, and identification (Dimov, 2007; Short et al., 2010). Some of the terms are accompanied by a different process, i.e., opportunity discovery and opportunity creation. Therefore, when discussing opportunity, scholars may need to be more specific with regard to the types of opportunity on which they are focusing (Short et al., 2010). Almost 80% of published articles do not present the definition used in the studies (Davidsson, 2015).

The present study considers opportunity as a potentially innovative idea that could develop into a new process, product and/or service. It is expected to offer profit to entrepreneurs in any form, whether it be financial or non-financial returns.

3.3.1 Sources and forms of opportunity

The entrepreneurship literature generally regards opportunity as the recombination of resources to introduce new products and/or services (Shane, 2003). The prominent typology of opportunity raised by Schumpeter (1934) consists of five forms: new products or services, new markets, new materials, new production methods, and new ways of organising. These forms of opportunity come from changes in the supply side (Eckhardt & Shane, 2003).

Only a few items in the literature were identified as addressing types of opportunity (Companys & McMullen, 2007; Shane, 2003). Of these, it appears that most of the literature is based on Schumpeterian opportunity (Hulbert et al., 2013). Following Schumpeter’s typology, Ruef (2002) found that the majority of 766 entrepreneurs who tried to start a new venture mainly sought to enter a new market, introduce new products/services, use a new organising method, or a new production method.

In practice, entrepreneurial opportunity does not need to be the introduction of a new product or service to a market. It could happen at any point in the value chain (Shane, 2000; 2003). A change in demand can also generate opportunities. However, there seems to be a dearth of research concerning a change in demand as a source of opportunity (Eckhardt & Shane, 2003; Hulbert et al., 2013). SME owners/managers utilise experience and networks, which generate an idea for business development for their existing firms (Hulbert et al., 2013). These SME owners perceive a “market opportunity” caused by market dynamics as a source of entrepreneurial opportunity (Figure 3-6).

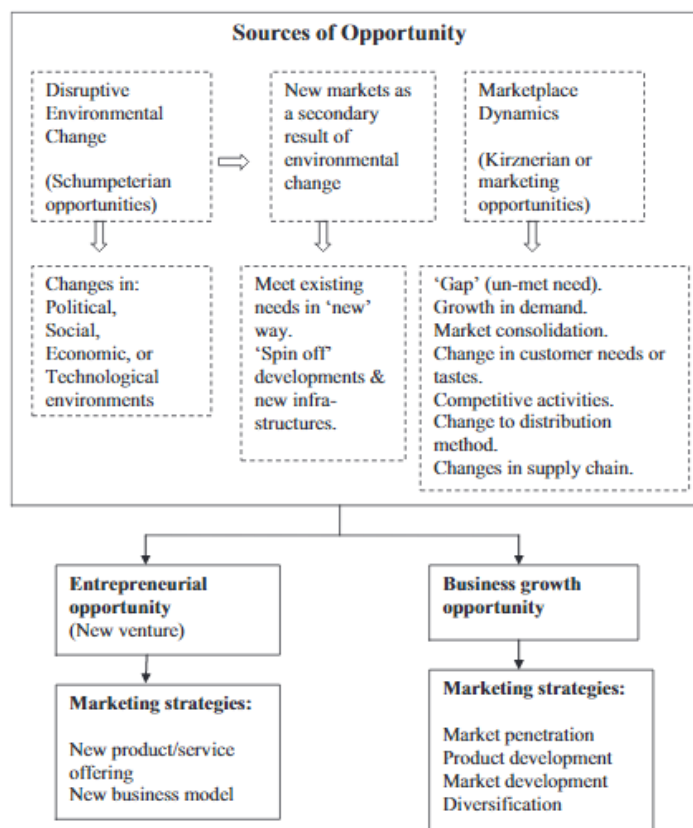


Figure 3-6: Descriptive model: source of opportunities and resulting marketing strategies (Hulbert et al. (2013), p.301)

There are not many studies that have examined the opportunities that are generated outside a change in technology (Eckhardt & Shane, 2003). As Shane (2003) highlighted, entrepreneurial opportunity can occur along the value chain. Some of the opportunity generators could be other actors in an industrial chain, including suppliers and customers. These sources of opportunity seem to have been less widely explored (Eckhardt & Shane, 2003). It appears that little prior research has discussed changes in the entrepreneur's role within the value chain. For example, some entrepreneurs prefer to change their role from being a manufacturer to a brand owner. Moreover, most of the research focuses on entrepreneurial opportunity at a particular point in the value chain, without considering the comprehensive roles of entrepreneurs. To clarify, some entrepreneurs may play several roles in a value chain, such as an entrepreneur acting as a manufacturer, an exporter, or even a supplier for his/her own business at the same time. Entrepreneurial activity is the source of opportunity (Holcombe, 2003); thus, a change in an entrepreneur's role along the value chain can be another source of opportunity, resulting in a new form of opportunity that is rarely discussed in the previous literature.

3.3.2 Process of opportunity

There is a growing number of studies that move away from researching "opportunities themselves" to focusing on the process of forming and exploiting opportunities (Alvarez et al., 2013). For example, Ardichvili et al. (2003) highlighted that entrepreneurship scholars were short of comprehensive understanding of the process of opportunity. There were strong contributions regarding the specific factors that influence opportunity, but only a few of them explained the relationship between those factors. Therefore, their work attempted to provide a comprehensive explanation of the process of entrepreneurial opportunity identification and development in order to advance the understanding of the opportunity process. They explained opportunity development as a multistage process whereby entrepreneurs play proactive roles to identify and develop an opportunity. Their theory of opportunity identification and the development process proposed a continuous proactive process, as shown in Figure 3-7.

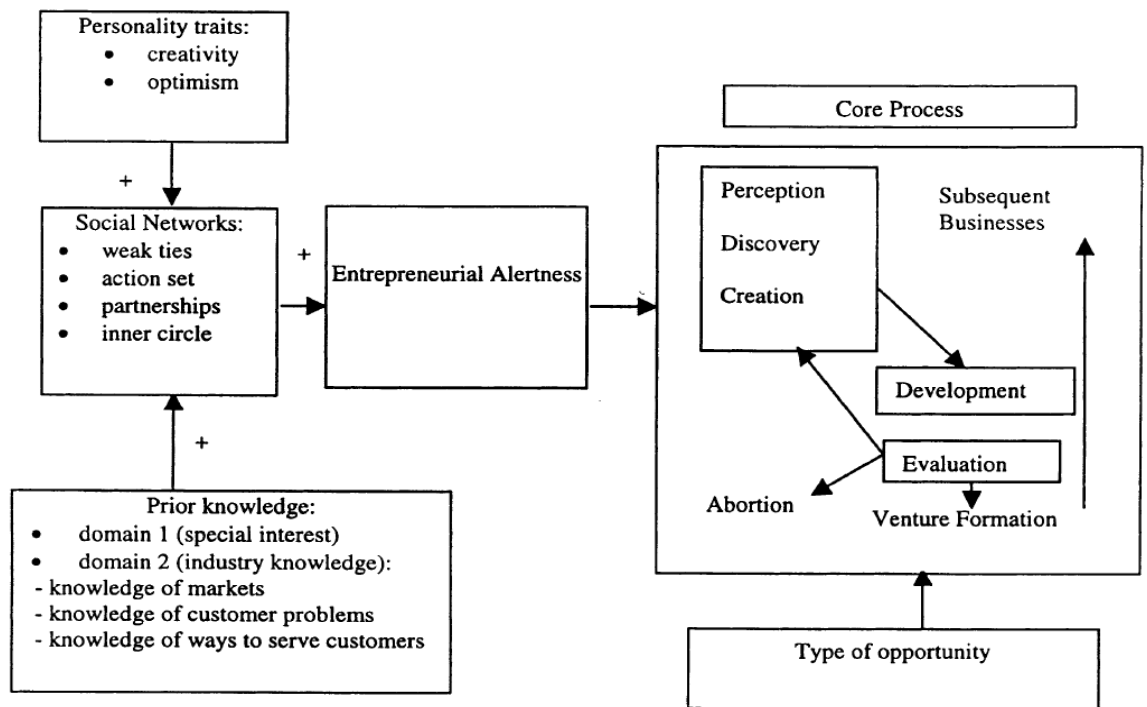


Figure 3-7: Model and unit of opportunity identification and development theory (Ardichvili et al., 2003)

Kuckertz et al. (2017) endeavoured to define and differentiate between opportunity recognition and opportunity exploitation, in order to clarify specifications of these terms and reduce the lack of consensus amongst entrepreneurship scholars. Their study presented the initial stages of the entrepreneurial opportunity process, in which some parts of recognition and exploitation overlapped with each other.

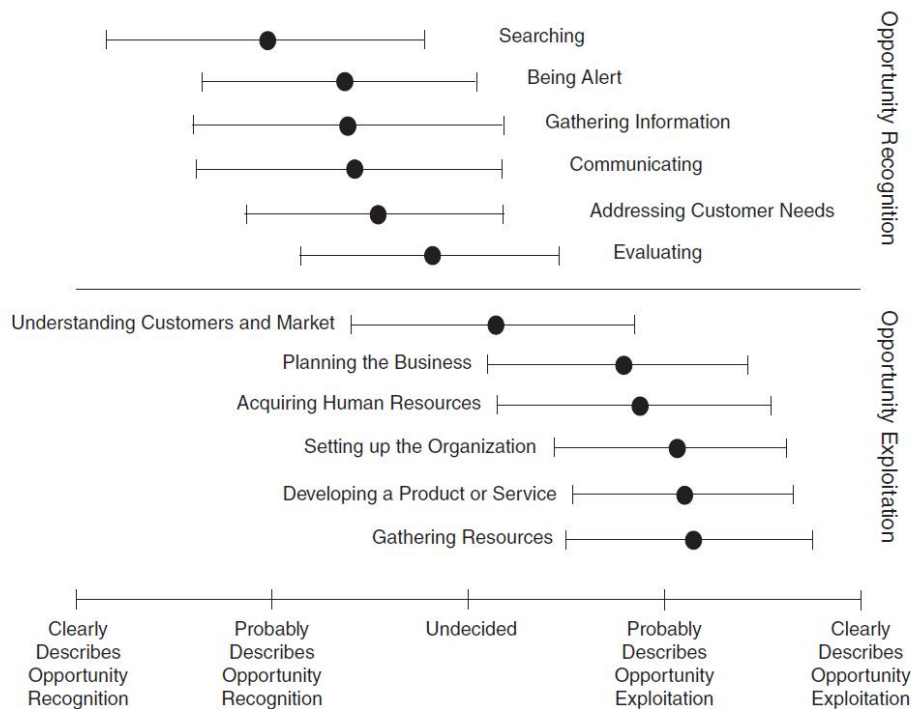


Figure 3-8: Initial detected activities describing opportunity recognition and exploitation (Kuckertz et al., 2017)

Kuckertz et al. (2017) then refined the definition of opportunity recognition and exploitation as follows:

Opportunity recognition is characterised by being alert to potential business opportunities, actively searching for them, and gathering information about new ideas on products or services.

Opportunity exploitation is characterised by developing a product or service based on a perceived entrepreneurial opportunity, acquiring appropriate human resources, gathering financial resources, and setting up the organisation.

It was noticeable that some aspects of Figure 3-8 were removed from the final definition, including communicating and understanding customers, because Kuckertz et al. (2017) believed these activities were not significant to the process of opportunity. However, this exclusion seems to be inconsistent with some other authors, such as Choi & Shepherd (2004), who believed that knowledge about customers is significant to an entrepreneur’s decision to begin an exploitation process.

The definition used in this current thesis is somewhat different from his proposal. Kuckertz et al. (2017) bases on the nascent activities which would lead to a formation of new business start-

up. The opportunity process in this study mostly occurs within existing established firms. The discovery of opportunity might or might not happen in an existing organisation and the exploitation of such an opportunity might take place either inside or outside that organisation. In some cases, opportunity discovery and exploitation in an existing organisation lead to the establishment of a new organisation. Hence, for this study, *opportunity identification refers to the situation in which opportunity emerges in an entrepreneur's perception. The entrepreneur searches for and gathers information about the new idea for an opportunity, expecting to make a profit from this potential opportunity. Opportunity exploitation refers to activities in which an entrepreneur is involved in order to develop and acquire the resources needed to transform an identified opportunity into practice. The activities may take place inside or outside the entrepreneur's existing firm.*

A typical item in the literature might conceptualise an opportunity process as a linear relationship, from discovery to exploitation (Companys & McMullen, 2007). If opportunity is only about the successful development of an idea until it becomes a profitable project, it may take time to wait and see if such a project is profitable before it can be called an opportunity (Dimov, 2007). Recently, alternative ways of thinking about the nature of the opportunity process have emerged. Some authors believe that entrepreneurial opportunity could be a back-and-forth process between opportunity identification and the exploitation stages (Davidsson, 2003; 2015; McKelvie & Wiklund, 2004). The boundaries between the stages along entrepreneurial opportunity (from an idea to an actual outcome) are not clear (Nambisan, 2017). After an opportunity has been discovered, for example, the exploitation process could provide new information and knowledge to entrepreneurs that they could use to modify the opportunity. In the case of a major modification, this might lead to the discovery of new opportunities. A successful case study in McKelvie & Wiklund (2004) showed an entwined relationship between opportunity identification and exploitation processes, whereas the case of failure presented a clear separation of the two stages. Their work challenges the assumption of an opportunity process that begins with discovery and leads then to exploitation. It aligns with Low & MacMillan (1988), who believed that entrepreneurship is a complex intertwined phenomenon which comprises an overlapping structure of change management, technological and environmental instability, innovation, and product development. However, their work consisted of only two cases from different industries. Overlapping between the identification phase and exploitation phase was found in the successful case of an e-commerce firm. More studies may be needed to affirm their findings.

3.3.3 Opportunity identification

Opportunity identification is a key theoretical concept in entrepreneurship research (Ardichvili et al., 2003; Corbett, 2007). Entrepreneurs identify opportunity in order to create and deliver value for their stakeholders (Ardichvili et al., 2003). Opportunity identification implies a development process that entrepreneurs utilise in order to create a procedure to generate new ideas for new products and commercialise them (Dimov, 2007). Some authors consider opportunity identification as the ability to identify a new business idea that could be transformed into a profitable model to serve the needs of business (Sahai & Frese, 2019).

In some cases, “opportunity identification” is used interchangeably with opportunity formation, opportunity discovery, opportunity detection, opportunity creation or idea generation (Davidsson, 2003; George et al., 2016).

Numerous studies of entrepreneurial opportunity pay attention to the personal factors that influence opportunity identification (Gielnik et al., 2012). For instance, opportunity identification in relation to creativity, motivation, alertness, risk, and financial rewards (Corbett, 2007). Entrepreneurial opportunity does not, however, occur successfully in isolation. Information and situation, as well as the people with whom entrepreneurs interact, are also important to the process of entrepreneurial opportunity (Dimov, 2007). It is necessary to understand the opportunity identification process in a comprehensive way, rather than scrutinising one aspect of the process (Ardichvili et al., 2003).

Beginning with how an opportunity comes into existence, there are two main viewpoints relevant to opportunity identification: discovery and creation (Alvarez & Barney, 2007; Vaghely & Julien, 2010a). Both viewpoints share the similar assumption that an entrepreneur has a goal of forming and exploiting opportunity (Alvarez & Barney, 2007). The differences in their ontological perspectives suggest that, for discovery theory, an opportunity exists independently of entrepreneurs’ actions, whereas creation theory believes that opportunity is a product of entrepreneurial action (Alvarez et al., 2013; DeTienne & Chandler, 2004). The search process can be the perspective of how entrepreneurs identify opportunity. Discovery is characterised by a passive search, whereas creation is presented by an active search (DeTienne & Chandler, 2004; Zahra, 2008).

1) Opportunity discovery

The first viewpoint regarding the identification of opportunity that has attracted more attention from entrepreneurship scholars is that of discovery (Alvarez & Barney, 2007; Martin & Wilson, 2016). The viewpoint is rooted in Austrian economics (Kirzner, 1973). This point of view regards

opportunity as an objective that exists prior to entrepreneurial action and waits to be exploited (Alvarez & Barney, 2007). This view has regarded opportunity as a result of an exogenous shock in the industry or market, such as a change in technology, consumer preference, or a change in another context within the industry or market (Kirzner, 1973; Shane, 2003). The discovery view suggests a sequence of entrepreneurship, starting with entrepreneurial action taken to discover and exploit opportunity, and ending with the achievement of opportunity exploitation in all forms (Martin & Wilson, 2016).

Discovery theory relies on a critical realist viewpoint (Alvarez & Barney, 2007; Alvarez et al., 2013). Its philosophy holds that an opportunity is real and exists independently of the action of wealth seekers (Kirzner, 1973). That is, that even without the action of economic actors, opportunity exists. Opportunity is structured by what determines the world and waits for an alert entrepreneur to discover it (Alvarez et al., 2013).

According to Kirzner (1997), entrepreneurship happens in a disequilibrium market and is an equilibrating process that moves the market to a new balance. If entrepreneurs are aware of the existence of opportunities, they will exploit them in the market. The more frequently entrepreneurs discover opportunity, the more frequently the market is moved to equilibrium. However, in the case of imperfect competition, not everyone in the market system can perceive the same opportunity (Shane & Venkataraman, 2000). Discovery theory assumes differences between entrepreneurs and non-entrepreneurs. The entrepreneurs who discover opportunity are expected to have abilities that are distinct from those who cannot do so. Entrepreneurs possess the relevant know-how and experience to be able to discover opportunity (Alvarez & Barney, 2007; Shane, 2003; Shane & Venkataraman, 2000).

Entrepreneurial alertness was first introduced by Kirzner (1973) as an explanation for the differences between entrepreneurs and non-entrepreneurs. There are a great number of items in the literature that attempt to explore the factors that cause differences in opportunity awareness amongst different entrepreneurs and in non-entrepreneurs, such as prior knowledge, social capital, human capital, and personality traits (George et al., 2016).

Shane & Venkataraman (2000) highlight two factors that influence different abilities to discover opportunity: information corridors and cognitive properties. Each individual has a different information corridor because of the variety of their information stock (Venkataraman, 1997). The relevant information that some individuals have will influence their recognition of an opportunity. Since information in society is not equally distributed to everyone, each individual has idiosyncratic knowledge that contributes differently to his/her opportunity discovery.

Another factor of cognitive properties concerns the ability of entrepreneurs to identify a new means-end relationship. Although the entrepreneur requires prior knowledge to discover an opportunity, it is not necessary that this person discovers such an opportunity because people vary in how they combine information and knowledge into a new idea (Shane & Venkataraman, 2000).

2) Opportunity creation

An alternative explanation for the existence of opportunity is creation theory. In comparison with the theory of discovery referred to above, creation theory suggests that opportunity is created endogenously by entrepreneurs' actions (Alvarez & Barney, 2007). An opportunity is not an objective phenomenon created by an exogenous shock. According to this viewpoint, entrepreneurs do not search for opportunities; instead, they observe the market and act upon consumer preference. Opportunities do not exist independently without an entrepreneur's action. Before the opportunity is created, its prior link with the market is unknown. The origin of an opportunity may or may not lie in the existing market.

Creation theory lies within an evolutionary realist philosophical standpoint (Alvarez & Barney, 2007; Alvarez et al., 2013). Entrepreneurs take action to form opportunities according to their initial belief about those opportunities. They then observe the market response in order to gain additional information and knowledge. Their initial belief will be transformed following their receipt of extra information and the entrepreneurs will develop the opportunity based on what they have learned. The process of opportunity creation requires entrepreneurs' iterative action, assessment and reaction in response to added knowledge about the opportunity. Entrepreneurs must then consider whether their interpretation of the result is correct and whether they should go back several steps, restart, or give up the entire process of opportunity creation. The theory emphasises the significance of the information and knowledge an entrepreneur acquires from the opportunity process that caused differences in the outcome of the process. Each entrepreneur may receive and leverage new information differently and, therefore, different outcomes are expected from the various evolutions of the creation process.

The differences between the two origins of opportunity referred to above did not emerge in order to disprove one another. Instead, debate has helped to strengthen the entrepreneurship field when discussing opportunity (Alvarez & Barney, 2007). Recent studies, such as Zahra (2008) and Pacheco et al. (2010), show that in some situations opportunities are more likely to be created, whereas in other circumstances they are discovered. Both discovery and creation may require one another in order to make the most of the value from an opportunity (Chetty et al., 2018). For example, Pacheco et al. (2010) show that in order to create a sustainable practice for

environmentally friendly products, which are usually priced higher than ordinary ones, entrepreneurs first need to establish an environment in which to offer incentives for everyone to engage. This creation may also cause positive externalities for other entrepreneurs to discover an opportunity in a sustainable market.

Some scholars, such as Ardichvili et al. (2003), choose to accept discovery and creation views equally in the opportunity identification process. Recently, Alvarez et al. (2013) presented the notion that the view on opportunity emergence will shift to a more comprehensive consideration by including entrepreneurs' trial-and-error processes, rather than simply considering the factors that distinguish entrepreneurs from non-entrepreneurs. This is consistent with Short et al. (2010), who projected that opportunity study will move towards the interface between discovery and creation.

In this study, opportunity identification refers to the situation in which opportunity emerges in an entrepreneur's perception, whether by discovery or creation. Entrepreneurs search for and gather information about a new idea relating to an opportunity, expecting to make a profit from this potential opportunity.

3.3.4 Opportunity exploitation

Opportunity exploitation refers to *"the decision to act upon a venture idea, and the behaviours that are undertaken to achieve its realization"* (Davidsson, 2003, p.340). Opportunity exploitation deals with resources acquisition and coordination in order to turn an idea into a reality. According to Davidsson (2003), the exploitation of opportunity may or may not lead to profit; the same applies to discovery, which sometimes does not provide a positive return of profit to entrepreneurs. Some authors define opportunity exploitation with the involvement of profit, such as Choi & Shepherd (2004), who maintained that *"The exploitation of an opportunity refers to those activities and investments committed to gain returns from the new product arising from the opportunity through the building of efficient business systems for full-scale operations"* (p.377). According to Kuckertz et al. (2017), the process of opportunity exploitation consists of several stages, including developing a product or service, acquiring human resources, gathering financial resources, and setting up the organisation.

In the current research, the exploitation of opportunity refers to activities in which entrepreneurs are involved in order to develop and acquire resources and transform the identified opportunity into practice. The activities may take place inside or outside an entrepreneur's existing firm(s).

1) Decision to exploit opportunities

Entrepreneurs do not pursue all the opportunities they identify (Shane & Venkataraman, 2000). Many studies have endeavoured to explain how entrepreneurs make decisions with regard to whether to exploit an opportunity.

Demographic differences between individuals, such as education, career experience, age, and social position, influence an entrepreneur's decision to exploit an opportunity (Shane, 2003). First, education increases an entrepreneur's stock of information that could support an entrepreneurial process. Educated entrepreneurs possess analytical skills and understanding about processes and, therefore, those with formal education are more likely to engage in starting a new business (Davidsson & Honig, 2003). Teaching students about venture evaluation results in a change in the students' approach to the entrepreneurial process (Clouse, 1990). The knowledge people gain through education has an impact on how they make decisions about perceived opportunities.

Entrepreneurs who are more highly educated are more likely to exploit opportunity, as education can increase their expectations of the returns from opportunity exploitation (Shane, 2003). On the other hand, in some cases, highly educated people may deviate from being entrepreneurs as they can pursue other good career choices in the labour market (Guelich, 2014).

Career experience is another way to gain the skills and knowledge that facilitate an exploitation process. There are several types of career experience that have a positive influence on the exploitation process e.g., functional, industry, and start-up experience (Shane, 2003). People can also learn various aspects of business exploitation through their experience, such as finance, sales, logistics, organisational, and technology experience (Klepper & Sleeper, 2005). Entrepreneurs with higher levels of relevant experience are more likely to exploit opportunity than those who lack related business experience. General business experience provides training and the skills needed for starting a business, such as selling, negotiating, decision making, planning, and problem-solving abilities (Shane, 2003). Business experience has been found to have a link with a firm's performance, in that it reduces the risk of failure (Brüderl & Preisendörfer, 1998). Other than by their direct involvement, entrepreneurs may also gain experience indirectly by observing others (Shane 2003). Reynolds (1997) explains that knowledge can be learned by close observation of other entrepreneurs. In doing so, individuals can acquire tacit knowledge of how to exploit opportunity and apply it to their own business.

Although education and experience have a positive link with the possibility of exploiting opportunity, age has a curvilinear relationship. Entrepreneurs acquire experience as they grow older; the possibility to exploit opportunity is, accordingly, higher. However, when age is much greater, entrepreneurs tend to be less likely to exploit opportunity. As entrepreneurs get older, they prefer to take less risk than younger individuals (Shane, 2003). In addition, social position, such as social status and ties, also influences the possibility of taking an opportunity exploitation decision. A higher social status increases an entrepreneur's likelihood of starting a business (Evans, 1989). In circumstances of uncertainty and information asymmetry, entrepreneurs with higher social status are better at persuading others to believe in the value of the opportunities they have identified (Stuart et al., 1999). This could facilitate exploitation activities, so it is then easier for entrepreneurs to start a new business.

Choi & Shepherd (2004) propose that hi-tech entrepreneurs in business incubators are likely to exploit opportunity when they believe they have more knowledge of customer demand, the technology required, managerial capability, and stakeholder support. However, their samples were entrepreneurs embedded in business incubators, whose approach might be different from those without the support of incubators.

Knowledge about customer demand is crucial for entrepreneurs who would like to exploit new products in a market. A new product and service may face customer demand uncertainty in the market (Olson et al., 1995). The unfamiliarity of customers with the innovative product may lead to unsuccessful opportunity exploitation. Customer demand for a new product depends on whether the customers are able to perceive the value of the newly invented item (Aldrich & Fiol, 1994). Therefore, it is important for entrepreneurs to acquire enough knowledge about customer demand before they start to exploit an opportunity (Choi & Shepherd, 2004). However, a definition of opportunity exploitation proposed by Kuckertz et al. (2017) excluded the aspect of customer understanding from the exploitation process, as it proved to be vague at this stage. Instead, Kuckertz et al. (2017) indicate that understanding the customer is part of the opportunity recognition process, particularly at the stage of gathering information about a new idea for a new product.

It is not always the case that entrepreneurs can successfully exploit an opportunity. Sometimes, opportunity exploitation cannot deliver the full value that entrepreneurs expected due to uncertainty in a dynamic environment. This opportunity becomes under-exploited. This might lead to another discovery of a new opportunity for the entrepreneur (McKelvie & Wiklund, 2004) or for other entrepreneurs (Holcombe, 2003). Uncertainty plays a role in the opportunity exploitation process and can lead to imperfect or incomplete exploitation. In some cases, under-

exploitation is caused by a strategy-opportunity mismatch, even though the environment remains unchanged. Therefore, it is important that entrepreneurs select a suitable strategy for their exploitation process (Plummer et al., 2007).

2) Mode of opportunity exploitation

There are two major types of ways in which entrepreneurs exploit opportunities: new firm creation and exploitation within an existing organisation (Shane & Venkataraman, 2000). The common assumption about entrepreneurial activity is that it occurs through the founding of a new firm (Casson et al., 2006; Short et al., 2010; Venkataraman, 1997). However, other forms of running entrepreneurial activities, such as exploiting the opportunity of a new process within an existing firm, generally happen in the world of business. The activities of bringing an idea into reality, and whether this causes the formation of a new firm, are involved with the process of opportunity exploitation.

A significant amount of the entrepreneurial opportunity literature studies opportunity exploitation in the mode of new firm creation (Venkataraman, 1997). The list of empirical studies (derived from the SLR process discussed in an earlier section) in Table 3-3 shows the popularity of new firm creation as a mode of exploitation in the entrepreneurship literature.

Table 3-3: Mode of opportunity exploitation in prior literatures

Authors	Research design	Research focus	In-firm exploitation or new venture
Choi & Shepherd (2004)	Conjoint experiment involving 55 high-tech entrepreneurs in business incubators in the USA.	Entrepreneurs' decisions to exploit opportunities. The entrepreneurs were more likely to exploit opportunity if they had adequate knowledge of market demand, the technologies required, managerial capability, and support from stakeholders.	The exploitation of a new product within existing firms.
Mullins & Forlani (2005)	Survey of 75 successful CEOs of public companies in the USA.	Investigation of entrepreneurial risk and new venture creation. The majority of these highly experienced entrepreneurs preferred a risk-averse choice when considering new venture creation.	New venture creation, either inside or outside established firms.
Cliff et al. (2006)	Survey of 60 founders of law firms in Greater Vancouver, hypothesis testing.	Entrepreneurs with greater experience in the industry's periphery (new players in the game who are at a distance from how the game is typically played) tend to start more innovative firms than entrepreneurs whose experience is in the core of the field. The latter tend to be imitative entrepreneurs when running a new business.	Creating new firms.
Ucbasaran et al. (2009)	Survey of 630 entrepreneurs in Great Britain	Opportunity identification and exploitation of experienced entrepreneurs. Entrepreneurs with prior business experience identified more opportunities (but at a diminishing rate) and exploited more innovative opportunities than novice entrepreneurs.	Creating and purchasing a new business.
Fuentes et al. (2010)	Questionnaires from 242 entrepreneurs in Spain	The effects of prior knowledge and social networks on opportunity exploitation. The prior knowledge derived from previous opportunity exploitation is associated with the success of entrepreneurs. Successful opportunity exploitation experience and a strong entrepreneurial network have a positive effect on opportunity development and exploitation.	Creating a new firm or exploiting opportunity in an existing firm.

Authors	Research design	Research focus	In-firm exploitation or new venture
Welpe et al. (2012)	Survey of 138 MBA and entrepreneurship students (Germany)	The interplay of emotions (fear, joy and anger) and opportunities. In addition to opportunity evaluation, emotions also influence decisions to exploit opportunity. Fear reduces the likelihood of exploiting opportunity, whereas anger and joy increase it.	Starting a new business as a means to becoming an entrepreneur.
de Jong (2013)	Survey of 160 Dutch hi-tech small business owners	Small business owners' decision to exploit identified opportunities. Their decision to exploit opportunities directly related to subjective norms and behavioural control.	Recombining resources to create and introduce a new product or process in existing firms.
Nieto & González-Álvarez (2016)	Mixed method (hypothesis testing using data from the GEM Spain 2007 report and 36 expert interviews)	The effects of social capital on opportunity identification and exploitation. Social capital, both at the individual and regional level, has an effect on the two stages of opportunities. The individual level seems to have greater effect. Individuals with an entrepreneurial network are more likely to become entrepreneurs.	New business start-up.
Kuckertz et al. (2017)	Online survey of 106 academics in the entrepreneurship field, mainly in Germany, the UK and the USA	The research attempted to define the concept and content of opportunity recognition and exploitation. The findings aligned with the concept of nascent entrepreneurial activities and a new venture development process.	Nascent entrepreneurial activities engaging in a start-up.

The next question for entrepreneurs to consider after evaluating a potential opportunity is how to exploit it (Venkataraman, 1997). The question of why entrepreneurs choose a particular mode for opportunity exploitation appears not to be popular amongst the entrepreneurship literature (Venkataraman, 1997). As shown in Table 3-3, the reasons for selecting a particular exploitation mode were not the focus of these research. Generally, there are several factors to consider when choosing a mode of exploitation, including cost, speed and market power, and appropriability, according to Venkataraman (1997). These factors should be considered together. It is advisable not to consider them as a single element because each could be a trade-off with another.

The participants of the current study are involved with different types of enterprise (i.e., community enterprises, limited companies, and public limited companies) of different sizes, from small to large. Their opportunity exploitation processes sometimes lead to a change in their organisation. The mode of exploitation is, therefore, another concept that plays a role in the entrepreneurial opportunity process.

3.3.5 Factors influencing the entrepreneurial opportunity process

There are several factors that affect the process of entrepreneurial opportunity. George et al. (2016) gathered a range of factors that influence opportunity recognition that could drive the further process of analysis and exploitation, as shown in Figure 3-9. Many studies have tried to explain the influences of these factors. In addition to the previous work by Ardichvili et al. (2003), George et al. (2016) pointed out the significance of environmental conditions that could affect the process of opportunity. Notwithstanding, there seems to be a dearth of research discussing the relationship between these factors.

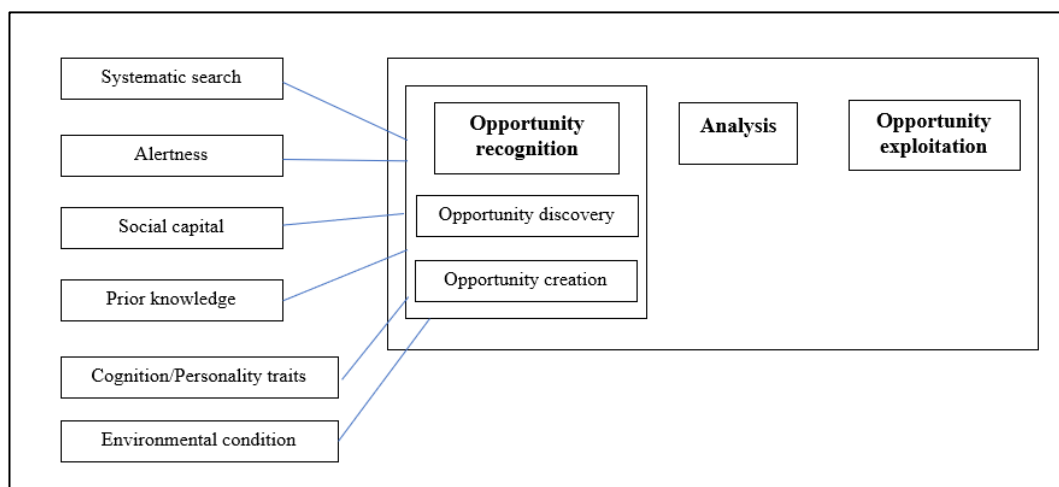


Figure 3-9: Opportunity recognition framework as conceptualised in the literature (George et al., 2016)

1) Entrepreneurial alertness

Entrepreneurial alertness is the situation in which an entrepreneur notices an opportunity that has been hitherto overlooked, without actively searching for it (Kirzner, 1973). The search for missing information could be done as the entrepreneur is aware of what he/she does not know. The nature of the alertness offers the sense of “surprise” and “discovery” to an entrepreneur who is alert to such opportunities (Kirzner, 1997). Under this concept, the market moves towards equilibrium as entrepreneurs discover and exploit opportunity (Busenitz, 1996). This means that in disequilibrium market conditions, entrepreneurs are opportunity identifiers who recognise where to buy products at a low price and sell them where the price is high.

According to Kirzner’s theory, entrepreneurial activities are believed to equilibrate the market. Market actors hold different information and, therefore, individuals’ abilities to identify opportunity vary. Kaish & Gilad (1991) were amongst the first scholars to provide empirical support for this idea (Busenitz, 1996). They found and tested differences in entrepreneurs’ and corporate managers’ behaviours. The former seemed to have a habit of scanning for information even when outside working hours and applying less conventional economic data; the latter mostly employed economic analysis and observed less risky cues when learning about opportunity. Entrepreneurs’ behaviour may lead to the emergence of new ideas in a different way from their managers. Entrepreneurs are, therefore, more alert to new opportunities and employ less conventional ways of learning new information than managers. Cooper et al. (1995) stressed the differences between different types of entrepreneur and found that highly confident entrepreneurs sought less information than the others.

However, Kaish & Gilad (1991) were challenged by Busenitz (1996), who re-tested their hypothesis by applying more generalisable samples. Busenitz’s work found some contrary results. The difference in entrepreneurial alertness between entrepreneurs and managers was not found to be as different as had been proposed by the earlier work. Both entrepreneurs and managers utilised a similar level of information about risk when concerned with a new business opportunity. The incompatible findings urge the value of exploratory research and replicating work as a tool for moving the entrepreneurship field forwards.

2) Systematic search

According to Kirzner (1997), the discovery of opportunity is, by its nature, not a result of a systematic search. As Kirzner (1997) states:

An opportunity for pure profit cannot, by its nature, be the object of systematic search. Systematic search can be undertaken for a piece of missing information, but

only because the searcher is aware of the nature of what he does not know, and is aware with greater or lesser certainty of the way to find out the missing information (p.71).

Entrepreneurs are alert to opportunities which have previously been overlooked. From Kirzner's explanation, entrepreneurs cannot search for something if they do not know it exists but they may look for something that is missing after they know what they are seeking.

However, Fiet (2007) believed that alertness alone cannot describe the wealth creation of repeatedly successful entrepreneurs. Experienced entrepreneurs may rely less on luck and surprise but put effort into a systematic search for business opportunities. Fiet (2007) therefore proposes an approach to a systematic search that is crucial for entrepreneurial discoveries, as illustrated in Figure 3-10.

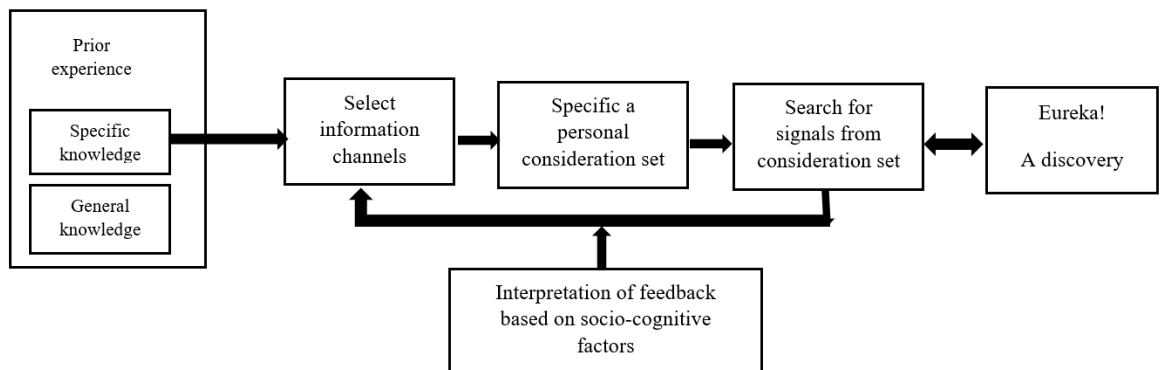


Figure 3-10: Prescriptive analysis of search and discovery (Fiet, 2007)

The process above is based on entrepreneurs' prior specific knowledge, which is part of the previous experience. Entrepreneurs vary in their competence to discover opportunity because of their idiosyncratic knowledge, which is derived from their experience. The process emphasises the roles of specific knowledge, i.e., the intellectual perception of people, places, time, special circumstances and technology that are necessary for particular business ideas. Specific knowledge is also crucial for the evaluation of information in the next stage. Individuals then select information channels for their search. Information channels can be entrepreneurs' close friends, other members of business associations, commercial publications, and trade exhibitions, which could all provide a set of messages for individuals. Entrepreneurs may also update the information channels as they interpret environmental signals, as shown in the reverse arrow in the figure above pointing back towards the "Select information channels" stage. Entrepreneurs then group the results of the search for information channels into consideration sets. They then specify the consideration set that may be crucial for making a

profit. After specifying a consideration set, entrepreneurs search for signals within their consideration sets before they can make a discovery. A signal is the new information that could provide a novel perspective relating to the creation of wealth. Furthermore, the discovery can also provide feedback to a previous stage of searching for signals, as shown in the two-headed arrow.

The proposed diagram stresses the roles of a systematic search as part of opportunity discovery. In practice, however, this could also take part in the exploitation process. The discovery of opportunity without assembling the required resources cannot lead to successful firm formation. Patel & Fiet (2009) found that a systematic search plays a significant role in the firm founding of nascent entrepreneurs.

The participants of the current thesis rarely showed a systematic search as a first step in their identification of opportunity. Instead, at the starting point for their opportunity process, they appeared to be aware of a potential opportunity about which they then needed to search for further data in order to assemble pieces of information through a variety of channels. These entrepreneurs did not start a systematic search for an opportunity without receiving a signal of a potential business opportunity. Their processes include both alertness and a systematic search as a consequence. The entrepreneurs may be alert to an opportunity and then start searching for information to gauge whether the perceived opportunity is worth further development and exploitation. Even with experienced portfolio entrepreneurs, at some points, showed that they had “sparked” an idea before they were able to search.

This thesis is not restricted to new firm formation. Some of the participants exploited opportunities within their existing firms. Hence, a systematic search in this study might not always lead to the formation of new firms, as proposed by Patel & Fiet (2009), but the exploitation of a new business idea within an existing firm.

3) Prior knowledge

According to Kirzner (1997), an opportunity for entrepreneurial profit is not a result of a systematic search. An opportunity is unknown until it is discovered. Entrepreneurs may realise that an opportunity exists and then look for missing information with the awareness of what they are seeking. The discovery of an opportunity can be driven by the knowledge individuals possessed before the opportunity was discovered (Shane, 2000).

Shane & Venkataraman (2000) and Venkataraman (1997) have highlighted the importance of idiosyncratic knowledge, which generates different knowledge corridors for different

entrepreneurs. Different people hold distinct sets of information and, as a result, they have dissimilar abilities to identify and exploit opportunity. As a result of the specialisation of information, people in society do not, therefore, own similar stocks of the information necessary for opportunity recognition (Hayek, 1945).

Entrepreneurs' knowledge corridors could be influenced by the prior information they develop from past experiences in education or their professional life. Shane & Venkataraman (2000) outlined the strong influence of prior knowledge about markets that affected the opportunity recognition of eight highly educated entrepreneurs in the hi-tech industry. They found that these entrepreneurs' selection of how to serve the market and to respond to customers' problems was an effect of their prior knowledge. The sources of entrepreneurs' prior knowledge can be personal and work experience, education, and their entrepreneurial roles as actors in the market e.g., their experience as a supplier, manufacturer, and user (Venkataraman, 1997). Nevertheless, Shane & Venkataraman (2000) recommend further studies be done in lower-tech industries to investigate the complexity of opportunity discovery and prior knowledge. An exploration of the impact of prior knowledge on opportunity recognition in diverse business contexts would be beneficial to deepen understanding of how entrepreneurs discover opportunity differently.

Prior knowledge is also significant in the opportunity exploitation stage (Shane, 2003). Individuals' backgrounds, such as their education, career, business, industry, and start-up experience, increase the tendency for opportunity exploitation as entrepreneurs gain the information and skills required in exploitation through these sources. Empirical studies have shown that entrepreneurs with greater business experience are more likely to exploit opportunities (Davidsson & Honig, 2003; Fuentes et al., 2010). Experienced entrepreneurs are better than novices at linking unrelated events or trends and detecting possible connections that could suggest a new product (Baron & Ensley, 2006).

Advantages relating to the prior knowledge and experience of entrepreneurs were detected differently in a variety of entrepreneur types. For example, experienced portfolio entrepreneurs were found to identify more opportunities than novice entrepreneurs (Westhead et al., 2005a). Prior knowledge was also found to affect the choice of strategy used in the process of discovery and exploitation (McKelvie & Wiklund, 2004).

4) Social capital

Entrepreneurship is a phenomenon that exists in a social context. The entrepreneur cannot be isolated. The interaction between entrepreneurs and other agents in society is crucial for their

entrepreneurial opportunity (Aldrich & Zimmer, 1986). As highlighted by Casson & Giusta (2007), information is crucial for entrepreneurs in their processes of opportunity identification and exploitation. Thus, the channel used to receive information, such as entrepreneur networks, plays a role in an entrepreneur's success.

The term "social capital" is ambiguous. Entrepreneurship scholars, therefore, regard it as a concept relating to the social interaction between economic actors. Discussion of social capital often involves the economic analysis of social networks, reciprocity and cooperation between different actors (Casson & Giusta, 2007; Nieto & González-Álvarez, 2016). The social network relation may have a range of purposes, including communication, content exchange, and the expectations that one person has of another's special attributes (Aldrich & Zimmer, 1986).

There are two levels of social capital: the individual level (micro aspect) and the collective level (macro aspect). The individual level of social capital has been defined as the resources embedded in the relationship between one person and another. Such a relationship can be informal or formal. The collective level refers to resources involving a social relation within a region. The majority of the research has focused on the individual perspective of networking and left out the more difficult aspects of the collective level (Nieto & González-Álvarez, 2016).

Large numbers of entrepreneurs have accepted the essential roles of a social network in their decision to start and develop ideas for businesses (Nieto & González-Álvarez, 2016). Entrepreneurs are good information gatherers, as they leverage a variety of information sources to facilitate their opportunity process (Kaish & Gilad, 1991; Ozgen & Baron, 2007). Social sources that entrepreneurs utilise for gaining information include mentors, industry networks and professional forums (Ozgen & Baron, 2007). A study of entrepreneurs in the information and communications industry conducted by Gordon (2007) found that the larger the entrepreneurial network, the greater the change entrepreneurs made as they developed their business opportunity. Although his study supports the concept of social information processing in the opportunity recognition process, the work consists of a small sample (63 valid survey responses). It was advised that the result should be considered with caution.

Individuals living in the area of a big city, where there are various supporting agencies, e.g., universities, research institutes and service providers, are more likely to broker the information received through their network contacts and perceive more opportunity than individuals in rural areas (Arenius & Clercq, 2005). Their study omitted the diversity of social structures in the studied areas, such as occupation and industry structure, instead focusing on entrepreneurial

networks in different area sizes. The characteristics of the areas in which entrepreneurs are embedded may have an impact on their entrepreneurial opportunity (Massey, 1995).

5) Human capital

Human capital is one of the factors contributing to entrepreneurial actions. Understanding the influence of a human capital profile on the entrepreneurial process could be another core area of attention for entrepreneurship research (Ucbasaran et al., 2008). Human capital has long been discussed by entrepreneurship scholars as a critical success factor for entrepreneurial businesses (Unger et al., 2011). It consists of a broad range of considerations, including education, work experience, gender, family background, ethnic origin, age, competencies, and industry-specific know-how (Ucbasaran et al., 2003b). Ucbasaran et al. (2008) categorises human capital into general human capital (e.g., education and work experience) and entrepreneurship-specific human capital (e.g., business ownership experience and the ability to acquire and coordinate resources). However, education and work experience are the most-discussed topics when considering human capital.

As referred to above, education is one of the most-discussed aspects of human capital (Cooper et al., 1994). The knowledge and skills entrepreneurs receive through education may enhance a broader vision for them to perceive opportunity, access information, and apply the knowledge acquired to their business. Entrepreneurs with a high level of education may do better than less educated individuals when facing complex problems. Their social contacts created within a formal educational system could also benefit their opportunity identification and exploitation process (Arenius & Clercq, 2005). Although some scholars believe that education is a powerful part of the process of opportunity exploitation, e.g., Shane (2003) and Arenius & Clercq (2005), Davidsson & Honig (2003) found a contrary result that business education does not link with a successful outcome in opportunity exploitation in Swedish nascent entrepreneurs.

Managerial work experience is another dominant issue regarded as part of human capital. Experienced entrepreneurs generally benefit from their previous business experiences. Such experiences could provide reputation, the ability to access financial sources, and wider social and business networks that entrepreneurs could leverage in identifying and exploiting a business opportunity (Ucbasaran et al., 2003b). Less experienced entrepreneurs may compensate for their lack of experience by actively searching for the information required (Gielnik et al., 2014).

Although a great number of studies highlight the importance of human capital in entrepreneurs' success, Unger et al. (2011) found that the outcome of human capital (e.g., knowledge and skill) is more significant to a venture's success. Therefore, they urge further study to shift the research

focus from static concepts of human capital to more dynamic aspects, such as how entrepreneurs learn and adapt their human capital in the entrepreneurial process.

To summarise the review of opportunity process literatures, this chapter has found that most of the studies emphasized on the change in individual attributes (psychological factors and demographic factors) and the change in environment. It shows considerable number of papers that focused on the change in the factors directly relate to entrepreneurs. However, since the opportunity can be emerged from other sources other than supply side of the market (Eckhardt & Shane, 2003). This leaves an opportunity for entrepreneurship researchers to explore demand side of the market that might contribute to the divergence of opportunity process amongst entrepreneurs. This thesis endeavours to understand the process by not limiting to focus on the change in entrepreneurs only. Instead, it will inductively investigate the opportunity process by considering how and why entrepreneurs identify and exploit opportunity in order to understand a variety of factor that could play roles in opportunity process. Therefore, this leads to the first two research questions of opportunity identification and exploitation.

Research question 1: Opportunity identification

1.1 How do innovative entrepreneurs in a food VCH identify opportunity?

1.2 Why do innovative entrepreneurs identify opportunity?

Research question 2: Opportunity exploitation

2.1 How do innovative entrepreneurs in a food VCH exploit the identified opportunity?

2.2 Why do innovative entrepreneurs exploit the identified opportunity?

3.4 Innovation

3.4.1 What is innovation?

Entrepreneurship literature would offer a high impact on economic growth if incorporated with another topic, such as innovation. Entrepreneurship and innovation are a source of value creation to enhance economic growth (Bruyat & Julien, 2001; Koellinger, 2008). As discussed in the previous chapter, entrepreneurship is, by definition, closely linked to innovation. Entrepreneurs introduce change to their business, whether it be in a process, product or organisation method. A widely used definition of innovation was proposed by Schumpeter (1934) as the commercialisation of a new idea (Koellinger, 2008). The definition of innovation given by scholars may vary in its wording but all of them highlight the successful development and exploitation of a new idea (Tidd & Bessant, 2013).

The essence of innovation is change. It does not always need to involve technological change (Drucker, 1985). Schumpeter classified innovation according to the degree of change: as radical or incremental. Radical innovation refers to a significant change in the world, whereas incremental innovation refers to a continual process of change. The judgement of whether an activity qualifies as innovation is subject to the view of the observer (Koellinger, 2008). Rogers (2003) remarked upon innovation as a change in entrepreneurial business which might not be new to the world, but new to the entrepreneur's viewpoint. If the change is new to an entrepreneur's business, that change qualifies as an innovation.

Following Schumpeter (1934), the types of innovation can be listed as follows:

1) introduction of a new product or a qualitative change in an existing product 2) process innovation new to an industry 3) the opening of a new market 4) development of new sources of supply for raw materials or other inputs 5) changes in industrial organisation (OECD, 1997).

Further recent research by Tidd & Bessant (2013) characterises innovation into four categories: 1) product innovation – change in a product; 2) process innovation – change in the method of making and delivering a product; 3) position innovation – change in the context of where the product is presented; and 4) paradigm innovation – change in the business paradigm/mental model (such as redefining a business model or assumptions about customers).

The current research involves Thai entrepreneurs who have introduced different types of innovation to their business, ranging from incremental (doing something better), such as changing a recipe for a new restaurant or restructuring the division of labour in order to offer a new service, to radical (doing something different), such as the creation of new products as a result of knowledge gained from research and development (R&D).

Some of the participants claimed that their products were new and unique and that they were the first to introduce them to the market. However, in some cases, the researcher found that similar products were available on the market. Since the degree of innovation is not the focus of this thesis, participants with any level of innovation qualified as innovative entrepreneurs.

The types of innovation in this research can be either process, product, position or paradigm innovation. As suggested by Grunert et al. (1997) and Menrad (2004), product and process innovation in the food sector are often linked together and difficult to distinguish. Food firms are engaged in different types of innovation. If a piece of research restricts its focus to only one type of innovation, it may achieve only limited insight into the studied organisations (Baregheh et al., 2012). Thus, this research does not restrict participants by the type of innovation.

In general, entrepreneurs in the Thai context can refer to any businessperson, regardless of the newness implemented in his/her business activity. That is, any seller or businessperson who does the same activities for years without adding a new improvement or a change to business might be called an entrepreneur in the Thai context. Even with low degrees of innovation, entrepreneurship, by definition, involves a new means, new end or new means-end for the business (Shane, 2003). Hence, in order to be in line with the theoretical definition of entrepreneurship, this research focuses on innovative Thai entrepreneurs who introduced any level of newness (incremental or radical) at any point in the business (product and/or process), not those who continued to imitate perfectly the same activities that had always been carried out in the past (Shane, 2003).

2.4.2 Entrepreneurship and innovation

Entrepreneurship and innovation have been presented together since Schumpeter (1934) remarked upon the role of an entrepreneur as that of an innovator who causes creative disequilibrium and generates economic growth. Drucker (1999) emphasises the association between entrepreneurship and innovation, maintaining that "*Entrepreneurs innovate. Innovation is the specific instrument of entrepreneurship*" (p.27). Entrepreneurial activities are normally engaged with any type of innovation, even with a mild level of newness. An absolute imitation of what has been done before could not be an entrepreneurial activity, according to the definition of entrepreneurship (Shane, 2003).

Innovation and entrepreneurship literature may be addressed independently or linked together (Sahut & Peris-Ortiz, 2014). A study by Boyer & Blazy (2014), for example, examined the survival of innovative and non-innovative micro firms in France. They found that non-innovative firms were more likely to survive than innovative ones (Boyer & Blazy, 2014). This seems to be in contrast with the general perception of the advantages of being innovative. This could be explained by the finding that young, female and minority entrepreneurs owning micro businesses appeared to take higher risks than other entrepreneurs.

Innovation literature is generally concerned with the significance of firm size in innovation (Le Bars et al., 1998), whereas entrepreneurship literature is often associated with small businesses (Sahut & Peris-Ortiz, 2014). This can probably be attributed to the introduction of a new product/service, or a new combination, often happening in start-up businesses, therefore constituting the key role of small business in entrepreneurship research (Blackburn & Kovalainen, 2009). Small businesses may have limitations in accessing resources, unlike large firms, but small firms have more flexibility to adjust and respond to an opportunity. Small businesses, particularly manufacturing firms, also present their association with networking as

key tools to increase innovation (Rogers, 2004). There are many examples of innovation literature that discuss the impact of firm size on innovation (Rothwell, 1991), such as the relationship between network, firm size and innovation (Rogers, 2004), the influence of firm size on R&D expenditure (Shefer & Frenkel, 2005), and the effect of firm size on product and process innovation (Damanpour, 2010). However, this is not the case in the entrepreneurship field, in which the majority of the literature is dominated by the roles of small business entrepreneurs (Blackburn & Kovalainen, 2009).

3.4.2 Innovation in the food industry

Recently, the food industry has been faced with high levels of societal and technological change. These changes occur through the introduction of new production and processing methods and changes in consumer behaviour. This change affects the entire chain of food, starting from agricultural plantations, then food production, up to the delivery process adopted to reach consumers (Menrad, 2004). The industry is generally regarded as being low-tech. Some of the technology development and innovation that have been used were developed outside the food industry, such as in the area of biotechnology and pharmaceuticals (Christensen et al., 1996). However, for food entrepreneurs, innovation is believed to be the key to surpassing competitors and fulfilling consumer needs in the market (Menrad, 2004).

Entrepreneurs do not act alone in the entrepreneurial process, but are embedded in the business network that exists around them (Granovetter, 1985). Research by Le Bars et al. (1998) suggested that business in a low-tech industry, such as the food sector, usually takes advantage of external R&D (e.g., public institutes) and leverages its networks for innovation development. Networking is generally beneficial to innovation; however, entrepreneurs' networks in the public sphere have been found to provide more advantage to entrepreneurs than the private realm of networking. This means that entrepreneurs embedded in the public sphere (e.g., interrelations in the workplace, professional networking or interrelation with other market actors) are more likely to increase innovation in business in comparison with those embedded in private networks (e.g., parents, spouse, and friends) (Schott & Sedaghat, 2014).

Baregheh et al. (2012) studied SMEs in the British food sector and found that the degree of innovation in the food industry was more likely to be incremental. SMEs are more engaged with product and process innovation than paradigm innovation. Their study did not consider the link between the different types of innovation, which may have some interaction with each other. This leaves a gap in the research of food innovation for further study.

Entrepreneurs in the food industry have been challenged by the degree of scientific and technological change e.g., processing and packaging techniques and new communication technologies. The industry is moving towards being demand-focused and product-oriented (Menrad, 2004). As highlighted by Shane (2003), entrepreneurial opportunity can be influenced by a change in demand (for instance, consumers' taste, mood and attitudes) and thus these challenges could present an opportunity for entrepreneurs who are alert to shifts in consumers' expectations of food products. However, a study of food SMEs in Germany has stressed that only a few of them engage in conducting market research (Menrad, 2004).

Innovation itself is not the focal point of the analysis for this research, but the process of entrepreneurial opportunity that is inevitably involved in innovation. This subsection has tried to review some of the literature on food innovation, which may provide understanding of food innovation to support and extend the knowledge generated by the current research. The participants in the research mostly focus on product and process innovation, which is the same as food entrepreneurs in other contexts. However, since this research does not restrict the analysis to one type of innovation in a firm, it allowed the researcher to explore the relationship between the different types of innovation in the entrepreneurial process.

3.5 Value chain of the agro-food industry

3.5.1 Concept of the value chain

The notion of the value chain (VCH) has been popular since 1990, after Michael E. Porter presented the concept in his book *Competitive Advantage* (1985) (Freeman & Liedtka, 1997; Kaplinsky, 2000). The concept is traditionally seen as an internal VCH, which emphasises the link between activities within an individual firm to transform raw materials physically into finished products (Freeman & Liedtka, 1997). Firms are part of society, rather than separate institutions that are purely economic in nature. In addition to the traditional concept of the VCH, the emerging view is much more expansive (Freeman & Liedtka, 1997). It involves a range of activities to transform raw materials physically into products or services and deliver them to the end consumers. These processes require linkages between different actors from inside and outside an organisation. The emerging view of the VCH thus applies a more macro perspective (Song et al., 2013).

The emerging VCH concept, as described by Freeman & Liedtka (1997), is that *"a constellation of actors work together to continuously innovative in a way that produces value for customers"* (p.288). Normann & Ramirez (1993) explain a VCH as follows: *"companies do not just add value, they reinvent it. Their focus of analysis is not the company or even the industry but the value-*

creating system itself, within which different economic actors – suppliers, business partners, allies, customers – work together to co-producer value”.

Kaplinsky & Morris (2000) define a VCH as a full range of activities in order to bring raw materials through different value-adding stages of the production process and other supporting activities until such products/services reach the final consumers. In a highly cited paper, Kaplinsky (2000) states that

The value chain describes the full range of activities which are required to bring a product or service from conception, through the intermediary phases of production (involving a combination of physical transformation and the input of various producer services), delivery to final consumers, and final disposal after use (p.121).

This above perspective of the VCH has been developed from the concept of the commodity chain, which can be traced to the 1970s (Hopkins & Wallerstein, 1977). It was introduced as a basic idea for tracking a whole set of inputs and transformations, in order to describe the linkage of the processes required to produce a product (De Backer & Miroudot, 2014). The commodity chain concept was developed into the “global commodity chain” as a result of globalisation, whereby production can be sourced in different places abroad and the customers are international (Gereffi, 1994). The terminology has been shifted to a “global value chain” (GVCH) to highlight value-added activities (Gereffi et al., 2005).

It is called a value chain because value is added at each stage along the chain (Schneemann & Vredevelde, 2015). The additions include design, production, marketing, trading and other supporting activities, such as logistics and R&D, until a certain product can be delivered to the consumers. A VCH can also be described as the set of actors or enterprises that operate these activities, such as processors, traders, and distributors (Schneemann & Vredevelde, 2015). As a result of globalisation, production can occur in any part of the world before products are sent to the customers. Value-adding activities can happen in different countries. The chain is, therefore, termed a global value chain (Gereffi et al., 2005).

A GVCH, as described in Gereffi et al. (2005), can be categorised into a **producer-driven chain** or a **buyer-driven chain**. The former is found in technology-intensive industries (e.g., vehicles, computers, and semiconductors). The lead firm is placed upstream to control product design and assembly, which are subcontracted to different countries. The latter, the buyer-driven chain, is a VCH in which the lead firms are placed downstream, such as brand-named merchandisers and trading companies. The lead firms decentralise their production network to other countries, particularly developing countries. The manufacturers make the finished goods

under an original equipment manufacturer (OEM) contract. The design and specification of the products are provided by downstream entities, such as branded companies and traders. Most of the industries that fall into this category are labour-intensive and consumer-goods industries, such as garments, footwear, houseware, toys, hand-crafted items, and food (De Backer & Miroudot, 2014; Gereffi et al., 2005).

Roduner (2007) suggests taking a systemic view of VCHs, rather than considering only the process of transforming raw input into a final product. This holistic view will allow the analysis to discover opportunities and obstructions faced by actors in the VCH. According to Roduner (2007), VCH actors can be classified into three levels: *players*, *influencers*, and *supporters*. First, VCH players are the actors who directly operate the physical transformation process to turn raw materials into the final product. VCH players cannot run their operation in isolation. There are rules, regulations, and policies at the local, national, and international levels with which VCH players have to comply. These requirements are demanded by VCH influencers. The next level in the VCH is that of VCH supporters, who provide support, such as information and training, to VCH players. The role of VCH supporters is to assist VCH players to operate properly in the VCH and meet all the requirements specified by the VCH influencers.

The VCH includes various activities and actors, from preparing the raw materials to delivering the finished goods to the buyers (Kaplinsky & Morris, 2000). Take, for example, the case of the agro-food value chain. As shown in Figure 3-11 the chain involves various stages and actors, starting from input companies that provide the necessary input for the farmers. The output from farmers, for instance, crops, meat and dairy, will be sold to the next operators, which include traders, food companies, retailers and consumers. The traders may act as middlemen, selling farmers' products to other actors in the rest of the chain. Food companies may process the farmers' output into more value-added products and sell them to retailers. The retailers then deal with the end consumers in the markets.

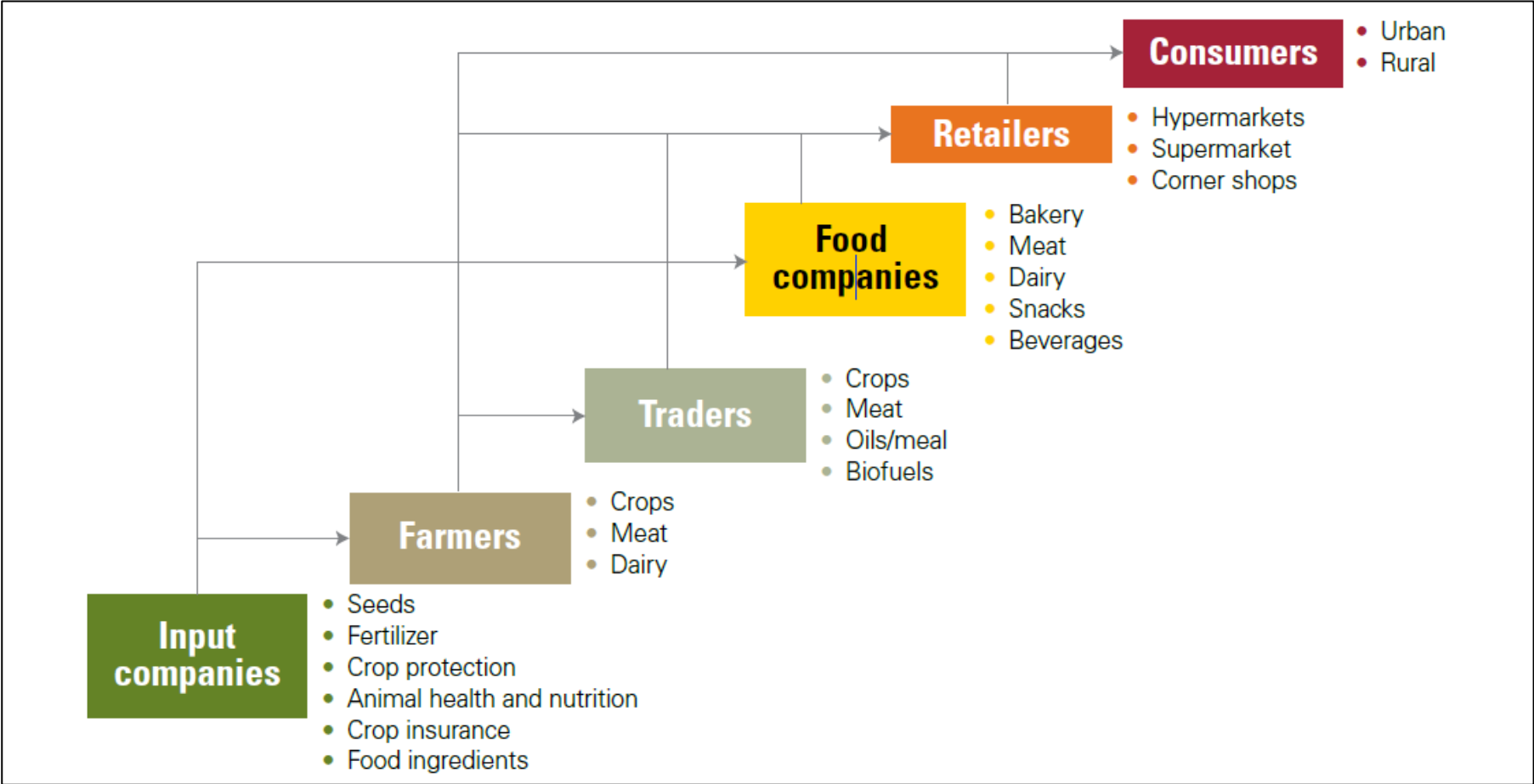


Figure 3-11: Agriculture and food value chain (KPMG International, 2013)

The VCH perspective may be close to other notions of network analysis, such as supply chain management or industry analysis. There is, however, some distinction between them. A supply chain is defined by Christopher (2010) as *“The management of upstream and downstream relationships with suppliers and customers in order to deliver superior customer value at less cost to the supply chain as a whole”* (p.12). The concept of supply chain management is a great focus on reducing cost and delivering operational excellence, while VCH stresses increasing the value of a product and/or service (Feller et al., 2006). As the purpose of this thesis is to study the opportunity identification and exploitation ability of innovative entrepreneurs who utilise innovation to increase the value of their products or services, the VCH concept is more suitable for the analysis as it underlines value-added rather than cost-reduction aspects.

The analysis of the VCH approach is different from traditional industry analysis from several perspectives. First, the VCH approach emphasises the different activities where value is added, whereas industry analysis may not pay much attention to the distribution of the value added between activities. Next, the VCH concept divides activities along the chain into segments (e.g., farmers, traders, food companies, and retailers), so that it can provide better understanding of the constraints and opportunities that entrepreneurs in each segment may face while operating their businesses (Webber, 2007).

In addition, Kaplinsky (2000) distinguishes between traditional industry analysis and VCH analysis by their focus. The former focuses on size and the growth in the number of employees and gross output, whereas the latter highlights income distribution amongst actors via value-added activities along the chain. It is possible, for example, for the trade statistics of an industry analysis to be used to identify the growth of an industry or sector, but they provide little data on what part of society benefits from that development. In some cases, the growth in a particular sector could be from imported inputs, which might not contribute to the development of domestic suppliers or local businesses as much as it should (Kaplinsky, 2000). This thesis aims to identify the differences in entrepreneurial activities in each segment. Using traditional industry analysis alone could not have provided a sufficient framework to scrutinise how entrepreneurs operating in different activities identify and exploit opportunity.

Particularly in developing countries, the VCH approach is of interest to the public sector as a tool for SME development and helping entrepreneurs to explore new opportunities (Kaplinsky & Morris, 2000; Roduner, 2007) and connect their domestic producers with international leading companies in the global value chain (Gereffi, 1994). Some policy makers realise that upgrading a VCH could have a high impact on enhancing economic growth (Webber, 2007). VCH analysis offers policy makers a holistic view of the interconnection of economic activities across sectors,

which could benefit the generation of joined-up policies between different government agencies (Kaplinsky, 2000). Since the VCH concept highlights actors' segmentation, its application helps to detect specific obstacles for business development in each segment, unlike an overall industry analysis (Webber, 2007). Therefore, policy makers are able to design appropriate supporting programmes specifically for those who are facing constraints in their businesses. In Thailand, for example, in order to advance the economy, the government is making an effort to upgrade entrepreneurs by applying VCH analysis as a tool for SME development to connect domestic producers with international markets and the global value chain (DIP, 2018).

To clarify, this research applies the emerging concept of the VCH, which is more expansive than intra-firm activities. It instead involves a range of activities and actors from different stages. In each stage, value is added by the input from the earlier phase, until the products reach the customers. The VCH approach has been of increasing interest to the research and policy field (Henriksen et al., 2010; Maestre et al., 2017). The approach allows researchers to explore the link between firms where opportunities and challenges are created (Maestre et al., 2017). The actors doing business in a VCH are entrepreneurs who are performing their opportunity process along the chain. These entrepreneurs may vary in their competencies. Some entrepreneurs or the actors in a VCH may need assistance from the public sector and research institutes to facilitate their opportunity process, whereas other entrepreneurs are capable of playing different roles in the chain on their own.

3.5.2 Entrepreneurial opportunity and the value chain

An SLR technique was applied to identify relevant VCH literature. The search included journal articles that contain "value chain" in the title. The results were limited to articles published in business, management, and policy journal categories during 1970 and 2019. The results were checked against an academic journal guide issued by the Chartered Association of Business Schools and it was found that only a few of the papers were published in journals under the entrepreneurship and small business management field. First, Theyel (2013) makes an attempt to study the adoption of open innovation by small and medium-sized manufacturing firms throughout the value chain. Her research attempts to reveal unexplored aspects of open innovation outside technology and product development perspectives. She adopts the VCH concept to consider intra- and inter-firm activities in order to identify the relation between the participating firms and their suppliers and customers. The study confirms that firms that adopt open innovation for technology and product development are more likely to adopt open innovation in the later stages of the VCH, such as in the manufacturing and commercialisation

stages, as well. The findings also show a contradiction with some prior research that suggested that external resources could lead to better innovation performance. This suggests that the expenditure on some open innovations outweighs the benefits in the short run. However, open innovation can offer intangible benefits to firms, such as better connections, greater awareness of innovation opportunities, and an enhanced reputation. It also suggests that firms are more innovative if they collaborate with their suppliers in technology development for product improvement.

Another paper published in the entrepreneurship and small business management field applies the VCH to analyse nascent firms' behaviours. Flanagan et al. (2018) discovered collaborative behaviour between nascent breweries and their direct competitor in some activities, such as process technology development, procurement, inbound logistics and marketing. In addition to their effort to apply the VCH concept to broaden the analysis of small firm collaborative behaviours, their study is another attempt to study entrepreneurs outside a hi-tech industry, which appears to be of interest to only a few entrepreneurship scholars. Part of their data show strong relationships between the brewers and other actors, such as suppliers and food truck operators, but those relationships were not pinpointed and explored, leaving a gap for further study to consider those inter-firm activities.

By expanding this literature review beyond entrepreneurship-specific journals, the researcher found that the concept of the VCH has been employed in some innovation, operations, and technology management sector studies (particularly agribusiness and food sectors) in journals. However, because of its terminology, the VCH concept is sometimes used to refer to intra-firm activities, whereas some of the literature uses it for the linkage of inter-firm activities. The majority of VCH studies that apply a macro view of the VCH inter-firm activities across different actors have examined the agricultural and food sectors.

Despite the concept of the VCH involving many actors who are entrepreneurs along the VCH, a great number of pieces of research highlight farmers who play a role in growing agricultural products for their buyers, such as Chang et al. (2016); Hu et al. (2019); Jordaan et al. (2014); Minten et al. (2013); Trebbin (2014). One reason for research favouring shedding light on farming activities could be the purpose of the VCH concept itself. VCH analysis helps researchers to review the process from upstream to downstream holistically, in order to identify the potential and bottlenecks of an industry and design appropriate supporting programmes for the actors in each stage. Thus, some scholars are more likely to help the poorest part of the VCH: the least value-added activities operated by farmers. However, the other players, such as the VCH actors in the post-harvest activities, should not be ignored. Some entrepreneurs in the post-

harvest stage are VCH players who lack negotiation power and are not influencers in the chain. Supporting these entrepreneurs, particularly those who implement innovation to add value to their business, will also stimulate the economy and upgrade the VCH. VCH upgrading could be another way to improve farmers' lives.

For inter-firm activities in a high value-added industry, Kuo & Yu (2006), for example, attempt to explain the VCH of the mobile commerce industry. Their study focuses on inter-firm activities in which 3G telecommunications operators are at the centre of the VCH, with other upstream actors (e.g., application and content developers, technology platform vendors, and mobile equipment retailers) and end users at each of the two ends. As telecommunications operators are at the centre of the VCH, Kuo & Yu (2006) suggest that they should not focus only on technique, but also on service, so that their roles in the middle of the VCH can provide irreplaceable status for them. A hi-tech industry such as mobile commerce may vary from a low-tech industry, such as the food industry, in terms of barriers to entering the business. The explanation of the coordinator and intermediary roles in a hi-tech VCH might not be applicable for an intermediary of a food VCH.

Upgrading a VCH can be done through several options. For example, the actors may choose to upgrade value-added production (by introducing innovative products, innovative processes, and/or innovative marketing activities) or upgrade the governance form (by choosing an appropriate organisational structure that facilitates collaboration with other VCH partners) (Trienekens, 2011). Entrepreneurs who are actors in a VCH may consider these options in favour of an opportunity for business development. However, as pointed out by Trienekens (2011), the VCH literature pays much attention to market relations but overlooks the business environment in which the actors operate. Entrepreneurial opportunity literature, on the other hand, centralises analysis on the businesses operated by entrepreneurs but pays little attention to entrepreneurial activities as part of a VCH. The entrepreneurial activities that are vital for business development do not occur in isolation. Entrepreneurs run their business as part of a VCH. Therefore, involving the VCH concept in the study of entrepreneurial opportunity may offer better understanding of how entrepreneurs discover and exploit opportunities for profit.

To the best of the researcher's knowledge, there has been little prior literature that has considered the value chain concept as the context of entrepreneurship studies. Some research has discussed stakeholders or entrepreneurial networks as influential factors affecting the opportunity process. However, those studies did not comprehensively consider entrepreneurs as actors in a value chain in which the roles of value chain actors could affect how they process their entrepreneurial activities. This study takes this literature gap into account and attempts to

explain if entrepreneurs playing different roles identify and exploit opportunity differently or not. In doing so, this research is also expected to contribute to the value chain literature in terms of its key questions regarding value chain upgrading opportunity (van Dijk & Trienekens, 2012).

The macro view of the VCH applied in this thesis will provide a broader perspective for the researcher to observe the link between entrepreneurial activities operating within and/or outside a firm that are sometimes run by the same entrepreneurs. Much of the research in the entrepreneurship field is said to be theory-driven and is unused by policy makers and practitioners (Malfense Fierro, 2012; Rosa, 2013; Wiklund et al., 2019). Therefore, by applying the concept of the VCH that has been popularised amongst policy makers (Henriksen et al., 2010; Kaplinsky & Morris, 2000), entrepreneurship research could prove its viability to benefit a wider audience than just theorists.

3.5.3 Value chain of food

The food value chain has been defined as a range of “*all activities necessary to bring farm products to consumers, including agricultural production, processing, storage, marketing, distribution, and consumption*” (Gómez & Ricketts, 2013). The actors participating in the chain could, therefore, be farmers, manufacturers, traders, and consumers (Dürr, 2016; Gereffi et al., 2005; Kaplinsky & Morris, 2000) in the previous section illustrates the VCH of food, showing details of economic agents, from input companies to the consumers. Similar to the case in Thailand, the food industry covers the whole value chain of food, as shown in

Figure 3-12. The VCH starts from the agriculture sectors and moves to the food processors, trading, as well as other supporting activities, such as R&D, logistics, and quality standards certification. Some entrepreneurs may also have international customers and are, therefore, linked to a global value chain.

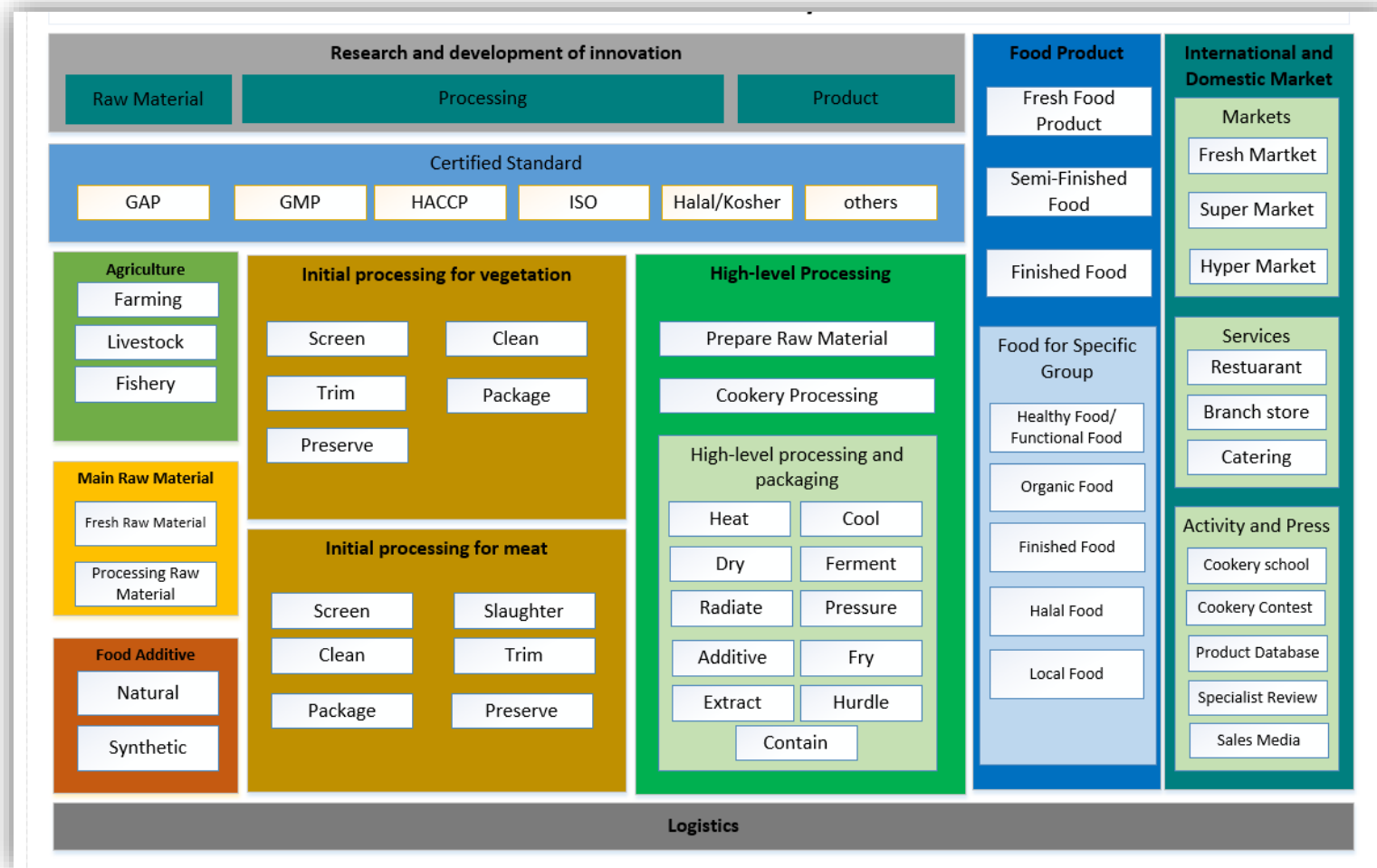


Figure 3-12: Structure of the Thai food industry (OIE, 2012)

The complex structure of the Thai food industry can be simplified to explain the VCH of food products, as shown in Figure 3-13.



Figure 3-13: Simplified typology of actors along the food value chain

The agro-food value chain tends to be buyer-driven, whereby branded-name merchandisers and trading companies have a great deal of influence in controlling the chain (De Backer & Miroudot, 2014; Gereffi, 1994; Giovannetti & Marvasi, 2016). Many Thai food entrepreneurs are the manufacturers that operate under an OEM contract with branded-name merchandisers (TDRI, 2017).

A comparison between different-sized players in the agricultural VCH has shown that the large-scale players, which are national and multinational firm, can offer higher contributions to gross domestic product (GDP), but smallholders are more effective at job generation through their production networks. Thus, small-scale players could be tools for stimulating growth. Pro-poor policies could deliver a higher impact if governments gave their support to smallholders (Dürr, 2016). In some developing countries, it is difficult for smallholders to connect with their buyers (retailers or wholesalers) (Jordaan et al., 2014; Trebbin, 2014). The government tries to facilitate a connection between small farmers and their buyers by helping to minimise transaction costs, such as by upgrading the flow of information or improving product quality, so that farmers can meet the requirements of their buyers. It will then be easier for smallholders to integrate with large buyers (Jordaan et al., 2014).

Research on VCH actors, such as in the work by Dürr (2016), focuses on the effect of the output of their activities on economic value, such as GDP and employment. Swinnen & Kuijpers (2019) propose a conceptual model for effective technology transfer across VCH actors and suggest that it is not only the downstream firms that play a role in technology adoption, but that farmers are also crucial for the success of the technology adoption. The VCH actors classified in Swinnen & Kuijpers (2019) are simple ones and do not fully reflect the complex VCH of agro-food, as there are more players who are significantly involved in the chains, such as retailers, wholesalers, logistics providers, exporters and importers; see Giovannetti & Marvasi (2016); Jraisat (2016).

However, their suggested concepts could show that the actors at any of the stages in the VCH are vital to the success of adopting a new technology or innovation. It can be difficult to drive change in a VCH by emphasising one particular stage. In practice, any VCH agent is vital in driving a change. Therefore, in order to upgrade a VCH through innovation, the whole value chain should be taken into consideration. The significance of the relationship across the actors in the VCH is also confirmed by Monastyrnaya et al. (2017), who propose a template for a sustainable food VCH.

In addition to the entrepreneurship literature, a number of examples of VCH research have found a significant impact of networks on firm performance, such as Håkansson et al. (1999); Jraisat (2016); Kahiya & Dean (2014); Pimentel Claro & Borin de Oliveira Claro (2011). A network is described as the links between actors. These links explain the structure of the actors, activities and resources in the VCH (Ritter et al., 2004). The networks amongst actors are significant to firm performance e.g., sales growth, profit, customer satisfaction, and relationship continuation (Lages et al., 2005; Wilson, 1995). The actors' profiles, such as their position, reputation, relationship with partners, and social bonds, are positively linked with firm performance in the VCH (Jraisat, 2016). However, those studies do not directly highlight entrepreneurial activities in which innovation plays a vital role.

To date, there are few studies that focus on how VCH actors process their opportunity identification and exploitation in the chain. A number of prior entrepreneurship research studies have focused on the relationship between entrepreneurs and their networks (e.g., Fuentes et al. (2010); Nieto & Gonzalez-Alvarez (2016); Ren et al. (2016)) or stakeholders (e.g., Choi & Shepherd (2004); Vandekerckhove & Dentchev (2005)) as facilitating factors in the opportunity process but not many of them discuss entrepreneurs who may play different roles in the chain of business, which may support entrepreneurial opportunity for these entrepreneurs.

The samples in this research comprise entrepreneurs acting in various roles in the value chain of food. Their entrepreneurial activities also generate input for the next stage of the value chain. For example, farmers grow rice and sell unmilled rice to rice mill owners. The milled rice from the rice mills will be fed into a production line of processed food which is run by the processor in a food company. In some instances, entrepreneurs play more than one role in running various entrepreneurial activities along the VCH before delivering the product to the end consumers.

Through the review of existing literatures, this section has revealed some of the gaps in entrepreneurship study. The opportunity process is affected by a range of factors that causes different outcome to different entrepreneurs (Shane, 2003; Ardichvili et al., 2003; George et al.,

2016). Such process experienced by an entrepreneur might be inconsistent to the others. The process of opportunity for each entrepreneur can be varied by some of the factors that affect that process including individual attributes and surrounding environment (Shane, 2003). So, this induces the third research question that aims to comparatively investigate the factors that influence different opportunity process amongst entrepreneurs in the value chain. Specifically, the concept of value chain, which offer a more specific analysis than general industry analysis, has found to be a new concept that could create new knowledge in entrepreneurship study.

Research question 3: *What are the differences or similarities in the opportunity identification and exploitation process between entrepreneurs operating in an agro-food VCH?*

3.1 What are the differences or similarities between entrepreneurs owning small, medium and large businesses?

3.2 What are the differences or similarities between entrepreneurs in different sub-VCHs in a food VCH?

3.3 What are the differences or similarities between entrepreneurs playing different roles in a VCH?

3.6 Conceptual Framework

This thesis seeks to explain the opportunity process. In doing so, the research is shaped by some of the knowledge offered by existing literatures. The opportunity process as suggested by Shane (2003) consists of discovery and exploitation stages which involve variety of factors to explain the process.

Entrepreneurs, the main focus of entrepreneurship research, do not act alone in isolation. In fact, they are interacting with other stakeholders (Granovetter, 1985). The context of industry and macro-environment such as government policies also play roles in how they perform their opportunity process (Shane, 2003). Different from prior studies, this thesis has adopted the concept of VCH that offer deeper explanation to the entrepreneurs acting different roles from the earlier stage of transforming raw materials to selling product to the market (Freeman & Liedtka, 1997; Kaplinsky & Morris, 2000). This holistic view provides a new viewpoint to understand entrepreneur's opportunity process. By grouping entrepreneurs according to their roles within the VCH (farmer, process, and trader), this is expected to bring in some insight to answer how and why entrepreneurs discover and exploit opportunity.

Entrepreneurship research in Thailand, in particular, is not highly developed. Literature review in the earlier sections showed only a small number of the study on entrepreneurs' opportunity in Thai context. This research attempts to advance the knowledge in the opportunity process in

Thai entrepreneurs. Also, agro-food industry is one of the most significant sectors in Thai economy. Therefore, it is expected to contribute an interesting context for the study on opportunity process.

Unit of analysis is essential for entrepreneurship study (Davidsson & Wiklund, 2001). In the past literatures, most of the paper focused on one level of analysis. Some chose individual level of entrepreneur, while some selected firm level as a unit of analysis. There were not many studies that clearly took both individual and firm level data into their analysis. As illustrated in Figure 3-14, this research values both individual level and firm level a unit of analysis. Individual level data of entrepreneurs, their demographic factors, could explain their differences in entrepreneurial process amongst different entrepreneurs (Shane, 2003). In addition, firm level data offers understanding about entrepreneur's prior experience and firm performance that could affect the process of innovative opportunity (Rosa & Scott, 1999). Therefore, this study accounts both levels of analysis as a tool to understand the opportunity process.

Moreover, this study applies the VCH concept as an analysis angle. Entrepreneurs who are operating under the VCH are playing different roles in the VCH of agro-food. This study employs initial concept of the VCH which consists of three key roles which are 1) farmer who do farming, 2) processor who bring agricultural products into the manufacturing process, and 3) trader who sell the processed products to the market. The entrepreneurs participating in their study will be categorized according to their roles in the VCH to analyse their opportunity process. To the best of the author's knowledge, there are not many studies in entrepreneurship field that discuss the concept of VCH in their studies. So, this view is expected to contribute a new viewpoint to understand entrepreneurial opportunity, mainly in the process of identification and exploitation.

Apart from the entrepreneurs' viewpoints, this study takes perspectives of the experts, from a variety of supporting agencies that play roles in facilitating opportunity process, into account. This is aimed to offer an insight to the environment where entrepreneurs are developing their opportunities.

Figure 3-14 exhibits the conceptual framework for this study.

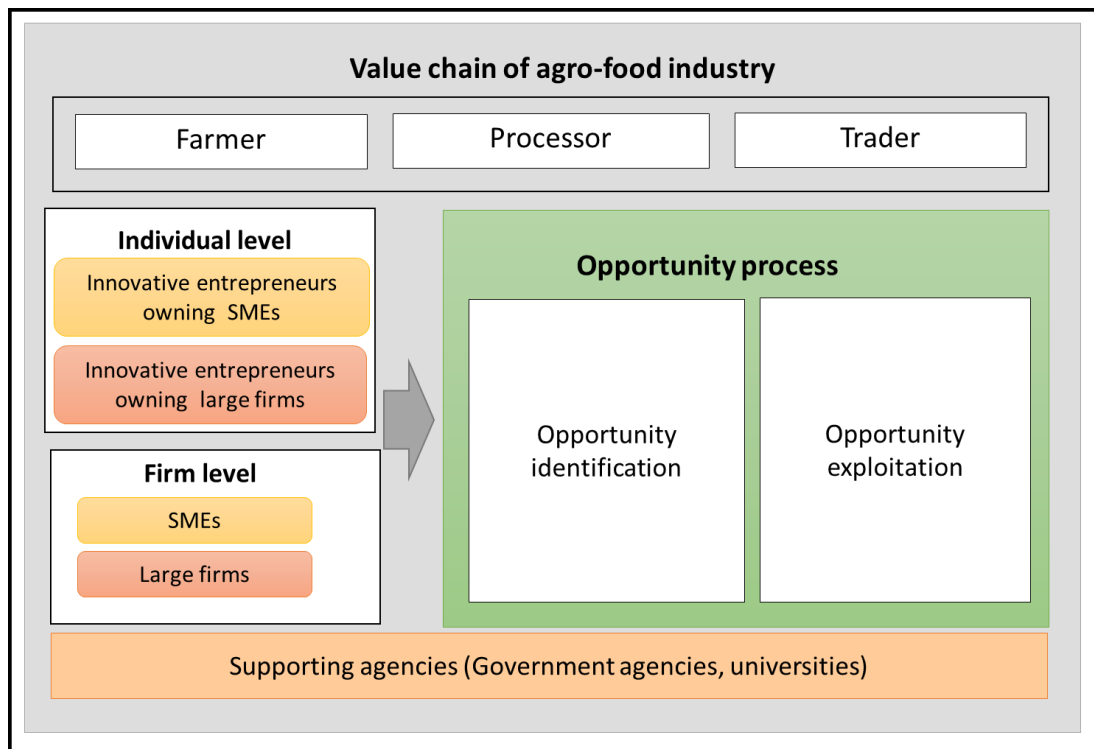


Figure 3-14: Conceptual framework of the thesis

3.7 Gaps in the literatures and research question development

3.7.1 Gaps in knowledge

The existing literatures show a number of factors influencing entrepreneurial opportunity as illustrated in Figure 3-15. Most of the factors relate to information that could lead to a change in knowledge, entrepreneurs' traits, and changes in the external environment, thus facilitating opportunity recognition. By utilising these factors, entrepreneurs will be able to identify opportunity through different local changes that could offer profitable opportunities (Eckhardt & Shane, 2003). The factors include changes in products and services, raw materials, geographical markets, methods of production, and organisational approaches (Schumpeter, 1934).

As pointed out by Eckhardt & Shane (2003), sources of opportunity can come from the supply or demand side. However, a greater number of items in the literature are now discussing the supply side, such as changes in products, input, ways of organising, and production processes. Such changes can be caused by developments in some of the factors in the framework proposed by George et al. (2016). However, most of the literatures focus on entrepreneurs. There seem to be only a few works discussing the changes in the demand side that could affect the process of entrepreneurial opportunity.

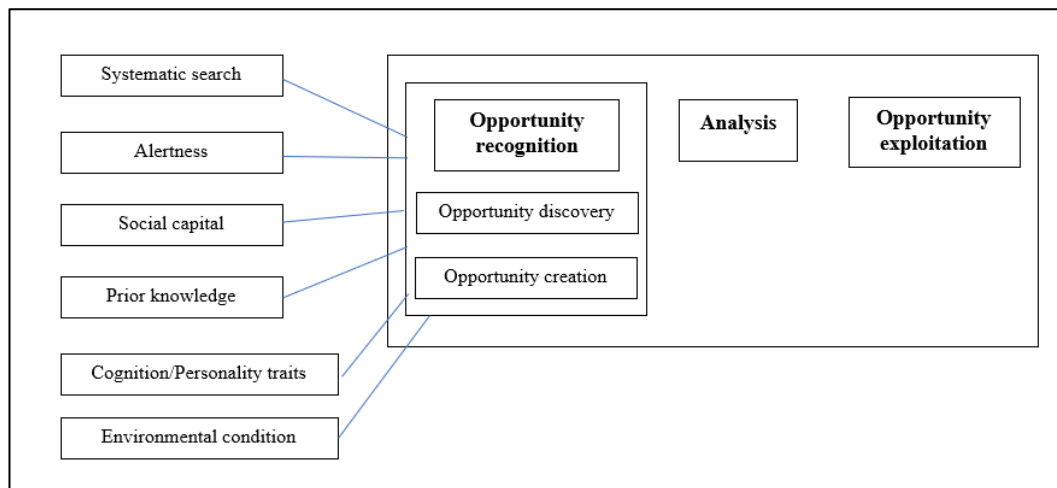


Figure 3-15: Opportunity recognition framework as conceptualised in the literatures proposed by George et al. (2016)

Instead of understanding the way in which one single factor influences the opportunity process, this study expects to enhance knowledge about the process, starting from identification until the exploitation stage. From the literature review, it has been found that majority of the studies were more focused on explaining the influencing factors. There were few of them that attempted to illustrate the process. Therefore, it shows a room for new study to discover new insight to explain the process of opportunity, rather than just researching the factors themselves. In this regard, understanding how and why the entrepreneurs identify and exploit opportunity is expected to shed light on new knowledge about the process.

The SLR process revealed a large amount of literature that highlights the importance of entrepreneurial networks (which are part of an entrepreneur’s social capital) that support the entrepreneurial process. Most of the studies consider the entrepreneur as a focal point, who links and collaborates with other stakeholders in order to be successful in exploiting profitable opportunities. Nevertheless, only a few scholars have tried to explore the roles of stakeholders in the process of entrepreneurial opportunity. For instance, Vandekerckhove & Dentchev (2005) proposed a conceptual work explaining how entrepreneurs could break their cognitive limitations by utilising the stakeholder relationship to help them identify new opportunities.

However, their work does not specifically identify who the stakeholders are in an entrepreneurial network. Instead, they classify stakeholders by the level of significance they may have with regard to a firm’s survival, i.e., primary-stakeholder, secondary-stakeholder and non-stakeholder. The study does not describe the roles of these stakeholders as actors in the value chain of entrepreneurship (Freeman & Liedtka, 1997). Entrepreneurial opportunity does not

occur in isolation. Entrepreneurs' interaction with other stakeholders and the surrounding context has an influence on the opportunity process (Dimov, 2007). Entrepreneurs are part of the value chain context, in which they interrelate with their suppliers and customers. However, there seems to be little discussion that takes entrepreneurs' roles in the value chain into consideration with regard to opportunity.

3.7.2 Gaps in methodology and context

There are numerous examples of theory-driven and deductive research published in entrepreneurship journals (Rosa, 2013). For example, Short et al. (2010) revealed the richness of the theoretical concept of entrepreneurial opportunity research. The data gained from the SLR process in the current thesis show the growing amount of empirical research after 2011, as displayed in Figure 3-16. However, the majority of these empirical works employed deductive quantitative methods. This aligns with the observation by Miller (2011) that the majority of entrepreneurship research has applied self-reported questionnaires without the interrelation of scholars and entrepreneurs. It is suggested that researchers could better explain entrepreneurs' behaviours if they had a chance to observe entrepreneurs' activities (Clercq & Voronov, 2009). Moreover, the context for the previous literature has mostly been that of developed countries, such as the USA, the UK, Germany, the Netherlands, Sweden, New Zealand and China.

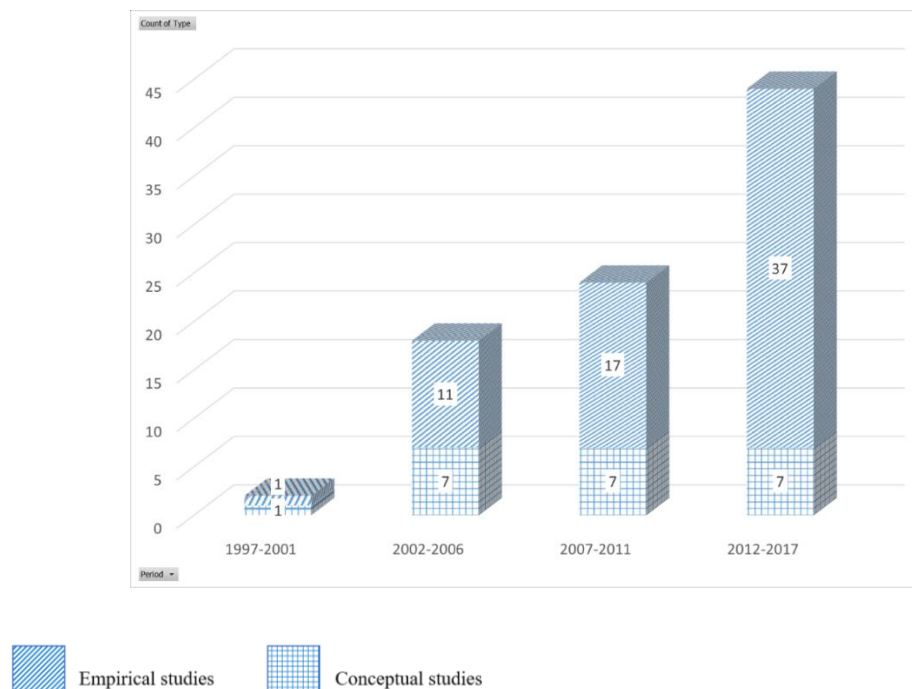


Figure 3-16: Number of empirical studies and conceptual studies in the papers that derived from SLR process

The search process specifically included Thai* (see step 9 in Table 4-3) as one of the keywords expected to bring insight to entrepreneurship research in Thailand. The results identified only a few papers relating to entrepreneurship in Thailand. However, these articles are not specifically relevant to the process of entrepreneurial opportunity, but to entrepreneurship from other business perspectives, such as entrepreneurship and financial performance e.g., Paulson & Townsend (2004); Wonglimpiyarat (2013), critical success factors for e-commerce entrepreneurs (Sebora et al., 2009), and the effect of organisational culture on entrepreneurial orientation (Engelen et al., 2014). This could suggest a lack of entrepreneurial opportunity research in the Thai context, particularly inductive exploratory study. The contextual lens is crucial for entrepreneurship studies (Welter, 2011). Thus, more research is needed to explain entrepreneurship phenomena in Thailand.

3.7.3 Research question development

From the literatures, some research gaps were identified in the earlier sections. Therefore, this thesis attempts to contribute knowledge in entrepreneurship that is still under-represented in literatures.

The unique domain that represent entrepreneurship as a field of research is “entrepreneurial opportunity” (Venkataraman, 1997; Busenitz et al, 2003; Alvarez, Barney, and Young, 2010). As pointed out by Shane (2003), the process of entrepreneurial opportunity consists of multiple stages including the emergence and exploitation of opportunity. For the researcher to understand entrepreneurship, the opportunity process should be considered.

There are a number of factors that cause variety of consequences to different entrepreneurs. Most of the studies emphasized on the change in individual attributes (psychological factors and demographic factors) and the change in environment. It shows considerable number of papers that focused on the change in the factors directly relate to entrepreneurs. However, since the opportunity can be emerged from other sources other than supply side of the market (Eckhardt & Shane, 2003). This leaves an opportunity for entrepreneurship researchers to explore demand side of the market that might contribute to the divergence of opportunity process amongst entrepreneurs. This thesis endeavours to understand the process by not limiting to focus on the change in entrepreneurs only. Instead, it will inductively investigate the opportunity process by considering how and why entrepreneurs identify and exploit opportunity. Therefore, this leads to the first two research questions of opportunity identification and exploitation.

Research question 1: Opportunity identification

1.1 How do innovative entrepreneurs in a food VCH identify opportunity?

1.2 Why do innovative entrepreneurs identify opportunity?

Research question 2: Opportunity exploitation

2.1 How do innovative entrepreneurs in a food VCH exploit the identified opportunity?

2.2 Why do innovative entrepreneurs exploit the identified opportunity?

The opportunity process is affected by a range of factors that causes different outcome to different entrepreneurs (Shane, 2003; Ardichvili et al., 2003; George et al., 2016). Such process experienced by an entrepreneur might be inconsistent to the others. The process of opportunity for each entrepreneur can be varied by some of the factor that affect that process including individual attributes and surrounding environment (Shane, 2003). So, this induce the third research question that aims to comparatively find out the effect of the factors that influence different opportunity process amongst entrepreneurs in the value chain. Particularly, the concept of value chain, which offer more specific analysis than general industry analysis, has found to be a new concept that could create new knowledge in entrepreneurship study.

Research question 3: What are the differences or similarities in the opportunity identification and exploitation process between entrepreneurs operating in an agro-food VCH?

3.1 What are the differences or similarities between entrepreneurs owning small, medium and large businesses?

3.2 What are the differences or similarities between entrepreneurs in different sub-VCHs in a food VCH?

3.3 What are the differences or similarities between entrepreneurs playing different roles in a VCH?

Supporting agencies contributing to the change in entrepreneurial opportunity. Understanding the roles of supporting agencies could help researcher to gain a better insight of opportunity process. Thus, the fourth question is emerged in order to offer another viewpoint to understand entrepreneurial process.

Research question 4: What are the roles of supporting agencies (e.g., government agencies and research institutes) during the process of opportunity identification and exploitation?

3.8 Chapter summary

By applying both SLR and conventional techniques to explore literatures, this chapter provides a range of topics on entrepreneurial opportunity. The review focuses on opportunity identification and exploitation stage, particularly the influential factors that affect the processes.

The chapter highlights some of the gaps in entrepreneurship field. It has been found that majority of entrepreneurship studies focused on the changes relating to entrepreneurs. It seems to be only few papers take demand side of the market into account (Eckhardt & Shane, 2003). Most of the literatures focused on a particular factor that affect opportunity process but not many of them tried to illustrate the affected process. Moreover, prior studies mostly emphasized on entrepreneurs' network as a key to facilitate entrepreneurial opportunity, but rarely considered the link between entrepreneurs and other stakeholders as parts of the value chain. From the literatures, it has been found that Thailand could offer an interesting context for the study on entrepreneurial opportunity since there are only few papers on this topic that focused on Thai context.

Additionally, the concept of innovation and value chain have also been explored. To summarise the discussion on literature reviews, the chapter ends by showing the conceptual framework that guide this research. The chapter has showed that there should be more research to explain the opportunity process and its influencing factors in order to advance the knowledge in entrepreneurship study.

The next chapter is proceeding to a discussion on methodology.

Chapter Four: Methodology

This chapter outlines the research methodology and research design. It starts with philosophical consideration that helps to explain rationale of critical realism paradigm underpinning this study. The chapter then proceeds to the methodological aspects of systematic literature review (SLR) which its result was discussed in the earlier chapter. The following section is the justification of research design. The process of data collection which started from value chain selection, sampling strategies, to interview techniques are considered respectively. After that, the chapter deliberates data analysis process. Lastly, in order to ensure the research quality, reliability, validity, and ethical issues are also discussed.

4.1 Research philosophy and ethics

This study is underpinned by a critical realist (CR) paradigm. The work of Guba & Lincoln (1994) points out that this paradigm encompasses a belief in the existence of a reality but denies complete separation between the researcher and the studied object. Its ontological position is that reality is shaped, over time, by several factors, such as social, cultural, political and economic influences. Reality is then crystallised and is considered real (Guba & Lincoln, 1994). As suggested by Sayer (1992), the world consists of events, objects and structures. Those structures do not produce regular patterns of events but may cause dissimilar outcomes for different people (Sayer, 1992). In this paradigm, reality may be imperfect. This belief could better explain the ontology of this research because the complexity of business may pose difficulties in finding a perfect reality. For example, entrepreneurs may reveal some of their business information and profiles, but not all of them, to the researcher. Therefore, a study of entrepreneurship is based on the data that entrepreneurs are willing to disclose.

The epistemology of CR allows the researcher to relate to social phenomena. As proposed by Guba & Lincoln (1994), *“The investigator and the investigated object are assumed to be interactively linked, with the values of the investigator (and of situated ‘others’) inevitably influencing the inquiry”*(p.110). In comparison, positivism believes in the complete separation of social phenomena and social actors but non-positivism allows a close link between the two (Bryman & Bell, 2007). CR has adopted part of these conventional beliefs. In this case, the researcher accessed data by interviewing entrepreneurs in order to understand their opportunity identification and exploitation processes in a value chain (VCH) context. CR is a context-sensitive paradigm (Bryman, 2012). Thus, interaction between the entrepreneurs and the researcher was crucial for the data gathering process in order to clarify the reasons behind the entrepreneurs’ behaviour. CR researchers do not conduct experiments with their informants

(Ryan, 2006). Researchers under this paradigm are learners who try to understand phenomena by linking themselves to the object of the study (in this case, entrepreneurs) (Ryan, 2006). The paradigm is aligned with the research objectives of this thesis, which aims to understand the identification and exploitation of entrepreneurial opportunity by explaining the activities and mechanisms that deliver the identification and exploitation process. This study does not propose to test entrepreneurs' activities, but to expound them.

The other paradigms, positivism and non-positivism, seem to have some disadvantages in terms of explaining the complexity of entrepreneurship. First, positivism believes in one single reality. The researcher in this paradigm is separated from reality. Therefore, the perfect reality in this paradigm might not be explained by the imperfect information provided by entrepreneurs. Second, although non-positivism, such as interpretivism and constructivism, allows an interrelation between research and knowledge, it would be difficult for this paradigm to explain complex issues that need both interpretive understanding and commensurability (Blundel, 2007). Thus, although both non-positivism and CR disagree with regard to a single reality, the latter is expected to deliver a better explanation for the complex structures of business.

CR scholars, such as Sayer (2000), have attempted to explain complex phenomena in the world. Sayer (2000) illustrates the view of causation in highlighting a mechanism that produces different outcomes for different people in the same environment. Unlike the view of positivism, in which consistent regularities occur in a closed system (e.g., a laboratory experiment), CR views the world in its natural setting as an open system. In a closed system, the conditions are controlled and stable throughout the process. Causal power can replicate the same result for multiple experiments. However, in the open system of a social world, some conditions may be broken and, as a result, the same casual power may lead to different results (Sayer, 2000). The current research studies entrepreneurs in their natural context in an agro-food value chain. The entrepreneurs are in a natural open system in which there could be mechanisms that drive different outcomes for their opportunity identification and exploitation. As shown in Figure 4-1, the objects of this study are entrepreneurs operating in the value chain of agro-food. However, their opportunity identification and exploitation may vary due to a range of conditions that generate different effects for entrepreneurs in the same value chain. The key mechanism and other conditions are expected to be revealed by this study.

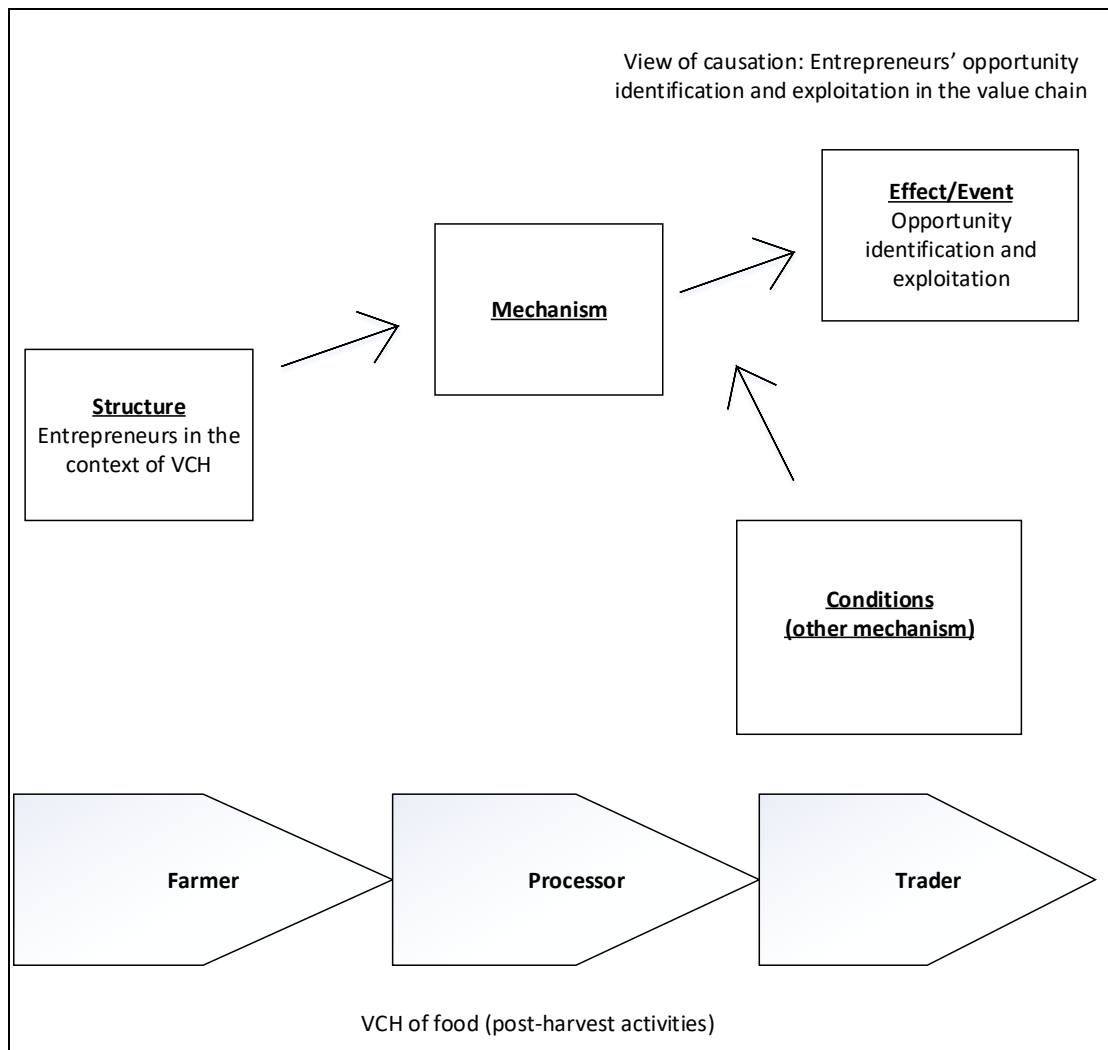


Figure 4-1: CR viewpoint underpinning the research (adapted from Sayer's view of causation, 2000)

4.2 The Process of literature review: systematic literature review and conventional literature review

This study employed a systematic literature review (SLR) as a process for reviewing existing studies. The process aims to increase reliability and reduce researcher bias by applying a systematic procedure to explore current literature (Adolphus, 2015). The approach also helps to highlight research gaps within a field of study.

Some entrepreneurship scholars, such as Short et al. (2010), Busenitz et al. (2014), and George et al. (2016) have applied SLR to study the trends in entrepreneurship fields. However, their works do not clarify how they selected the keywords they used. Rather, they seem to have leveraged their high level of experience and knowledge in the field to identify search terms. Less experienced researchers are suggested to start their literature review by generating a study scope, which will help to determine the boundaries of their review (Tranfield et al., 2003). This

means that new researchers can identify what should be included in or excluded from their literature review and this will guide novice researchers in how their study fits into the existing knowledge.

To proceed with the SLR for the current research, the author followed the procedure proposed by Denyer & Tranfield (2009). The process offers guidance for clarifying the scope and focus of a systematic review. Figure 4-2 shows the five steps in the process that were adopted for this research.

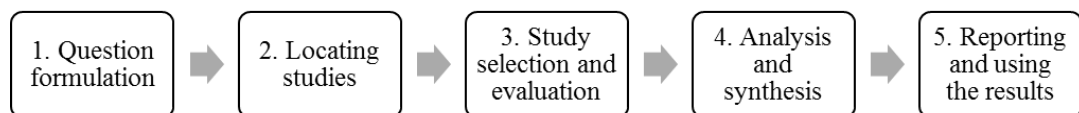


Figure 4-2: Systematic literature review process proposed by Denyer & Tranfield (2009)

Step 1: Question formulation

Prior to starting a literature review, the researcher should consider the focus of the study. CIMO logic has been suggested to help researchers scope the focus of existing works (Denyer & Tranfield, 2009). CIMO logic includes a consideration of the context (C), intervention (I), mechanisms (M), and outcomes (O) that relate to the topic of interest. This process will guide some of the keywords to be used as a search string. CIMO logic helped the researcher to review the key points involved in this thesis. The logic was applied to this research as follows:

Context: The process of entrepreneurial opportunity in the value chain of Thai food.

Intervention: The entrepreneur is the key actor in the process of entrepreneurial opportunity.

Mechanism: The entrepreneur identifies and exploits profitable opportunity.

Outcome: A successful entrepreneurial opportunity will provide profit for the entrepreneur.

Step 2: Locating studies

This step identifies the search string (group of keywords) and resources to be used in the literature search. In accordance with the CIMO logic discussed in the previous step, the author identified keywords for the generation of search strings, as shown in Table 4-1.

Table 4-1: A list of keywords for this SLR process

Keywords	Explanation
entrepreneur*	To represent entrepreneurship, entrepreneurial or entrepreneurs
opportunit*	To represent opportunity or opportunities
identif*, recogni*, discover*, creat*	Following the work of George et al. (2016), the terms that are used in the concept of entrepreneurial opportunity that are similar, particularly in the sense of opportunity emergence, such as identification, recognition, discovery, and creation, were employed in order to cover a broad range of articles in the fields. Some of the terms are sometimes used interchangeably when scholars discuss new opportunity emergence (George et al., 2016).
exploit*	To represent exploit or exploitation
food	To represent the agro-food industry or food value chain
thai*	To represent Thai or Thailand

The electronic database used in this SLR was Web of Science, which covers more than 90 million records and over 12,000 journals on different topics. Web of Science is a powerful resource that contains a greater number of scholarly sources compared with other databases (Fingerman, 2006). This enables the researcher to export important information, such as abstracts, full articles, details of authors and journals, which could be used with other computer software, such as EndNote, for further processing of the SLR.

Step 3: Study selection and evaluation

Scholars have conducted SLRs in the field of entrepreneurship that emphasise entrepreneurial opportunity. For example, Short et al. (2010), Busenitz et al. (2014), and George et al. (2016) used different inclusion and exclusion criteria, as presented in Table 4-2 below.

Table 4-2: SLR conducted in prior research and the current SLR in this study

Authors	Time span	Search terms	Inclusion and exclusion criteria	Database	Total result
Short et al. (2010).	Not specified	“Opportunity or opportunities” used in the title, keywords or abstract	Limited to 10 major journals on entrepreneurship, management and organisation	ABI-Inform, with an additional specific search based on references in relevant works	68
Busenitz et al. (2014)	2000-2009	entrepreneur*, small business, emerging business, new venture, emerging venture and founder used in title or abstract	Limited to seven major business management journals only and two major entrepreneurship journals/published in English	ABI-Inform	860 (216 and 644 articles from specific management and entrepreneurship journals, respectively)
George et al. (2016)	1996-2011	opportunity AND entrepre*, opportunity recognition, opportunity identification, opportunity discovery, opportunity creation, and entrepreneurial opportunity used in title, keywords or abstract	Limited to peer-reviewed journals, published in English	SciVers SCOPUS	180 (narrowed down from 2,186 articles by reviewing title, abstract, full paper to select relevant works only)
The current thesis	1997-2017	entrepreneur*, opportunit*, identif*, recogni*, discover*, creat*, exploit*, food, thai* used in title	Limited to peer-reviewed journals in business-related categories, including business, management, economics and finance, and published in English	Web of Science	99

This study adopted some of the functions used in previous work but applied some differences, which are described in the following exclusion and inclusion criteria:

- 1) The construction of the search strings using keywords derived from the previous stage are shown in Table 4-3 below. The search was restricted to articles that contain those keywords in the title (TI). Boolean operators, such as “AND” and “OR”, were applied to cover a wide range of related works.
- 2) The search was limited to academic journals published in the English language. It was felt that, due to the wide coverage and variety of the documents in the electronic database, the researcher might struggle with the number of results generated if they included journal articles, videos, newspapers, magazines, etc. Therefore, restricting the scope of the search to English academic journals facilitated the review of actual academic works that had been accepted by academic communities.
- 3) The journals were limited to business-related categories, such as business, management, economics or finance.
- 4) Year of publication was limited to a range of 20 years (1997-2017). Other SLR works in the entrepreneurship field have also applied a time span of around 15-24 years to cover an adequate volume of recent literature; for instance, Busenitz et al. (2014) covered the period 1985-2009 and George et al. (2016) considered 1996-2011. This period covers the beginning of the 21st century, a time in which some scholars believe that entrepreneurship research has been recognised significantly, e.g., Bruyat & Julien (2001); Miller (2011). Some key trends in the field can be identified during this period.

Table 4-3: Search string and search results

Step	Search strings	Search results	Remarks
1	TI=(entrepreneur* AND opportunit* AND discov*)	20	Restrict results by: Language (English) Document types (article) Web of Science categories (business,
2	TI=(entrepreneur* AND opportunit* AND identif*)	19	
3	TI=(entrepreneur* AND opportunit* AND creat*)	17	
4	TI=(entrepreneur* AND opportunit* AND recogni*)	24	
5	TI=(entrepreneur* AND opportunit* AND exploit*)	21	
6	TI=(entrepreneur* AND opportunit* AND food*)	1	

Step	Search strings	Search results	Remarks
7	TI=(entrepreneur* AND thai* AND food*)	1	management, economics, finance) Time span: 1997-2017
8	TI=(entrepreneur* AND opportunit* AND thai*)	0	
9	TI=(entrepreneur* AND thai*)	12	
10	Combine search strings number 1-10 using Boolean "OR"	99	

The total search string number for 1-9 was 115. The researcher then combined these search strings using the Boolean operator "OR" to eliminate duplicate papers. This resulted in 99 articles being identified. Then the researcher scanned their titles and abstracts to establish whether the search terms had been used in a way consistent with the research focus. As a result, there were 88 works for further analysis. All the records were exported to EndNote and Excel for further processing.

Step 4: Analysis and synthesis

Some article titles may contain keywords that seem relevant, but their content might not fit the research interest. Therefore, the 99 articles identified in the previous step were first screened by their titles and abstracts to establish if the content of the article related to the focus of the current study. The researcher then reviewed the selected papers to learn their key points, such as the research focus, context, methodology, and key findings. This process was conducted in order to reveal issues that might not appear when reviewing individual articles in the conventional way, such as key trends and issues regarding the research realm (see Appendix 1).

Step 5: Reporting and using the results

The results of the SLR process are discussed in the literature review chapter.

Even though the SLR is able to help researcher systematically search for related studies, the tool has some limitations. An SLR takes time and is usually carried out by a research team. For example, when working on published papers, a team of researchers is able to review all the articles. Within the limited resources available to the current research, the researcher scoped the search terms and procedures, which delivered adequate results in terms of quantity and the relevance of the papers obtained for review.

This SLR limited papers to those that were actually close to the research focus of the process of identifying and exploiting opportunity. Therefore, the researcher did not include broader search strings, such as (entrepreneur* AND Opportunit*) in the title and topic, which could have delivered more than 300 and 3,000 articles, respectively. However, while reviewing the literature, the researcher did not ignore prominent pieces of work that might be excluded by the limitation of the SLR process.

The papers obtained through the SLR process were used to guide the author to explore the existing literature and the knowledge examined for this thesis was not limited by the systematic method. The researcher also explored further relevant literature applying conventional method of literature review, such as a specific search based on the references in a paper and a search conducted on a particular subject. The search was also extended to cover other types of publication, including books and theses.

4.3 Research design

4.3.1 Qualitative research

This research applied a qualitative methodology to find answers for the research questions. Qualitative research mainly deals with material collected by observation, interviews, or documents (Miles & Huberman, 1994). However, this does not always mean that qualitative research ignores the importance of numbers (Bryman, 2012). This study employed qualitative research with some linkage to quantitative data at the quantizing level (Miles & Huberman, 1994).

As pointed out by Bryman (2012), qualitative research seems to have a variety of research designs according to different researchers' orientations. Its main feature is the data that naturally occur in a real-world setting. Researchers using this method take account of the influence of the local context, which helps them understand hidden or underlying issues. It was felt that the interaction between the researcher and the interviewees could provide a better way to understand entrepreneurs in their natural setting. Specifically, qualitative researchers in entrepreneurship field spend substantial time in dealing with entrepreneurs and involve in entrepreneurial phenomenon (Gartner & Birley, 2002). Observation undertaken during the interviews could also reveal non-obvious issues, such as the entrepreneurs' tone of voice and body language. Thus, the new knowledge emerges from a natural setting entrepreneurship circumstance seems to be clearer and truer (Gartner & Birley, 2002; Clercq & Voronov, 2009).

The quantitative method is more focused on numbers. The approach might not capture the inner experience of entrepreneurs to the extent that the qualitative method does (Corbin & Strauss, 2008). In applying a qualitative method, the researcher was able to meet and interact with the entrepreneurs in person, so that the researcher could verify that the data are actually from the entrepreneurs, not their manager or an employee. However, in a case in which an entrepreneur could not be reached, it could be stated which part of the data came from the entrepreneur's representative.

The quantitative method is able to claim better generalisability, as it can be used to gather data from a large number of participants. Qualitative research, on the other hand, does not usually target generalisability as the first priority. Rather, it aims to have a clear focus and a holistic and comprehensive view in order to explain phenomena (Corbin & Strauss, 2008; Eisenhardt, 1989). As this research is underpinned by the critical realist paradigm, in which context is crucial, it is important that the researcher had a clear context for the study (Bryman, 2012). This thesis aims to explore a topic that is not highly developed in Thailand. Therefore, the quantitative method may have some disadvantages in its capacity to achieve the research objectives of understanding the opportunity identification and exploitation of Thai entrepreneurs in the context of an agro-food VCH.

Another advantage of qualitative research is the richness and holism of the data collected, which can be used to reveal the complexity of the context being studied (Miles & Huberman, 1994). This study aims to explore the opportunity identification and exploitation process, which contains many pieces of information relating to entrepreneurs, both at the firm and individual level, including the relevant stakeholders, such as entrepreneurial support agencies i.e., government agencies and research institutes. Therefore, the qualitative method allows the researcher to access these data through interviews, observations and secondary data. These strategies provide data richness and holism for the analysis process.

The qualitative method is often criticised as being the research of impressions because of its apparently unsystematic procedure in conducting the analysis process and in terms of its reliability, validity and generalisation (Bryman, 2012). These issues are discussed in later sections of this chapter to highlight the rigorousness of this study.

4.3.2 Exploratory and inductive approaches

This is an exploratory study that tries to provide new insight and explain a phenomenon that is still in its early stages (Saunders et al., 2009). The inductive approach is one in which researchers develop

theory directly from data. The theory that emerges is thus grounded in the reality of the issue studied. Researchers who utilise this approach may not commence with a particular theoretical framework. However, the research question and objectives should be defined, even though they might be altered by the findings (Saunders et al., 2009). Entrepreneurship is still a new area of research as it lacks a solid methodological base for theory development (Mullen et al., 2009). Some entrepreneurship scholars have highlighted the needs for more studies to explore entrepreneurs in their natural setting to advance the knowledge in the field, for example Busenitz (1996) and Neergaard & Ulhøi (2007).

In Thailand, entrepreneurial opportunity is a research topic that has not been widely researched. There are some papers discussing entrepreneurs and their businesses in other perspectives, not specifically concerned the opportunity process, for instance, entrepreneurship and financial performance e.g., Paulson & Townsend (2004); Wonglimpiyarat (2013), critical success factors for e-commerce entrepreneurs (Sebora et al., 2009), and the effect of organisational culture on entrepreneurial orientation (Engelen et al., 2014). (More studies are needed in order to understand how entrepreneurs identify and exploit opportunities. As suggested by Welter (2011), the contextual lens is an essential aspect to study entrepreneurship as entrepreneurs operating in different context may behave differently. Specifically, entrepreneurship research in general is mostly focused on a traditional analysis of industry context. It is rare to find an entrepreneurship study that focuses on entrepreneurs' activities in the context of a VCH. Therefore, exploratory and inductive approaches were useful for this study in order to explore an area that is not well defined.

The researcher has endeavoured to explore how different entrepreneurs identify and exploit business opportunities. The study started by defining the research objectives and questions as a guide to the scope of the study focus. The data collection process had the aim of obtaining relevant data from entrepreneurs and industry experts in order to explore issues relating to entrepreneurial opportunity. The researcher then searched for patterns in their entrepreneurial processes. This chapter later discusses how this research inductively analysed data to explain how and why entrepreneurs identify and exploit opportunity.

Some scholars, such as Yin (2003) and Corbin & Strauss (2008), point out that exploratory inductive approach could be time consuming, especially for inexperienced researchers (Saunders et al., 2009). To reduce the effect of this disadvantage, qualitative computer software, NVivo12, was applied to

organise the data systematically and facilitate the analysis process. The approach helped to save time and reduce human error in processing a large volume of transcription (Welsh, 2002).

This research applied a case study strategy; specifically, a multiple case study. The strategy deals with the use of one or multiple cases to generate a new theoretical construct, proposition, model or conceptual framework (Eisenhardt, 1989; Eisenhardt & Graebner, 2007). Although generalisability is not a crucial aim of qualitative research, a multiple case study strategy is expected to increase generalisability in a specific studied context (Miles & Huberman, 1994). It is also beneficial to decrease the risk of information processing biases; for example, people may draw conclusions from limited data, be influenced by vivid or elite informants and ignore basic statistics. Therefore, multiple cases provide divergence for analysis and aid in developing sophisticated explanations for a studied topic (Miles & Huberman, 1994).

4.3.3 Linking qualitative and quantitative data – the quantising level

This exploratory research links qualitative and quantitative data at the quantising level. Qualitative researchers generally claim frequency of data by using such terms as many, often, sometimes, etc. (Bryman & Bell, 2007; Maxwell, 2010). Miles & Huberman (1994) explain “quantising” as the numerical conversion of qualitative data to facilitate pattern recognition and verify interpretation. Qualitative data (such as an incident that appears in interview transcripts) can be counted or converted into ranks. This technique provides statistical data to support qualitative data analysis. This is similar to the suggestion from Becker (1971) that the term “quasi-statistic” can be used to refer to transferring qualitative data into numbers by counting the number of times a phenomenon appears.

Using quantitative data in a qualitative study is still controversial (Maxwell, 2010). However, there are some benefits to linking the two approaches in a study. Rossman & Wilson (1985; 1994) suggest that the use of numbers in qualitative research can provide more development for analysis as the approach offers richer detail. It can also offer fresh insight, adding a new line for analysis. It also clarifies the analysis process, such as by identifying the frequency that an incident occurs. By making qualitative data analysis more explicit, this could be a way to promote qualitative research entrepreneurship field (Hlady - rispál & Jouison - laffitte, 2014). In addition, it enhances internal generalisability and helps the researcher to characterise a diversity of actions in a study (Maxwell, 2010).

However, some concerns have been raised. First, numbers may lead the researcher and the audience to ignore the context limitations of qualitative study (Maxwell, 2010). Qualitative research differs from quantitative research, particularly in relation to the research context. Thus, the researcher and the reader have to keep in mind that the aim of a qualitative study is not statistical generalisability, but analytical generalisability (Yin, 2003). One also has to ensure that all the data are reviewed, so that the count can appropriately represent the frequency of a phenomenon. The process of reviewing all data could be even more complex if there are multiple sources of data (Becker, 1971).

This thesis collected data from a variety of primary and secondary sources. The quantising process was only applied to primary data from semi-structured interviews. The researcher reviewed every interview transcript back and forth to ensure phrases were tagged to appropriate codes. The quantising technique is aimed at supporting qualitative analysis, not replacing the richness of data that is a strength of the approach. As highlighted by Maxwell (2010), *“Numbers can’t replace the actual description of evidence but can provide a supplementary type of support for the conclusions when it’s impossible to present all of this evidence”* (p.480).

4.4 Data collection process

4.4.1 Value chain selection

This study attempts to examine opportunity identification and exploitation process in the VCH context, which is a more specific approach than assessing an industry context. The food industry in Thailand is broad, covering the upstream and downstream activities of various sub-value chains. Therefore, in order to investigate opportunity identification and exploitation in the VCH context, the process began by identifying a specific value chain on which to focus. The selection criteria proposed by Schneemann & Vredevelde (2015) were adopted.

The selection process started by screening and shortlisting several VCHs that might have a high impact on the economic and social development of Thailand. The following economic and research considerations were applied: 1) export value and growth potential; 2) industry concentration, such as the number of people involved in a particular value chain, including farmers, enterprises, and employment; and 3) the opportunity for conducting the research because this study is at the doctoral level and was to be carried out by one student, not a research team. Therefore, some limitations needed to be considered, such as the financial budget, time limit, accessibility to the

informants, and safety. Using these criteria, the selection process produced the information presented in Table 4-4.

Table 4-4: The key issues of each value chain according to the discussed criteria

Criteria	Export value and growth potential	Industry concentration and national priority	Opportunity for conducting research
Rice and rice products	<ul style="list-style-type: none"> - Involves the largest number of farmers - Largest agricultural areas - Highest export value in the agro-food sector 	<ul style="list-style-type: none"> - Involves the largest number of workers - Largest agricultural areas - Highest export value in the agro-food sector 	Various actors in the VCH, from farmers to processed food producers and exporters
Chicken and chicken products	<ul style="list-style-type: none"> - The lowest export value among these choices - Positive growth rate in export value 	<ul style="list-style-type: none"> - Several giant firms dominate the industry - Rarely heard notable policies 	
Shrimp and shrimp products	<ul style="list-style-type: none"> The export value is quite high Negative growth rate Crisis in the export situation to a major market, the US Facing non-tariff barriers 	<ul style="list-style-type: none"> Several giant firms dominate the industry The policies mainly are to response the negative news on shrimp products 	<ul style="list-style-type: none"> Majority of the end product is frozen shrimp. Hard to find other value-added products, some of which are processed by large firms Difficulties in accessing data
Fruit and fruit products	<ul style="list-style-type: none"> Positive export value growth rate Their value seems less when considered separately for each type of fruit 	<ul style="list-style-type: none"> - Involves the largest number of people and small businesses in the VCH - Government policy interested in supporting this agro sector since it relates to large numbers of stakeholders 	<ul style="list-style-type: none"> - Various actors in the VCH, from farmers to processed food producers - Compared to other choices, there are only a few studies on this VCH

According to the criteria discussed and following a review of the factual information available, the VCHs seem to have different areas of interest. Paassen et al. (2014) point out that in order to explore divergences of entrepreneurship, the VCH selected should consist of some distinctive

characteristics. Consequently, the researcher planned to focus on the following mature and developing VCHs.

- 1) Mature value chain: Rice and rice products. Rice is regarded as part of the national agenda. The industry involves a great number of people and there are a range of government support policies and agencies to help and promote farmers and entrepreneurs in this sector. Thailand has been ranked at the top of the world market in terms of production and export of rice for many years. For these reasons, rice could represent a mature VCH.
- 2) Developing value chain: Fruit and fruit products. The export value of fruit has been growing in recent years. However, there are a variety of fruits in the country. An economically significant fruit is pineapple, which was ranked number one in world exports, whereas others may make less of a contribution in terms of financial value, such as mangosteens and longans, which are still regarded as part of the country's fruit strategy. Some fruits faced a price crisis many years ago. However, the price of fruit has risen recently due to huge demand from abroad. Thus, fruit could be regarded as a developing VCH.

These two VCHs are both in the agro-food sector but still contain different characteristics. The selection of these two VCHs is consistent with the epistemology underpinning this research, which is interested in identifying a mechanism that generates a variety of outcomes. Hence, selecting two types of VCH may help to explain what causes dissimilar processes for entrepreneurs.

In addition, since this research aims to study the opportunity identification and exploitation strategies of innovative entrepreneurs in the VCH context, the focus was chosen to be on entrepreneurs in post-harvest activities. It is in the post-harvest stages that higher value-added activities are believed to be generated (Giovannetti & Marvasi, 2016; KPMG International, 2013).

4.4.2 Sample selection

- 1) Sampling strategies

This research employed purposive sampling and snowballing as the key strategies to acquire participants. Initially, the targeted entrepreneurs were those in the rice and fruit value chains. However, there were some challenges in achieving adequate numbers of participants who could provide sufficient data and, therefore, the researcher decided to include entrepreneurs whose businesses might not focus purely on rice or fruit. For example, their businesses might be in the agro-food industry, which contains rice and fruit as components. In some cases, entrepreneurs'

businesses are large and cover both rice and fruit. As a result, a total of 35 entrepreneurs and 11 experts (2 out of the 11 are considered elite interviewees) took part in this study.

The recruitment process started with a purposive sampling strategy. This technique allowed the researcher to reach entrepreneurs that were the most suitable for the specific purpose of the work. The researcher started searching for potential interviewees by using different connections, whether personal or professional, in both the public and private sectors. Unlike the convenience sampling strategy, which relies on existing relationships (Valerio et al., 2016), utilising a purposive strategy requires the researcher to establish new relationships with new people who could help identify potential interviewees. With support from friends and colleagues, the researcher established links with new people in order to gain access to informative entrepreneurs. The majority of the interviewees were reached by this sampling strategy. However, it was not always easy to gain permission to contact potential participants. There were a few entrepreneurs who initially agreed to allow the researcher to contact them but then turned down the request.

Snowballing, which is another technique to recruit participants, was also used. The technique involves participants who have already joined a study introducing the researcher to other potential interviewees (Morse, 2004). It was expected that the entrepreneurs' network might be useful for bringing further relevant contacts to join the research (Merriam & Tisdell, 2016). However, in practice, snowballing might not be particularly effective in every case.

The snowballing technique seemed not to be successful when applied to some of the entrepreneur participants. There were several reasons for this lack of success. In some cases, although the entrepreneurs had been in the processed food business for many years, they denied knowing other entrepreneurs who could be relevant to this study. At a meeting with one entrepreneur who probably has good entrepreneurial networks, she clearly stated that she did not want to refer the researcher to other entrepreneurs. She allowed the researcher to conduct an interview with her because it was about her own business, but she would have felt uncomfortable introducing the researcher, who was considered a new face, to other entrepreneurs among her connections to talk about their businesses. Participants might also be concerned about privacy and confidentiality (Valerio et al., 2016). In this case, it could be inferred that these participants did not want to involve others' businesses. On the other hand, the snowballing technique seemed to work well with younger entrepreneurs, who were willing to introduce their networks to the researcher. One of the

younger generation of entrepreneurs also disclosed that he had the feeling that old-fashioned businesspeople are very cautious about sharing information with non-family members.

Moreover, since the researcher also planned to conduct expert interviews, it was expected that those experts may be able to connect the researcher with entrepreneurs. Applying the snowballing technique with experts appeared to be more successful. The experts (researchers, lecturers and civil servants) and elites who participated in the interviews were able to connect the researcher with some more entrepreneurs. The referrals from elites were particularly helpful, as they were able to bring interesting and hard-to-reach cases to participate in this study.

2) Sample selection

The opportunity identification and exploitation process may vary with different types of entrepreneur. Shane (2003) suggests some of the individual factors that may influence the entrepreneurial process, such as gender, education, and prior experience. These factors may result in different entrepreneurial opportunity process amongst entrepreneurs in the same industry. The characteristics of the entrepreneurs who participated in this research vary in terms of their personal and professional backgrounds, which could affect their opportunity identification and exploitation. By applying sampling strategies discussed in the earlier sections, this study involves with 35 entrepreneurs who possess a variety of individual-level and firm-level profiles as showed in Table 4-5. More details of the sample entrepreneurs can be found in Appendix 2.

Table 4-5: Profiles of sample entrepreneurs

No.	Entrepreneur	Gender	Age	Qualifications ²	Entrepreneur type	Membership of entrepreneurial associations	Type of organisation	Firm size
1	W.K.	Male	31	B. Mechanical Engineering	Portfolio	Member	Limited partnership	S
2	J.K.	Female	53	1. M. (Marketing) 2. M. (Political Science)	Portfolio	President (provincial level), Federation of Thai Industries	Limited company	S
3	K.K.	Male	32	Master of Business Administration (MBA)	Novice	Member	Limited company	S
4	A.T.	Male	36	1. B. Engineering 2. M. Economics 3. M. Computer Science	Portfolio	Large firm	Public limited company	L

² M stands for master's degrees and B stands for bachelor's degrees

No.	Entrepreneur	Gender	Age	Qualifications ²	Entrepreneur type	Membership of entrepreneurial associations	Type of organisation	Firm size
5	O.W.	Male	57	M.	Portfolio	Vice Chair (provincial level), Federation of Thai Industries	Limited company	S
6	S.M.	Male	44	M. Public Policy B. Law B. Management	Novice	Member	Limited company	S
7	C.W.	Male	53	B. Political Science	Novice	Vice Chair (provincial level), Chamber of Commerce	Limited company	S
8	C.C.	Female	37	Master of Business Administration (MBA) M. Arts (English) B. Arts (English)	Portfolio	No	Limited company	S
9	M.P.	Female	35	B. Economics M. Economics	Portfolio	No	Limited company	S
10	N.R.	Female	41	M. International Relations B. Arts	Portfolio	Manager, Thai (an agricultural product) Industry Association	Limited company	S

No.	Entrepreneur	Gender	Age	Qualifications ²	Entrepreneur type	Membership of entrepreneurial associations	Type of organisation	Firm size
11	B.R.	Male	73	B.	Portfolio	Vice President, Thai (an agricultural product) Industry Association	Limited partnership	S
12	P.K.	Male	50	B.	Novice	Member	Community enterprise	S
13	S.S.	Male	43	High school	Novice	President (provincial level), Federation of Thai SMEs	Community enterprise	S
14	T.W.	Male	38	M. Management Information Systems B. Supply Chain Management	Portfolio	1. Vice President (provincial level), Chamber of Commerce 2. President (provincial level), YEC (Young Entrepreneurs Chamber)	Limited company	S
15	P.Y.	Female	33	B. Management	Novice	Member	Community enterprise	S
16	T.N.	Male	61	B. Agricultural	Portfolio	Chair, Dried (agricultural products) Producers Association	Limited partnership	M
17	K.D.	Female	37	M. Media Arts B. Arts (English)	Portfolio	Chair (provincial level), Federation of Thai SMEs	Limited partnership	S

No.	Entrepreneur	Gender	Age	Qualifications ²	Entrepreneur type	Membership of entrepreneurial associations	Type of organisation	Firm size
18	S.Y.	Female	34	B. Business Administration	Novice	No	Personal business	S
19	R.P.	Male	52	PhD Social Science	Novice	1. Director (regional level), Organic Farming Community Enterprise Network 2. General Manager (provincial level), Organic Farming Cooperative	Limited company	S
20	K.J.	Female	36	M. Population Education B. Nursing	Novice	Member	Limited company	S
21	R.T.	Female	47	B. Agricultural	Novice	Member	Limited partnership	S
22	K.W.	Male	78	B.	Novice	Member	Limited company	S
23	P.V.	Male	36	Master of Business Administration (MBA) B. Food Science	Portfolio	Member	Limited company	L
24	P.H.	Female	29	B. Biochemical Science	Portfolio	Member	Limited partnership	S

No.	Entrepreneur	Gender	Age	Qualifications ²	Entrepreneur type	Membership of entrepreneurial associations	Type of organisation	Firm size
25	P.T.	Male	39	B. Arts English	Manager		Public limited company	L
26	P.P.	Male	31	M. Management B. Economics	Novice	Member	Limited company	S
27	N.P.	Male	37	M. Economics B. Economics	Portfolio	Member	Limited company	M
28	M.U.	Female	36	M. Management B. Finance	Portfolio	Member	Limited company	S
29	W.P.	Female	31	M. Marketing	Portfolio	No	Personal business	S
30	P.N.	Female	31	M. Finance and Economics B. Economics	Portfolio	Member	Limited company	S
31	S.P.	Female	30	M. International Business	Portfolio	Member	Limited company	S
32	P.D.	Female	36	B. Arts	Manager		Public limited company	L

No.	Entrepreneur	Gender	Age	Qualifications ²	Entrepreneur type	Membership of entrepreneurial associations	Type of organisation	Firm size
33	K.T.	Male	32	B. Economics (international programme)	Portfolio	Member	Public limited company	L
34	S.J.	Female	48	M. Food Science B. Food Science	Manager		Limited company	L
35	K.N.	Female	38	Master of Business Administration (MBA) B. Food Science	Manager		Limited company	L
		Male: 18/35 = 51% Female: 17/35 = 49%	Average age: 42 yrs	<u>Highest qualification:</u> Master's degree: 20/35 = 57% Bachelor's degree: 13/35 = 37% PhD: 1/35 = 3% Secondary school: 1/35 = 3%	<u>Entrepreneur types</u> Portfolio: 19/35 = 54% Novice: 12/35 = 34% Manager : 4/35 = 12%		<u>Type of firm:</u> Limited company: 20/35 = 57% Limited partnership: 6/35 = 17% Public company: 4/35 = 11% Community enterprise: 3/35 = 9%	<u>Size:</u> Small : 26/35 = 74% Medium: 2/35 = 6%

No.	Entrepreneur	Gender	Age	Qualifications ²	Entrepreneur type	Membership of entrepreneurial associations	Type of organisation	Firm size
							Personal business: 2/35 = 6%	Large : 7/35 = 20%

Furthermore, by considering their firm-level profiles of these sample entrepreneurs, the following diagram illustrates their respective positions within the value chain of rice and fruit.

This study categorises VCH activities into three major roles: farmer, processor, and trader. Each role is described below.

Farmer refers to a person who grows crops and leverages farming output for the production process.

Processor or food company refers to an entrepreneur who brings basic agricultural products into the production process to transform and add value to those products.

Trader refers to a person who sells processed products to customers in a market. Traders directly connect with customers.

The participating entrepreneurs could be categorised following the primary and secondary data analysis. An ISIC code displays the core activity that generates the main revenue of a business; however, it does not represent overall an entrepreneur's roles in the VCH. Thus, in order to draw a picture of the entrepreneurs' VCH positions, the researcher considered several sources of data, including in-depth interviews, official reports (i.e., company profiles), and the entrepreneurs' interviews with media publications.

Some entrepreneurs may play various roles in a VCH. Therefore, their positions cover more than one role. On the other hand, some entrepreneurs may focus on a single role; for instance, as a processor or trader. As shown in Figure 5-1, an entrepreneur who acts solely as a processor is described as an entrepreneur who processes products and sells wholesale to traders. These entrepreneurs do not have the product under their own brand names in the market. An entrepreneur who acts solely as a trader is referred to as a middleman; these entrepreneurs do not run the production themselves but make a profit from buying and selling. They sell products to the market at a higher price than they pay for them. Their value-added activities could be repackaging and services.

Although this study focuses on post-harvest activities, some entrepreneurs are also farmers. These farmer-entrepreneurs carry out value-adding activities with their agricultural products, unlike traditional farmers who sell their initial products to traders at a lower price. It was noticeable that entrepreneurs who owned large-scale firms did not participate directly in the farming stages. During the interviews, some large-scale entrepreneurs revealed that they had been doing contract farming with their farmers. However, the analysis for this study does not count contract farming as a role those entrepreneurs perform.

The VCH focused upon in this research can be grouped into three VCHs: rice, fruit and other variety of food. The rice and fruit VCHs relate to entrepreneurs whose business mainly relies on rice or fruit. However, some of the participants own large-scale businesses that operate with many kinds of food and cannot be clearly pinpointed into one specific VCH. Therefore, they are considered as part of the Other variety of food group.

Value chain	Farmer	Processor (Food company)	Trader	Customer
RICE		W.K. (s)		
		J.K. (S)		
		K.K. (S)		
		C.C. (S)		
		B.R. (S)		
		P.K. (S)		
		S.S. (S)		
		T.W. (S)		
		R.P. (S)		
		K.W. (S)		
	M.U. (S)			
Fruit		O.W. (S)		
		S.M. (S)		
		C.W. (S)		
			M.P. (S)	
		N.R. (S)		
		P.Y. (S)		
		T.N. (M)		
		K.D. (S)		
		S.Y. (S)		
		K.J. (S)		
		R.T. (S)		
		P.V. (L)		
		P.H. (S)		
		P.T. (L)		
		P.P. (S)		
	N.P. (M)			
	W.P. (S)			
		P.N. (S)		
FOOD		S.P. (S)		
		A.T. (L)		
		P.D. (L)		
		K.T. (L)		
		S.J. (L)		
		K.N. (L)		

Figure 4-3: Entrepreneur's role(s) in the value chain

3) Limitations in sample selection

This study faced some difficulties in recruiting the participants including:

1) The large-firm entrepreneurs were difficult to reach because of their busy schedules. Thus, it was reflected in the total number of participants that there were only 7 cases categorized as large-sized entrepreneurs. Moreover, the case of medium-sized entrepreneurs was the lowest in number of participants due to the fact that it was difficult to identify their size without considering secondary data from a reliable source. Some businesses were believed to be medium size in the first place. But after checking their profiles carefully, it was found that they were small sized business.

2) Some accessible entrepreneurs were based in a far distance where it was unable to organize a trip to visit them and they did not prefer to take phone interview. Therefore, the researcher decided not to include them in this study.

3) The entrepreneurs participated in this study were on a voluntary basis. The researcher asked for their permission before taking an interview. However, some entrepreneurs first agreed to be interviewed, but later changed their mind. This causes the researcher to take more time and effort to find another interviewee.

4.4.3 Semi-structured interviews

This research conducted semi-structured interviews as part of the data collection process. This technique allowed the researcher to be more flexible than using structured sessions but to have more control than with unstructured interviews (Merriam & Tisdell, 2016). Other qualitative tools, such as focus groups (interviewing in a group), were not deemed to be suitable environments in which entrepreneurs could share their business strategies in a group of diverse people. The participants were innovative entrepreneurs, who may feel more comfortable sharing their stories in an individual interview. Moreover, another concern that usually emerges with focus groups is the problem of group effects (Bryman, 2012). Some entrepreneurs may have sought to control the stage, while others might not have had the chance to contribute fully to the discussion. The researcher wanted the interviewees to talk freely about their own experiences in order to learn their opportunity process in depth. Hence, semi-structured interviews with individual entrepreneurs were selected as a suitable method for this qualitative research.

The researcher prepared a list of open-ended interview questions as guided questions, which gave the researcher the scope of the conversation. List of the guided questions were derived from research questions and research objectives. The focus of this thesis reshaped and sharpened the questions to be asked in the data collection process (Merriam & Tisdell, 2016) The interview questions aimed to explore the knowledge for the key research questions of how entrepreneurs identify and exploit innovative opportunities. The following sections will illustrate the guided questions and the process of interviewing.

In some cases, the informants also wanted to see the questions in advance in order for them to prepare. During the interviews, the informants were more flexible in discussing their opinions and the researcher was able to ask probing questions in order to gain clarification of some of the answers. Moreover, semi-structured interview approach provided the opportunity for the researcher to respond to interesting issues raised by the interviewees that were not listed in the interview guide (Merriam & Tisdell, 2016). As this research dealt with a variety of entrepreneurs, ranging from nascent and young to more senior and well-established, an appropriate interview technique should help the researcher to establish a rapport and professional interaction with the informants. Other types of technique, such as structured interviews and questionnaires, may have created an examination-like feeling, while unstructured ones may be more difficult to control and analyse data. Therefore, semi-structured interviews were felt to be more appropriate for this study.

Each interview started with the researcher's self-introduction, the purpose of the research and the entrepreneur's freedom not to answer any question with which he/she might feel uncomfortable. The researcher asked for consent from every entrepreneur for his/her participation in the research and permission to be voice-recorded. Audio recorders were used as a recording tool, in addition to note-taking. Two entrepreneurs refused the use of voice recorders. Thus, the researcher had to make as many notes as possible in order to record all the information. All the entrepreneurs preferred to use Thai, even though some of them spoke English very well. As a result, the interview questions were translated into Thai.

Before each interview could take place, every entrepreneur was contacted by telephone and asked for permission to meet for an interview. A meeting was then arranged at the entrepreneur's preferred time and venue. The majority of the participants were happy to have face-to-face interviews; however, there was one entrepreneur who only agreed to a telephone interview because of his fully booked schedule. The interviews mostly took place at the

entrepreneurs' offices; however, some of the entrepreneurs preferred to be interviewed in a public place, such as a café. The interview process mostly had one main interviewee but in some cases the informants preferred to have a member of staff or another partner present as well in order to provide more details on particular issues.

The researcher had a question list consisting of five sections (see Appendix 3 for the interview template). The first section of the list concerned the background information of the entrepreneurs and their businesses. In addition to gaining more information about the informants, this section also helped to break the ice between the interviewer and the interviewee. Some entrepreneurs were happy to share their successes, while some found it easier to start with their stories.

The innovation propensity section of the question list asks about innovation the entrepreneurs had in their businesses. This aimed to explore the use of innovation in their business. In some cases, the entrepreneurs talked about innovation from the early stages of the conversation, as it was a crucial part of their success story. Thus, this section progressed easily from the previous one. However, there were a few entrepreneurs who were not confident about whether the change they had made could be regarded as innovation, so the researcher had to give a brief explanation of the term "innovation" as used in this research.

The opportunity identification and exploitation section aimed to explore how and why entrepreneurs identify and exploit innovation in their business opportunities. The next section concerned the value chain that their business was in. The entrepreneurs were expected to share their point of view regarding their business as an actor in a particular value chain, as well as their business relationship with other stakeholders in the VCH of their products. The last section contained questions regarding the assistance the entrepreneurs received from supporting agencies and their expectations of the government sector.

The sequence of questions sometimes did not follow the order planned, as the sequence depended on how the conversation progressed. When utilising an in-depth interview technique, researchers are required to use active asking and listening (Hesse-Biber & Leavy, 2006). This requires a lot of attention and energy to capture key points and to probe with follow-up questions. Some entrepreneurs had a lot of information to share about their businesses, but some of the content was irrelevant. Consequently, it was a challenge for the researcher to bring the interviewees back to the topic. On the other hand, if the interviewees raised an interesting issue, the researcher would ask further questions to reveal more details.

The actual duration of an interview usually took about one hour. However, the interviews also required more time for logistical purposes, such as travelling and waiting to meet an entrepreneur. Therefore, the researcher tried to organise one interview per day in order to maximise the time in each session. However, there was a case where it was necessary to have two interviews consecutively on one day for geographical reasons. As shown in Figure 4-4, the highlighted areas were the ones in which the entrepreneurs' businesses were located. As the researcher preferred to travel to meet and interview the entrepreneurs face to face, the logistics plans were crucial in order to control the budget and the amount of time involved. The researcher tried to organise multiple interviews within a time slot during which the researcher was staying in the area. The researcher contacted potential interviewees in advance and proposed a broad range of times so that they could specify a schedule that most suited them.

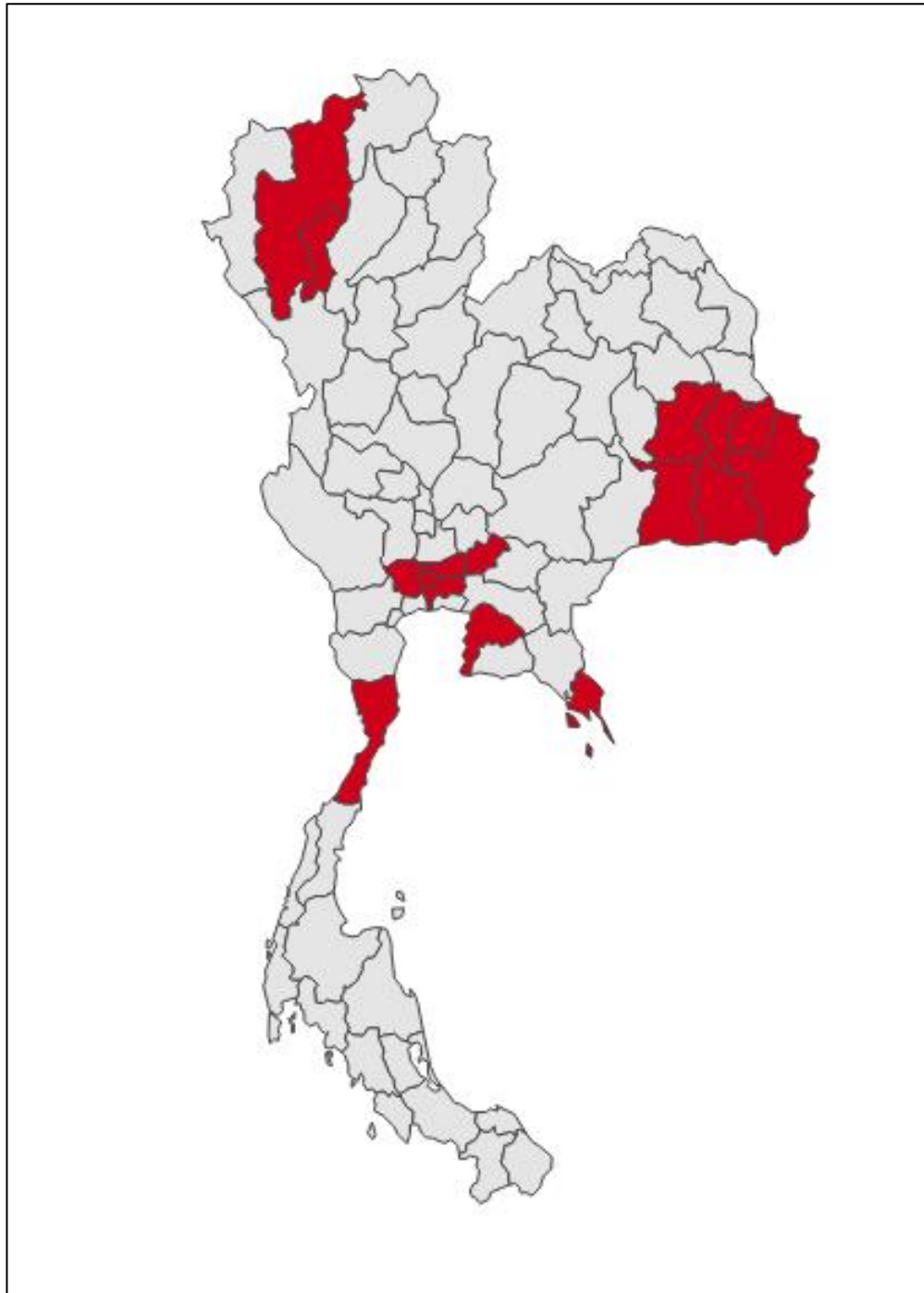


Figure 4-4: Map of Thailand

4.4.4 Expert interviews

Expert interviews were conducted as another technique to gain information from stakeholders in entrepreneur development. By applying a purposive sampling technique, the informants could be drawn from different sectors, including the public sector (i.e., representatives from different ministries and other types of government unit), educational institutes (i.e., researchers

from universities), and the private sector (i.e., representatives from private sector associations). The informants were from supporting agencies that play a role in helping entrepreneurs in different aspects of their businesses. Those informants might not be the direct object of an entrepreneurial process study, but their experiences could provide rich information that was very useful for this research (Kolb, 2008). Expert interviews are used as an exploratory technique to help researchers develop understanding of a topic, particularly in a field that is still not well developed (Bogner et al., 2018). The topic of entrepreneurial opportunity available in Thailand, particularly the identification and exploitation process, appears to have little in the way of literature about it. Therefore, it was felt that expert interviews could be crucial in providing contextual knowledge to supplement the analysis for this study.

Experts are able to offer a different point of view from those of entrepreneurs, which it was felt could broaden the researcher's perspective on the topic. Furthermore, meeting such highly experienced people would provide opportunities for the researcher to link to some interesting cases. It could be stated that, in addition to gaining knowledge from the experts, utilising an expert interview technique was also a useful technique for gaining access to entrepreneurs.

The process of gaining access to expert interviews was more formal than for the entrepreneur interviews. Some experts, particularly those in the public sector, required a formal letter from the researcher's sponsor. In some instances, permission was given verbally, but a formal letter was still needed to complete the bureaucratic process. All the experts who participated allowed their interview to be recorded. Voice recorders were used during the interviews in addition to note-taking, as per the process for the entrepreneur interviews.

The interview questions consisted of four sections (see Appendix 4 for the interview template and Appendix 5 for a list of experts). The first section involved the background information of the organisation and the interviewee. The interviewee was expected to provide information about the roles of their organisation, particularly with regard to entrepreneur support. The second section enabled discussion of the strategies and policies that directed the work of each organisation in helping the businesses of entrepreneurs. The third part concerned the stakeholders in supporting entrepreneurs. Entrepreneur-supporting programmes may involve different agencies, so this section was aimed at exploring how those units work together. The last section was used to discuss the competitiveness of the country in the world market. This section offered ideas regarding the strength of the industry, how the experts projected the

future of the agro-food industry and their opinion of successful cases in supporting entrepreneurs.

Most of the expert interviews were in Bangkok, the capital city. The interviews usually took place at the experts' offices. Each interview took approximately 1-1.5 hours. There was an expert from outside Bangkok who was interested in taking part in this research, but she was unable to find space in her schedule for an interview. Thus, she offered to answer the interview questions by email. The meetings with the experts mainly had the same pattern; however, there were two cases of experts whom the researcher had to approach differently as a consequence of their political positions. They therefore could also be regarded as elite interviews.

4.4.5 Elite interviews

Elite interviews were used as one of the data collecting tools in this study. In addition to the entrepreneurs who were the key informants and experts in the field, politicians at the policy level also played a role in this study. The elites were interviewed as experts, using a similar list of questions as those asked in the expert interviews. However, this technique needed special attention and effort that was different from the general expert interviews.

In most cases, interviewing elites involves less-than-ideal conditions as a result of the dynamic circumstances of their duties (Odendahl & Shaw, 2001). As a result of the nature of their work, there were several issues beyond the control of the interviewer, such as a changeable interview schedule with short advance notice, security issues when contacting high-ranking public officials, and the techniques required to build a rapport with those people and their supporting team. Therefore, the researcher needed to be well prepared for any ad hoc incidents that might occur.

Two elites were carefully considered. These elites were interviewed as experts because of their extensive knowledge, experience, and vision in relation to the topic. Their relevant background to the topic was the key to involving them in the study. One of the interviewees was a minister in charge of a ministry responsible for supporting entrepreneurs. She was in power at the time of the interview. The other interviewee was a former MP of the province some of the participants were from. His expertise also lay in the agricultural industry. During the fieldwork period, Thailand was under junta government administration. Elected politicians stepped down from their positions. However, as a result of the general election in early 2019, this person was re-elected as MP for that province for the fourth time.

According to Moyser (2006), interviewing elites tends to involve a one-off interview; however, the situation the researcher met was in contrast to this. As a result of her tight schedule, the interview with the minister took place in her official car on the way to and from an event outside Bangkok, where she met almost one thousand SME entrepreneurs. The interview could not be a one-off because it had to stop when she arrived at the venue and started again when travelling back to Bangkok. It took about 8 hours altogether to finish the conversation. This was similar to an interview with the MP. On the day after the interview, the researcher unexpectedly received a call from the MP's secretary asking the researcher to revisit him. This second meeting was conducted in a car as the MP wanted to take the researcher to see the physical context of the topic discussed. In total, the researcher spent about 6 hours completing the other elite interview. In this regard, other recording techniques, such as a camera and note-taking, were applied in addition to voice recording to capture issues of interest that arose during those long hours.

Another benefit of this interview technique was gaining access to key informants in the public and private sectors. While with the minister, the researcher had an opportunity to observe the interaction between entrepreneurs and the supporting agencies, such as government agencies and educational institutes, at the main event and the luncheon. At the time, the researcher was introduced to other experts and entrepreneurs who were valuable for this study. The meeting with the MP also linked the researcher to key players in the industry of focus who later also become participating entrepreneurs for this study.

4.4.6 Observation

Although the main sources of data for this thesis were interviews and documents, the researcher utilised observation in order to gather supplementary data to facilitate comprehensive data analysis while deepening the researcher's understanding of the research context and the phenomenon under study.

As suggested by Bryman (2012), qualitative researchers should conduct both participant and non-participant observations in order to learn and better understand a situation. Ethnographic researchers, for example, immerse themselves in a group of participants for a period of time to observe their behaviour. However, this thesis involved entrepreneurs in different parts of the country and, because of the time limitation, ethnography appeared not to be practicable, as the researcher would have been required to spend an extended period of time observing entrepreneurs. Therefore, this project employed the "non-participating observer with

interaction” technique as a tool for observing. Researchers using this technique observe but do not take part in the core activities (Bryman, 2012). This type of observer has some interaction with the participants but interviews and documents are still the key source of data.

The direct participants, i.e., entrepreneurs, were observed during the interviews. The researcher also had the opportunity to observe the entrepreneurs’ environment, such as their factory, production lines, and the qualifications and awards adorning their offices. The observations could benefit the researcher as a component aiding the data analysis. For instance, during one interview, the entrepreneur would mostly present her outstanding performance in producing and exporting a product. She did not mention much regarding her participation with the research institutes that in part led to the development of her innovative research. However, the researcher could tell that this entrepreneur must have worked hard in cooperation with public agencies as there were many certificates, awards, and photographs in her office displaying a number of support agencies. This observation led the researcher to explore in greater detail the product development process that was crucial to the entrepreneur’s business success.

The face-to-face interviews required the researcher to meet the entrepreneurs at different locations. This presented a good opportunity to see and learn the context of their businesses, such as the local area where their factories are located, their plantations and the surrounding area, as well as their communities. In particular, the informants in this study are from different parts of Thailand and, therefore, visiting their local areas to observe the actual locations of activity was useful for understanding their context.

While undertaking the interviews, the body language of the interviewees was also taken into consideration to try to discern if they actually meant what they said. There was one case in which the entrepreneur’s wife joined the interview during the discussion about government support. When his wife tried to comment on the official services, the interviewee softly tapped on her leg multiple times to stop her. The wife understood the signal but ignored the intervention and continued expressing her opinion. It was apparent from the interviewee’s face that he was worried about her viewpoints. The researcher had to reaffirm that they could talk freely and share their opinions, as the research was for academic purposes and their information would be anonymous.

Some other observations were conducted with non-participants. For example, the researcher was attending an event during the interview with the minister that was attended by almost a thousand entrepreneurs. The researcher could see how some of the entrepreneurs and

government officers interacted. Many studies have discussed how the private sector could be supported by the public sector. On the other hand, the supporting agencies in the public sector also need support from the private sector. For example, organising the event described could not have been successful without cooperation from the private sector, which participated in the event as exhibitors and audiences.

Furthermore, the researcher was able to observe some non-participants while contacting entrepreneurs asking for their permission to interview them but who turned down the requests. One entrepreneur explained that she no longer wanted to participate in any academic research because of her negative experience with prior research projects. She had previously taken part in research but she did not see any benefits from those works to her and her business. She had been interviewed many times, but she had never known what happened to her information or what the research findings had been. She felt that it was a waste of time and that it was not useful to talk to academics and, therefore, she rejected a request to be an informant in this research. Fortunately, she spent about half an hour clarifying her prejudice against academic researchers and why she did not want to take part in this project. This gave the researcher the idea to examine entrepreneurs' perceptions of academic studies. While researchers are curious about entrepreneurs, some entrepreneurs may not be happy to be studied due to poor practices on the part of some academics.

4.4.7 Translation

Since the interviews were conducted in Thai, all the transcripts were then translated verbatim into English, following the communicative translation method. Using this method, the translator has to keep the original contextual meaning of the source language (Thai), while ensuring the content and language are comprehensible in the target language (English) (Newmark, 1988). The source language (Thai) is very different from the target language (English) in terms of grammatical structure and cultural context. Therefore, other translation methods, such as the word-for-word method, were not suitable for this study because they could not have presented the actual meaning of the conversation (Newmark, 1988). In addition, the word-for-word method is not suitable for the later stages of coding and analysis because the researcher can be confused by misinterpretation. That is because a concept in one language can be understood differently in another (van Nes et al., 2010). Thus, the researcher applied the communicative translation method to transfer data from Thai into English.

The interview questions were drafted in English and translated into Thai before the interviews took place. At this stage, the researcher found that some of the English terms could not be directly translated word for word into Thai because it could lead to misunderstanding. For instance, in general, the word “opportunity exploitation” in Thai could be understood as “searching for benefit from opportunity” or to “selfishly take benefit from opportunity”. If the researcher had directly used this Thai meaning, the interviewees would have had an incorrect impression of the research objectives. Moreover, such words do not have a consensus of meaning and terms in Thai. Thus, whereas the list of interview questions was drafted as a guide, during the actual interviews the researcher had to ask questions using generic language and avoid technical terms in both English and Thai. Therefore, the communicative translation method was deemed suitable for this study.

All the interview transcripts were translated to avoid selective bias (Rubin & Rubin, 2011). Other works may choose to translate sentences in order to save time and effort (Regmi et al., 2010). However, that can cause bias because some crucial data might be omitted before the analysis takes place (Rubin & Rubin, 2011). If researchers choose to translate selected sentences, at the later stage of the data analysis they will then focus only on the selected text and omit the rest of the original transcript, which might contain an explanation of the topic studied. Therefore, this study translated all the interview transcripts from every interview to reduce the probability that useful data would be overlooked. However, this translation process took a lot of effort and time (Birbili, 2000). The researcher spent around seven months completing the transcription and translation process.

There were a few exceptions that the researcher decided not to translate, such as those parts of the conversations that were not related to the research topic. For example, questions from entrepreneurs who wanted to know how to obtain a government scholarship and about student life in the UK. These conversations occurred during the interviews, were transcribed to complete the interview dialogue but were not translated in order to save time. There were two cases where voice record was not allowed to use. So, the researcher took notes and translate taken notes into English.

4.5 The process of data analysis

The interviews were transcribed and translated into English. All the English versions of the transcripts were then imported to qualitative computer software: NVivo 12. The software is expected to facilitate the data management process (such as storing, arranging and editing

interview transcripts) and data analysis (such as searching, coding and displaying data). Qualitative software makes analysis more explicit and systematic, as well as allowing flexibility in revision during the process (Miles & Huberman, 1994). In this regard, the researcher also utilised the software to help in quantifying the qualitative data to support further analysis.

Using a software, such as Nvivo, in qualitative data analysis has become popular amongst qualitative researchers as numbers of published papers that utilised qualitative data analysis software (QDAS) has been increasing each year (Woods et al., 2016). Nvivo is the most used QDAS which facilitates measurability of qualitative data collected from interview. This could provide some quantitative answer relating to the qualitative data (Maher et al., 2018). It minimizes the disadvantage of qualitative research which was criticised as an impression research as the its analysis process was not always presented. The software provides a more systemic procedure for qualitative researcher while coding and analysis process. Its functions, such as text search, word count, word cloud, and matrix coding, offers wider perspective for researchers to compare data across and within categories (Feng & Behar-Horenstein, 2019; Maher et al., 2018). Feng & Behar-Horenstein (2019) advises that the research collecting large sample size could be difficult to analyse manually. It will also need large space and lots of paper to process analyse qualitative data. Using pens and papers may cause slow process taking longer time for researchers to complete their analysis (Maher et al., 2018). The researchers might revise the coded text as the analysis goes on. Using computer software can simplify the revision of coded text make it easier for the researchers to reshape and reorganise their codes, and to reconsider their viewpoints (Zamawe, 2015).

Although Nvivo has shown some advantages to enhance rigour and facilitate qualitative analysis, some researchers may prefer traditional ways for coding using pens, highlighters, papers, and sticky notes. One explanation could that learning a software take time before the research will be able to use the programmes productively (St John & Johnson, 2000). Although QDAS and traditional analysis tools both has advantages and disadvantages, Welsh (2002) and Maher et al. (2018) suggested that coding using QDAS combined with traditional means (such as pens and paper) offers the better result of qualitative analysis. In the project with a small number of participants, the researchers may choose to manually code their interview scripts (Welsh, 2002). Using their handwriting to make notes and colour the text also better researcher's memory on the data set. However, this thesis consists of 46 interviews (35 entrepreneurs and 11 experts) which is difficult to manually manage the interview script and organise data and coding. Therefore, the author decided to apply Nvivo with this study in order to effectively manage and

analyse data. Moreover, the software, especially its matrix coding function, is expected to offer creative viewpoints to answer the research questions which requires the comparison between different categories of entrepreneurs.

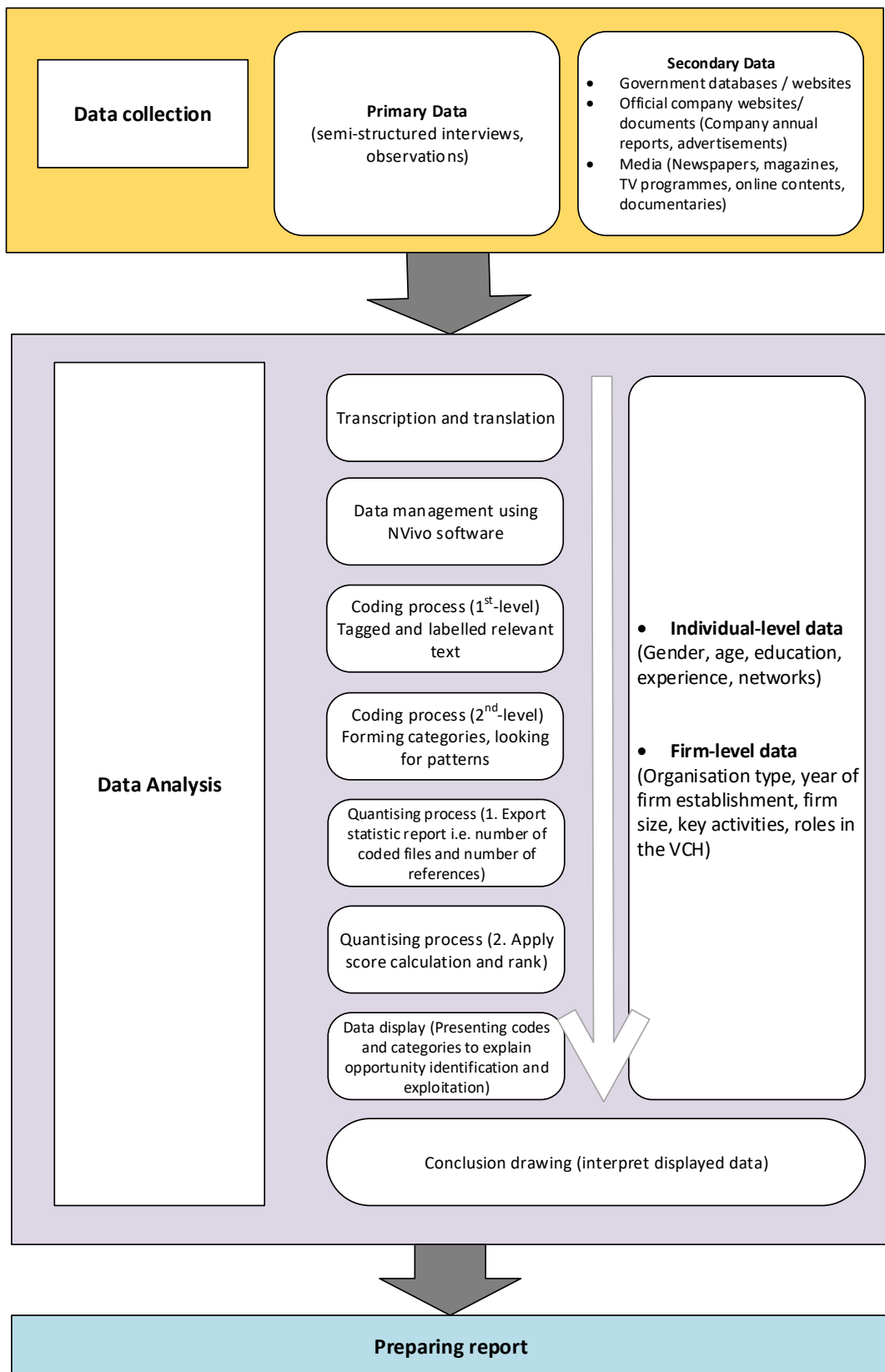


Figure 4-5: Data analysis process (adapted from Miles and Huberman, 1994, p.44)

As shown in Figure 4-5, after the data collection stage, the interviews were transcribed and translated into English. They were then stored in NVivo12 in preparation of the next steps.

Coding is an analysis process for reviewing the data collected from fieldwork. The researcher stored the interview transcripts and carried out the coding process using NVivo. Starting with open nodes of opportunity identification and exploitation, the researcher then reviewed each interview transcript. Following Miles & Huberman (1994), the process began with first-level coding, in which the researcher tagged and labelled phrases, sentences or paragraphs as incidents that explain opportunity identification and exploitation within each interview transcript. The sentences that represent use of a similar meaning to explain the phenomenon were grouped under the same code. The codes were revised and recoded until the analysis appeared to be saturated, whereby an adequate number of regularities emerged. Next, second-level coding is processed by categorising the first-level codes based on their connections. Categorisation aims to look for patterns to explain the opportunity identification and exploitation process, which are the key points of interest in this study. Some of the codes were eliminated if they were found to be unnecessary or not to fit the categories in explaining patterns in the phenomenon (Miles & Huberman, 1994). As this stage excludes some parts of the data which might be important in other contexts, it is, therefore, important for researchers to ensure that the research objectives are met and will not be affected by the data reduction process.

The coding process is referred to in the literature as an inductive coding technique, in which the researcher looks for patterns in the data without preconceptions or a pre-determined theory (Miles & Huberman, 1994). However, a researcher using this inductive technique is not absolutely free from epistemological commitment (Braun & Clarke, 2006). Thus, while coding inductively, the researcher was committed to the objective of explaining entrepreneurial opportunity identification and exploitation. By following the critical realist paradigm, the researcher was trying to understand the mechanism in entrepreneurs' surroundings that may cause dissimilar opportunities for different entrepreneurs in the same environment.

Inductive coding analysis contrasts with theoretical thematic analysis, which is guided by pre-set concepts constructed by a specific theory (Braun & Clarke, 2006). The inductive coding technique is richer in data description. It is also more open-minded and more context-sensitive (Miles & Huberman, 1994). This thesis aims to understand entrepreneurial opportunity in the Thai context as only a few pieces of literature exist in this area of study, as discussed in the

literature review chapter. Moreover, some entrepreneurship scholars, such as Busenitz (1996), point out that exploratory research is valuable in order to move the entrepreneurship field forward. Hence, an inductive coding technique was deemed to be more appropriate for this study as it offered the researcher the chance to gather rich data to understand entrepreneurs' opportunities, particularly in a context that has little prior research on the topic.

After the coding stage, the researcher moved to quantifying the qualitative data, known as the quantising process. The researcher applied one of the advantages of the NVivo software, which has the ability to provide statistical reports, including the number of files (i.e., the number of entrepreneurs who discussed a particular issue) and the number of references (i.e., the number of times the entrepreneurs discussed a particular issue). The "matrix coding function" was also employed in order to facilitate comparison analysis between different groups of entrepreneurs, categorised by business size, the VCH in which they operate, and their roles as an actor in the VCH. The statistical reports were exported to an Excel format in order to process the score calculation. The formulas for the score calculation were developed from the method presented by Malfense Fierro (2012).

In order to score and rank significant codes, Malfense Fierro (2012) combined a number of entrepreneurs who talked about an issue and the number of references within all the transcripts. This technique was used in an attempt to rank the significance of the topics and the phenomena that entrepreneurs discussed in their interviews in that study. However, the current researcher identified a limitation in Malfense Fierro's (2012) method, in that simple summation may lead to a misinterpretation of the significance of topics and phenomena because the approach weights entrepreneurs and references equally. For example, 10 out of 24 entrepreneurs is not equal to 10 out of 100 references. This would be scored as 20 (10 entrepreneurs plus 10 references) when following Malfense Fierro's (2012) method.

In order to overcome this issue, the number of sources (referred to as a "file" in NVivo 12) and the number of references were transferred into a percentage in order to equalise the weight of these numbers. After that, the score was calculated by combining the two percental figures. Score calculation is illustrated below.

$$\text{Score} = \text{File score} + \text{Reference score}$$

Where

$$\text{File score} = \left(\frac{\text{Number of entrepreneurs coded in each node}}{\text{Total number of participating entrepreneurs}} \right) \times 100$$

* Remark: Total number of participating entrepreneurs = 35

$$\text{Reference score} = \left(\frac{\text{Number of references coded in each node}}{\text{Total number of references coded for the key theme}} \right) \times 100$$

The above method is a contribution to the qualitative data analysis field, building on original concepts by Miles and Huberman (1994), developed into a process by Malfense Fierro (2012) and further improved by the current author.

Woods et al. (2016) examine how qualitative researchers utilise qualitative data analysis software (QDAS). They discovered that 99.6% of qualitative researchers utilise QDAS for data analysis (to facilitate coding and summarise concepts) and only 10.4% of those use the software for data display purposes. Of these, a large number of qualitative studies present screenshots to illustrate their data coding process. There are some studies that display data using network views to illustrate relationships between codes or a coding matrix to depict code distribution. Some recent entrepreneurship studies that applied QDAS mostly did not involve statistical features. For example, Marques (2019) and Santos (2019) applied NVivo version 11 software to facilitate content analyses. The former used the program to facilitate a data analysis process but did not apply it to the later process of data display; the latter presented data using a screenshot of the network nodes generated by the software. It appears that the statistical function of the software (the frequency count) is rarely employed by qualitative researchers.

Qualitative data may be presented using direct quotations to illustrate a researcher's claims and diagrams to depict the knowledge that emerged from a study (Cohen & Crabtree, 2006). For this thesis, data are presented as quotations from the interviews (the reader is then able to examine the collected data and the researcher's claims), tables and matrices (partly generated by the

NVivo software and modified by the author using the proposed calculation approach) and diagrams to visualise the finding of new knowledge.

The secondary data were taken into account during the analysis process. This helped the researcher to better understand some of the issues about which the entrepreneurs might not have provided much detail. Some of the documents collected also provided background information of the entrepreneurs and their businesses. In some cases, the secondary data were crucial as a tool to cross-check information accuracy and whether the information given during the interviews aligned with other sources.

This research used an exploratory qualitative approach, which involved some quantitative information from both primary and secondary data sources, such as the value of fixed assets and profit and loss statements. This gave better explanations of the phenomenon as quantitative information could provide some background overlooked in the topic, as well as shedding new light during the analysis process involving the qualitative findings (Miles & Huberman, 1994; Sieber, 1973).

4.6 Reliability and validity

Some researchers might prefer other terms, such as the "trustworthiness", "rigorousness", or "quality" of the data, to replace reliability and validity in qualitative analysis (Welsh, 2002). Qualitative data analysis has been criticised for its perceived lack of reliability and validity because it has been difficult to show transparency with regard to how researchers have analysed data.

In quantitative research, reliability means the consistency of its findings, which can be replicated. Future researchers would be expected to gain the same result if they were to repeat the same research project. Qualitative research is different. Qualitative work values the circumstances and social setting of the studied topic, which are not fixed (Bryman, 2012). Some authors, such as Silverman (2011) and Moisander (2006), have suggested strategies to increase the reliability of qualitative work, such as researchers making the research procedure transparent by presenting clear explanations for how the research was processed. This research has illustrated the process of its data analysis, as shown in earlier sections of this chapter. The codes are defined and explained. The excerpts used to illustrate the codes are expected to give clearer descriptions of the incidents. Furthermore, the quantising process, of transferring the frequency that incidents occur in the interviews into a score and rank, is believed to be another

way to render the analysis process more transparent. In cases in which future researchers want to replicate the study, they will be able to compare research findings using the scoring and ranking shown in this study.

Moreover, Moisander (2006) also points out that reliability could refer to the rigorous and systematic process of the research, so that future researchers could understand the data and how they were analysed. In accordance with this logic, this study followed systematic and rigorous strategies. The data collected from the fieldwork were recorded, transcribed and translated carefully. Computer software, such as Microsoft Office and NVivo, was utilised to handle the large amount of data gathered from primary and secondary data sources. This helped to systematise the data management and analysis processes.

The development of qualitative computer software is expected to increase the rigour and reliability of qualitative research (Hanson & Grimmer, 2007). This research applied qualitative research software (NVivo 12) in an attempt to explicate how the data were analysed and interpreted. The process of quantifying qualitative data used in this study endeavoured to show the process of analysing the data gathered from the interviews. This approach could change this study from being an impression analysis, as the researcher's bias has been reduced.

Validity deals with the issue of whether research findings can accurately represent a social phenomenon (Silverman, 2011). Mason (1996) suggests that this term could be mainly fulfilled by quantitative works. For qualitative research, different authors give different perspectives. Those authors, however, have a general consensus that validity in qualitative study is about demonstrating the creditability of the research (Creswell & Miller, 2000). As outlined in the following sub-sections, this research employed a triangulation technique in order to enhance its creditability. The chapter then discusses the issue of generalisability, referred to as external validity, and whether the findings could apply to another context (Miles & Huberman, 1994).

4.6.1 Triangulation

To increase validity and deepen the researcher's understanding of the issues studied, the following types of triangulation were adopted in this study.

Method triangulation: the most conventional strategy for achieving triangulation is applying multiple methods in a piece of research (Denzin, 2009). As illustrated in Figure 4-6, this study applied different types of data collection method, including primary data collection, by conducting semi-structured interviews with entrepreneurs and experts, and secondary data

collected from reliable sources, such as government documents/ databases, newspapers, magazines and official websites. In addition, more than one sampling strategy was applied to the data collection process, which developed the diversity of the data and widened the analytical perspectives.

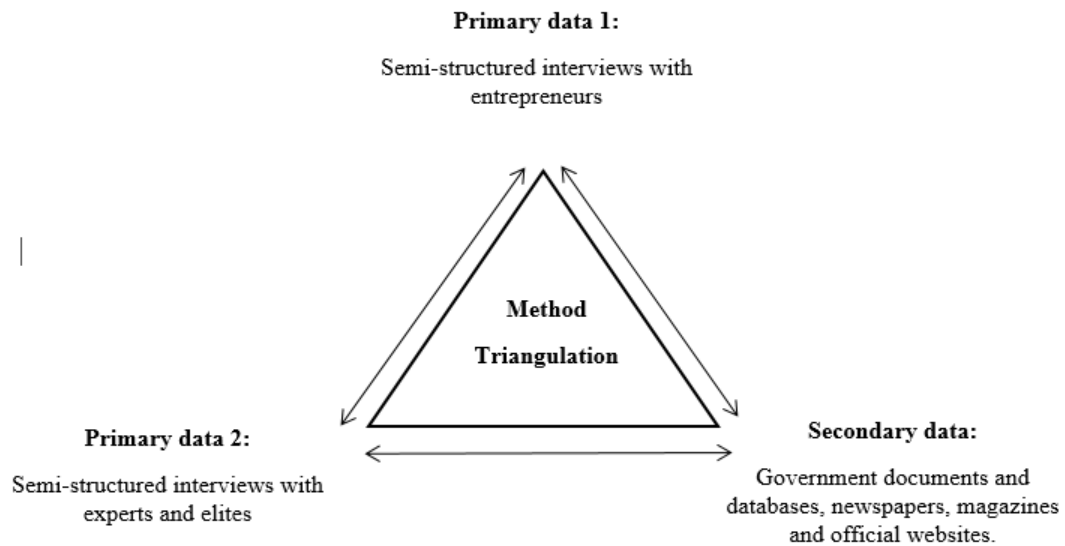


Figure 4-6:Method triangulation

Triangulation of sources: as suggested by Patton (1999), this type of triangulation can be used to verify the consistency of data from different sources gathered by the same method. This study involved a variety of data sources, as shown in Figure 4-7. The interviews were conducted with individuals from the public and private sectors, who might offer different points of view on the same topic. The researcher also gathered secondary data from more than one source, such as entrepreneurs' interviews, the media and data from government databases. In some cases, what the entrepreneurs stated during the interviews or was published in the media might be different from what had been recorded on an official database. This led the researcher to study the issue further.

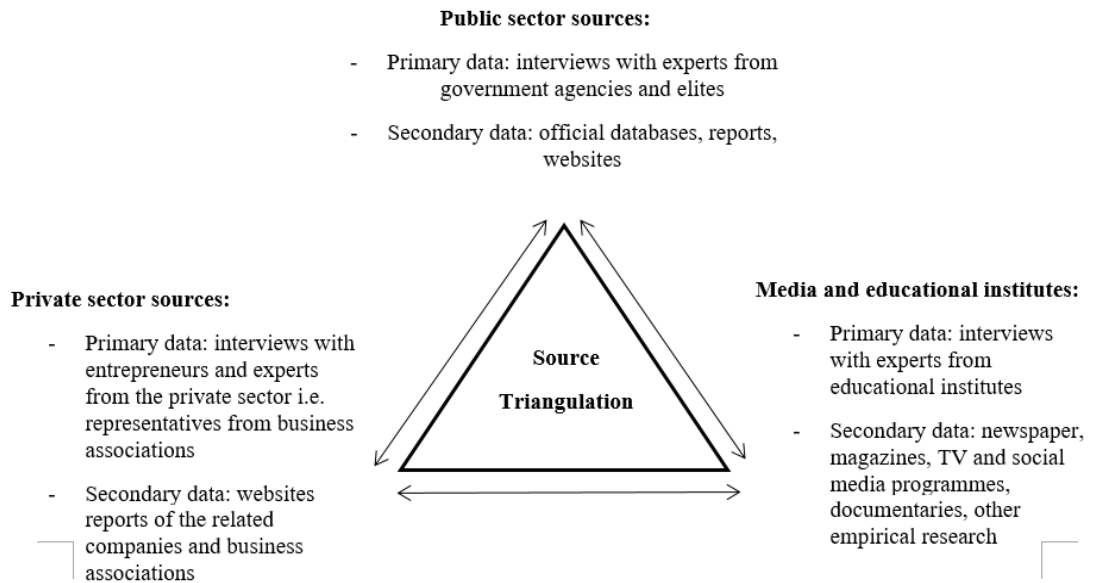


Figure 4-7: Triangulation of sources

Analytical triangulation: the analysis carried out for this study was considered at both the individual and the firm levels, as well as the context of the objects studied. The participants possessed firms of various sizes, ranging from small to large. If considered purely at a certain level of analysis, the researcher might have missed some of the rationale behind an entrepreneur's behaviour. Taking different angles of analysis into account allowed the researcher to reveal an explanation for the entrepreneurial phenomenon.

The context of the entrepreneurs and their businesses was also important for the analysis. To give an example, one owner of a nascent small-sized business, which produced an innovative rice dessert, told the researcher that his ultimate goal was to gain an international reputation in the world market. This seemed unrealistic for a newly established small firm owned by a young businessman who had less than four years' experience in business. Moreover, considering the context of the dessert sector, traditional Thai desserts are mostly consumed in the country at a low price. The price of the innovative dessert was comparatively high when compared with the traditional products on the market. Therefore, it might be difficult to generate a high enough sales volume in the domestic market in order for a newly established firm to make a profit. However, since the researcher took individual-level analysis into consideration, it was found that the businessman also owns a country-leading firm in the rice trading business that could support his new innovative firm. The different angles of analysis could better describe this portfolio

entrepreneur, whose personal and family background included business profiles, in a way that might be too complex to explain by a single analysis angle. Analytical triangulation in this thesis can be illustrated as Figure 4-8.

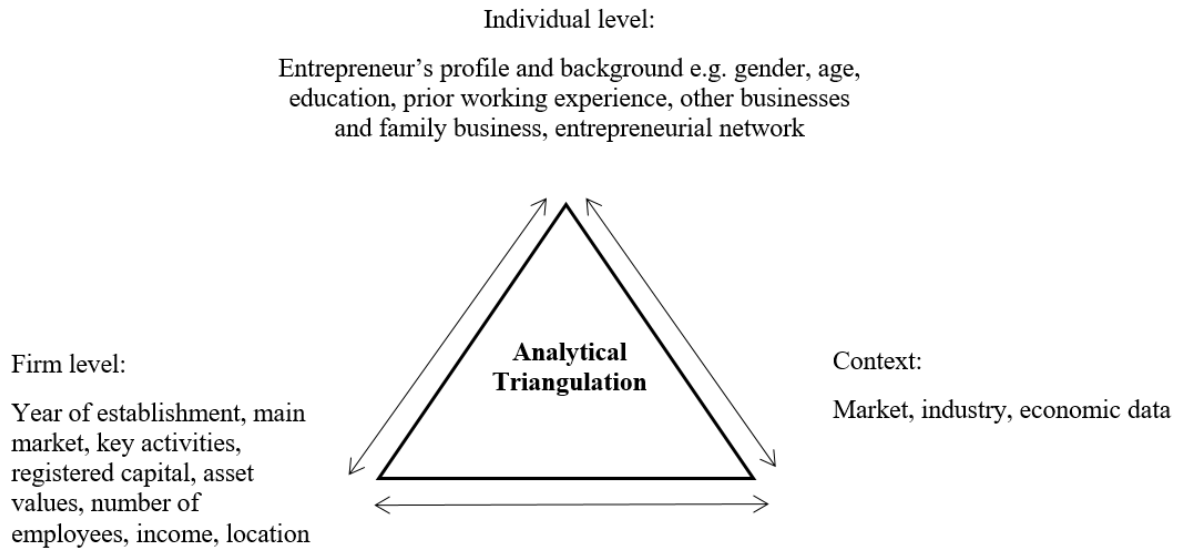


Figure 4-8: Analytical triangulation

4.6.2 Generalisability

It is more important for research applying a case study approach to have a clear focus, than to try to involve large samples (Eisenhardt, 1989). Consequently, statistical generalisation might not be drawn from qualitative research. Research using an inductive approach is usually less concerned with generalisation (Saunders et al., 2009). However, the findings from this study would be beneficial for analytical generalisation of opportunity theory. In addition, this study could be useful for comparison with further studies that may focus on different agricultural contexts, actors, or activities in value chains.

Furthermore, as this research involves both numbers and qualitative data, internal generalisability is expected. Internal generalisability is referred to by Maxwell (2010) as follows: *“this term refers not to the generalizability of conclusions to other settings (what qualitative researchers typically call transferability) but to generalization within the setting or collection of individuals studied, establishing that the themes or findings identified are in fact characteristic of this setting or set of individuals as a whole”* (p.478). This study took account of the frequency of the issues mentioned by the participants and the times that they talked about them. A ranking

system was applied to enhance the validity of the findings to support the claims regarding the regularity with which the incidents occurred in the data. Therefore, it was intended that internal generalisability would be achieved through the quantising process.

4.7 Research Ethics

Research ethics are concerned with the principle of protecting and ensuring that every participant will be safe (van Deventer, 2007). van Deventer (2007) proposes four stages for doing research ethically. 1) *“Designing the process”*: this step discusses gaining permission to collect data. Before the interviews took place, the targeted entrepreneurs were asked for permission to meet and interview them. The researcher respected the entrepreneurs’ privacy and right to choose whether they wanted to take part in this research. Therefore, only those entrepreneurs who agreed to be interviewed participated in this research. The researcher’s request was rejected by a few entrepreneurs for personal reasons of their own and they stated that they did not want to take part in the research. They did, however, allow the researcher to talk with them informally about their business, although these entrepreneurs are not counted as having participated. 2) *“Implementing the design”*: during the data collection process, the researcher explained each participant’s right to stop the interview. Fortunately, no interviewee wanted to withdraw from the interviews. There were only a few cases in which the researcher was asked for confidentiality; for example, some of the entrepreneurs did not want to reveal the identity of their business customers. The researcher respected this concern and did not insist on asking questions on such issues. Instead, the researcher asked the entrepreneurs to provide what they thought was shareable. 3) *“Analysing data”*: a background and experience of the researcher in the public sector might benefit data analysis but there could also be some ethical concerns regarding researcher bias towards the public sector. It was clearly stated to the participants that the researcher is now a PhD student and the research would not reveal the entrepreneurs’ identity. Moreover, the supporting data illustrated in this research are not confidential information but are available on the government databases that registered members can access. 4) *“Disseminating the result”*: this concern relates to participants’ privacy. The interviewees and their businesses have been anonymised in the discussion of the results. Although some experts and entrepreneurs were prepared to be identified, the researcher designed the process so that names would be substituted by an abbreviation in order to protect participants’ privacy.

Before proceeding to the fieldwork stage, the study underwent the university of Hull ethical approval process.

4.8 Chapter summary

This chapter gives justification on research design that is applied to this thesis. It explains that rationale for critical realism as an appropriate paradigm underpinning this thesis. The methodological aspects of literature reviews have also been discussed showing the process for scoping and selecting relevant literatures.

The chapter considers qualitative research as a suitable research methodology to provide answers for the research questions. In particular, an exploratory and inductive approach were expected to facilitate this entrepreneurship research to contribute new knowledge to the field of entrepreneurial opportunity. This study has been designed to exercise the use of number in qualitative research at quantising level. It is expected to increase the validity and internal generalisability of the research.

Data collection process has been designed to start from value chain selection where fruit and rice value chain were highlighted. The semi-structured interview technique was chosen to be data collection tool. The interviews were in Thai and then translated into English transcript. As the thesis plans to use numbers to develop new insights for the questions in opportunity process, NVivo software version 12 were applied as a tool to assist the coding process. One of its advantage is to generate statistical reports to operate a scoring system for data analysis purposes.

The following chapter is going to explore the finding of this study.

Chapter Five: Results - Opportunity Identification

This chapter discusses the results and findings of the research undertaken for this thesis. The data obtained from the fieldwork were processed using NVivo software (version 12) to code relevant issues that emerged from the interviews. The software assisted by counting the number of entrepreneurs who raised a particular topic and how often they talked about it. The data were utilised for a quantifying process (Miles & Huberman, 1994).

The chapter starts with an introduction to the formula applied to the statistical data obtained by the NVivo software. The chapter then discusses the entrepreneurs' opportunity identification process. The discussion is ordered by the ranking given to the data. It begins with an overall result, followed by a comparative analysis of entrepreneurs with different characteristics.

Score calculation

This research applies a quantifying method to the qualitative data gathered from the semi-structured interviews conducted for this study. To do so, the number of files and references coded during the coding process were given a value. (The following terms are used in the software: 'files' refer to the participants who discussed a particular topic and 'references' refer to the number of times a code appears in the transcripts.) The number of coded files and coded references were converted into percentages in order to even the weight of the two items. The sum of the file score and reference score is the total score for a particular theme, as illustrated below:

$$\text{Score} = \text{File score} + \text{Reference score}$$

Where:

$$\text{File score} = \left(\frac{\text{Number of entrepreneurs coded in each node}}{\text{Total number of participating entrepreneurs}} \right) \times 100$$

* Remark: Total number of participating entrepreneurs = 35

$$\text{Reference score} = \left(\frac{\text{Number of references coded in each node}}{\text{Total number of references coded for the key theme}} \right) \times 100$$

* Remark: The numbers shown in the parent node do not equal the sum of each of its child nodes. Text that is coded multiple times in different child nodes will be counted once in the parent node.

Once calculated, the codes are ranked according to their scores. The discussion of the results and findings proceeds in that order. The structure shown in figure 5.1 illustrates coding map of opportunity identification.

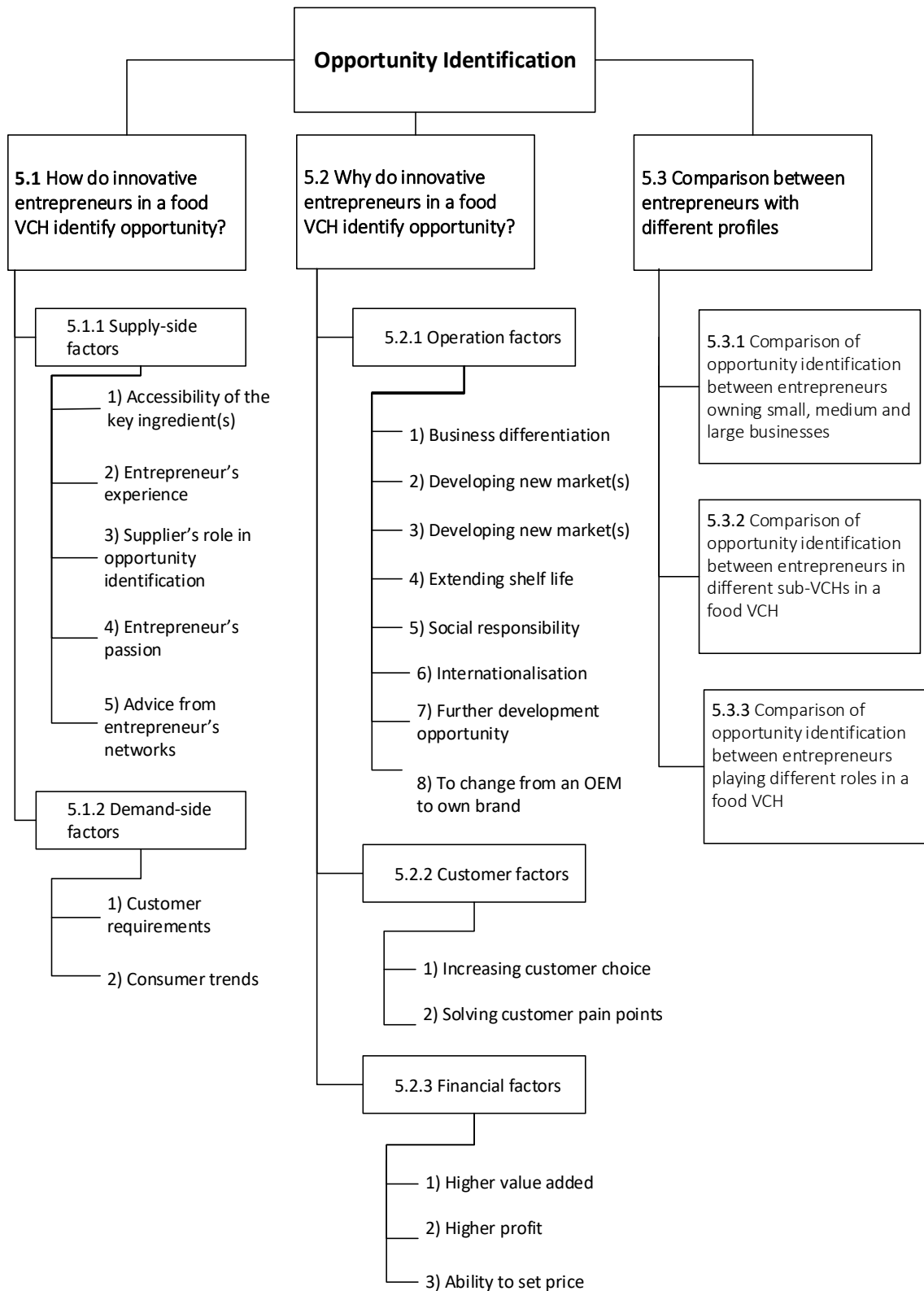


Figure 5-1: Structure of chapter 6 and coding map

5.1 How do innovative entrepreneurs in a food VCH identify opportunity?

According to microeconomic theory, a change in demand and supply in a market should cause a change in market equilibrium. Entrepreneurial activities take place within the market process (Kirzner, 1997). The source of opportunity may be changes in the demand or supply side in a market (Eckhardt & Shane, 2003). The data analysis for this research revealed factors that contribute to how entrepreneurs identify opportunities. The data can be categorised into two codes: supply-side factors and demand-side factors. The codes are defined as follows:

Supply-side factors refer to factors that are directly related to an entrepreneur and influence his/her opportunity identification.

Demand-side factors refer to factors that involve customers initially and then influence the entrepreneur's decision.

Table 5-1: Supply-side and demand-side factors affecting how entrepreneurs identify opportunity

How do innovative entrepreneurs identify opportunities?	Files (number of interviewees identifying a code)	References (number of times a code is mentioned in transcripts)	Total score	Rank
Supply-side factors	24	103	125.48	1.0
Accessibility of the key ingredient(s)	16	49	72.79	1.1
Entrepreneur's experience	11	15	39.72	1.2
Supplier's role in opportunity identification	10	14	36.31	1.3
Entrepreneur's passion	5	21	25.89	1.4
Advice from entrepreneur's networks	5	14	22.02	1.5
Demand-side factors	28	78	123.09	2.0
Customer requirements	19	48	80.81	2.1
Consumer trends	15	33	61.09	2.2

Table 5-1 shows that the supply-side category derives a higher score than the demand-side category. This result is in line with most of the entrepreneurship literature, which is focused more on the supply side (Eckhardt & Shane, 2003). This thesis found that a change in the demand

side also plays a role in how entrepreneurs identify opportunities. The data reveal that more entrepreneurs (represented by the number of files) mention customer issues than supply-side factors. As shown in Table 5-1, 28 entrepreneurs discussed demand-side factors and 24 referred to supply-side factors. The 24 entrepreneurs show a substantial focus on the supply side, as shown in the higher number of references (the number of times supply-side factors were referred to separately in the interview transcripts). Therefore, supply-side codes were given a higher score than demand-side factors.

The next section discusses the two codes in detail.

5.1.1 Supply-side factors

The supply-side category relates to the sub-factors that are relevant to actors who offer products and services to a market. The sub-factors involve ideas originated by entrepreneurs and their related networks. This study found some entrepreneur-related factors that led to the identification of entrepreneurial opportunities, as shown in Appendix 6-1.

The key sub-codes under the main code of supply-side factors are the accessibility of key ingredients, the entrepreneur's experience, the supplier's role in opportunity identification, the entrepreneur's passion, and advice from the entrepreneur's network. The sub-codes are defined below.

Accessibility of the key ingredient(s) refers to the factors involved in entrepreneurs' linkage to the key resources for their agro-food production that help them identify new opportunities in the market.

Entrepreneur's experience refers to the experience of entrepreneurs that contributes to their identification of opportunities.

Supplier's role in opportunity identification refers to the interaction between suppliers and entrepreneurs in relation to finding new opportunities.

Entrepreneur's passion refers to the entrepreneurs' personal interest in a business that drives them to find new opportunities.

Advice from entrepreneur's networks refers to the connections between entrepreneurs and their networks that help to identify new opportunities.

Supply-side factors were widely discussed by innovative entrepreneurs when talking about their opportunity identification. They mostly reported identifying opportunities from sources that originally related to the entrepreneurs, who were in the supply side of the market. As shown in Appendix 6-1, the score relating to the supply side is significantly greater than that for the demand side.

The most commonly mentioned factor that drove the entrepreneurs' opportunity identification process was their possession of the key resources for production (coded as accessibility of the key ingredient(s)). These entrepreneurs reported that they started the process by considering how to make a profit from the resources they already hold.

1) Accessibility of the key ingredient(s)

It is clear that entrepreneurs in an agro-food VCH value accessibility of key ingredients as the first priority in their opportunity identification process. This code shows entrepreneurs' ability to access key ingredients for their production, such as rice and fruit. The discussions with the participating entrepreneurs revealed the close relation between entrepreneurs and the key ingredients of rice and fruit as a main issue that influences their opportunity identification. These entrepreneurs illustrated that their opportunity identification starts with consideration of the resources they have to hand. The convenience of their access to these ingredients enables them to identify new opportunities to make a profit in the market. These key answers shows the alignment of this thesis and other entrepreneurship study in that way that entrepreneurial opportunity generally comes from the recombination of resources (Shane, 2003).

This code can be subcategorised into five issues which geographical advantage, possession of the key resources, low price of resource, being a local entrepreneur, and excess capacity respectively. Its calculation details can be found in appendix 6-2. The following sections will discuss each sub-subcategory in order of their significance derived by the quantizing technique.

a) Geographical advantage, good place for farming

Since agricultural products are closely linked with geographical conditions, the entrepreneurs in this sector believed that their location was one of the key factors in their identifying an opportunity. This not only concerns being the owners of key ingredients; they also believe their location provides them with an advantage that benefits their business. Therefore, they perceived geographical advantage as one of the factors that leads to the finding of opportunity.

Entrepreneurs whose products are available nationally and internationally considered the geography of Thailand as an advantage in identifying opportunity. For example, N.P. showed his viewpoint of the geographical advantage of Thailand that contributes to his identification of opportunity:

“... And, I could see that processed agricultural products in our country could give me a good opportunity in doing business because it’s something that’s quite difficult to be copied. Since agricultural products need a water source and a specific climate to grow. This is why I became interested in processing agricultural products” (N.P. MS interview 27, p.1).

Some entrepreneurs were more specific regarding the geographical advantage of the specific local area in which their businesses are located. J.K. and S.S. are good examples of entrepreneurs who considered their local geography a factor in finding business opportunities. They are both from the same region. Their products are made from rice that is processed into different end products using various value-adding technologies. J.K., who is originally from the automobile sector and then turned to focus on an organic food business, emphasised how local geography benefits her opportunity identification:

“People in Yasothon [the name of a city] and nearby areas are generally growing three kinds of economic crops: rice, rubber and cassava. The best rice can be grown in this area, so I think doing business relating to rice could be a good opportunity for me” (J.K. SS interview 2, p.1).

S.S., a farmer and community leader who is now an entrepreneur in the rice business, showed how special his hometown is:

“The geography. This area has been registered as a GI.³ The GI ... umm indica... err... geographical indicator! It’s our advantage that we can show the indicator of our local story” (S.S. SS interview 13, p.13).

³ GI: Geographical Indication - the name of the place used to specify the origin of a product. The product needs to be produced in that specific place and contain specific characteristics in order to qualify for the symbol (World Trade Organisation, 2019). A GI symbol on a product benefits entrepreneurs in that local area in promoting the uniqueness of what they are selling.

S.S.'s hometown is in an area called Tung Kula field, which is claimed to be the best place to grow Hom Mali rice.⁴ This led S.S. to believe in the business opportunity of processing Hom Mali rice:

"If you grow [Hom Mali rice] in another area, it cannot have a nice scent. Firstly, the temperature of a Tung Kula rice field between day-time and night-time is hugely different, very hot vs very cold temperature. Also, there is potassium in the soil in Tung Kula field. When the water is taken off, the potassium will be vaporised and turn to salt resulting in the scent of Hom Mali rice. This special feature makes our Hom Mali rice smell very nice. The rice can be grown everywhere but growing here...The rice will have a special scent" (S.S. SS interview 13, p.13).

S.S. shared a characteristic with C.W., in that they are both farmers who turned to being entrepreneurs running a business in agro-processed products, albeit in different parts of the country. S.S. processed rice, whereas C.W. processed fruit. Both had strong opinions towards the opportunities that are attached to their geography. As C.W. explained:

"There's richness of resources in Thailand, especially in Trad [the name of a city]. ... Trad has everything. I think we are on a good source of fruit, including the management of raw materials. It is a good upstream source" (C.W. SS interview 7, p.10).

"The location takes a part because Trad Golden Pineapple is about to be listed in GI, going to be the premium products of Trad province" (C.W. SS interview 7, p.12).

This code shows the benefit of geographical location, because where the businesses are situated has influenced the entrepreneurs' opportunity identification. One reason for entrepreneurs discussing this factor a great deal could be the nature of the agricultural industry, which requires specific geographical features to grow particular crops. Entrepreneurs in specific places, whether a country or a local area, value location as an influential factor in their opportunity identification. This finding may differ from the approach of entrepreneurs in a technology-intensive industry, as production lines could be located in different parts of the world and the advantage of the industry does not rely on geography (Gereffi et al., 2005).

⁴ Hom Mali rice is one of the most famous Thai rices and has the scent of jasmine. It is also known as jasmine rice.

b) Possession of the key ingredient(s)

In the agro-processed-food business, possession of the key ingredients of fruit and rice is vital for entrepreneurs to identify opportunities. During the opportunity identification process, farmers who became entrepreneurs emphasised this issue in particular. For example, C.W. explained how he regarded opportunity in the processed fruit business:

“It would be our resource of fruits and myself, Because currently we own everything; rambutan, durians, mangosteens, longkongs ..., if we process, we can set the price ourselves. It will help...to let us know...something like ... the profit we gained from manufacturing is clearer than growing and selling fresh fruits” (C.W. SS interview 7, p.12).

As a fruit farmer, C.W.’s key asset is fruit, so this is the starting point for his opportunities. He identified an opportunity from the resources he owns. He also realised that fresh fruit has a short shelf life and a low price. In order to improve the situation, he bought the available technology to make a higher profit from the fruit in his orchards and surrounding areas and turned himself into an entrepreneur in processed products.

T.W. is another example of a businessperson who is not a farmer but who considers the possession of the best key ingredient, i.e., rice, to be an essential part of his opportunity identification. T.W.’s family has been running a rice-trading business for more than 30 years. He claimed that he knew a good source of rice and that he knew how to select good produce:

“Additionally, I’m currently in a rice-trading business. You know this, right? [a well-known brand name], it’s our business. The main ingredient – sticky rice – is the product we currently sell. We know it well. We specialise in rice. Our rice selection skill is better than other people’s. We have a good source of good ingredients. So, I think I should start making Kaw Tom mud⁵ [the name of a Thai dessert made of steamed sticky rice]” (T.W. SS interview 14, p.9).

This code consists of two different types of resource possession. First, the farmer. C.W., for example, grows the fruit used in production. The other is the close relation between entrepreneurs and the producers of the input (farmers), such as in the case of T.W. This shows that while farmers mostly leverage resources that they can grow themselves, non-farmer-entrepreneurs also identify opportunities through similar agricultural products because they are

⁵ Kaw Tom mud is a Thai dessert made of sweet sticky rice

confident in their relationships with suppliers (farmers) who provide good-quality and consistent input for their production.

c) Low price of resources, low cost of ingredients

Agro-processed-food entrepreneurs are able to identify a business opportunity through their possession of low-price primary agricultural products. They own many of the key ingredients, such as fruit and rice, which are sold at a low price. Therefore, they realised that they should do something with these resources in order to obtain a higher profit. S.M. is an example of an orchardman who has experienced the problem of the low price of fruit for many years. He believed that processing fruit would be a good opportunity for him to earn more money. He described the following:

“Every year, in the peak season, the fruits came out a lot, not that long, just for a week. All orchardmen will sell everything they have. Where should we sell, then? The fruits are everywhere. Full of fruits in Bangkok, even in the countryside markets. It’s not good, right? The price is low. And when the price is low, the orchardmen will gather all the fruits they have and show the government to call its attention. Then, the government will give compensation to them. It happens like this. I have seen this for many years. Then, I think I should do something [to take advantage of this situation]” (S.M. SS interview 6, p.1).

S.M.’s opportunity identification begins with the problem of the low price and excess supply of agricultural products, such as various fruits at certain times of the year. He perceived the low price of fruit as a lower cost for his new business and he bought a freeze-drying machine to process his fruit and sell it as a processed product. The low cost of the input prompted the farmer-entrepreneur to develop a new activity that could bring a better income.

d) Being a local entrepreneur

Some entrepreneurs identified business opportunities through the advantage of having lived for a long time in their local area or hometown. J.K. is a portfolio entrepreneur who runs a variety of businesses in different sectors. She explained that she arrived at a new idea for an organic rice product from love of her hometown. She wanted to create a business that made a profit and, at the same time, developed her local community:

“My family business is car dealer and construction business. Those businesses are not related to rice and the agricultural sector. I’ve desired to do another business that could improve my local community. ... I have a passion for developing my hometown and community that I’m living in. ...” (J.K. SS interview 2, p.1).

J.K. is one of the most famous entrepreneurs in her city. She has businesses in different places inside and outside her hometown. However, her organic rice business was originally created through her willingness to have a business that could contribute to the development of the local community. Her strong background in business, and the strength of her attachment to her hometown, offered her an opportunity to add a new business to her portfolio.

e) Excess capacity

There were some cases of entrepreneurs identifying a new opportunity from having excess capacity. These entrepreneurs received fewer customer orders than their actual production capacity, so they had some excess capacity that was available for more production. Thus, they perceived new opportunities from unused resources. W.K. is one of these cases. He was contacted by a customer to mill organic rice and manufacture a processed organic rice product. His factory had only been doing rice milling and he had never undertaken other value-adding activities before. He might need to add other new processes to his factory, so he considered his capacity as a key factor in decision making:

“We have space. We can manage with the certificates they need. The example is if they ask a community-level rice mill to process, the product will not be able to be exported, but can only sell it in Thailand. And the larger rice mills that can process the organic rice for them are hard to find” (W.K. SS interview 1, p.5).

W.K. continued by explaining how his excess capacity led to the identification of a new business opportunity:

“... they (the customer) then looked for a rice mill. The farmers have got 600 tons for selling. The company also needs them all. If not, the rice will be sold to other people. Their next problems are: Where is the place for storing 600 tons of rice? And which rice mill will process the rice for them? ... Then, they came to us, to discuss. To process organic products, the factory needs to be certified, needs to have space for storing the organic products, The other rice mills cannot increase capacity for them. Later, the customer came to us. ...” (W.K. SS interview 1, p.9).

W.K. had a large number of resources and adhered to high quality standards to meet the requirements of the customer who was seeking someone to make a new processed product. The process capacity of W.K.'s rice mill factory is enough to support a higher volume of rice. He also has space available to build new facilities for additional production lines after the rice-milling stage. His background in engineering also gave him more confidence that he would be able to address new challenges. He therefore expressed the notion that his excess capacity had helped him identify a new, profitable opportunity. Entrepreneur's experience

An entrepreneur's experience is a widely discussed topic when considering opportunity identification and exploitation, such as in the work of Baron and Ensley (2006), Ucbasaran et al. (2009), and Li and Gustafsson (2012). The knowledge each entrepreneur possesses forms an individual knowledge corridor that influences perceptions differently for different entrepreneurs (Shane & Venkataraman, 2000; Venkataraman, 1997). The participating entrepreneurs referred to how they used their experience to build their unique knowledge and help them identify opportunities to make a profit. This code can be subcategorised as a) observation, b) entrepreneurs' pain points, c) experience in the industry, and d) previous achievement. Those influences are examined in more detail below. Their presentations are ordered by the scores derived from quantizing technique. The calculation details can be found in appendix 6-3.

a) Observation

Active entrepreneurs are likely to be open to new experiences. They value their observant character as a factor that helps them to identify new opportunities. Such was the case for R.P., who claimed that he is an observer who loves travelling in order to gain new ideas. He told the researcher how he gained a new idea for his processed rice business:

"The initial idea why I want to make rice wine is from my trip to China with my PhD classmates We drank some local alcohol drinks in ceramic bottles. We guessed that it was Mao Tai [a traditional Chinese alcoholic drink]. I later found out that it is made from rice or corn fermented with flour and some cereal. It made me think of our local alcohol drinks, Sa Toh [an alcoholic beverage made from rice in Thailand]. Sa Toh and Mao Tai taste and smell similar. But Mao Tai is a bit stronger. I then think of our sticky rice. I should do something with sticky rice" (R.P. SS interview 19, p.13).

R.P. claimed to be an energetic entrepreneur who is always looking for new opportunities to add value to his rice. In the above extract, after observing what others do, R.P. applied his resources to producing a new product for his business.

b) Entrepreneurs' pain points

The negative experience of a failure, problem or mistake in the past can cause entrepreneurs to look for a solution to improve the way they work in order to escape the pain point. S.P.'s family, for instance, is a large importer of radio amplifiers and has a well-established enterprise in the car audio business. As S.P. is the only daughter of the owner, she was expected to help run the business. She tried but felt unsuited to this type of business:

“Well my family runs a business, but it is a car audio business. My father imports radio amplifiers, then wholesales them around the country. Therefore, I’m familiar with running a business because I sometimes help him to do that. At first, when I was young, I didn’t think about anything. I just thought that I wanted to run a business. However, when I tried to help my father run his business after I graduated, that business was not for me” (S.P. SS interview 31, p.1).

Disquiet with the nature of her family business pushed S.P. to start a new company of her own that is more enjoyable. S.P. moved away from the car audio business and looked for a new form of endeavour that would fit with her interests and that she could live with happily. She loves eating different foods, so she tried considering different types of food business, such as cooking and baking, but these activities did not seem to be right for her. However, she had not found any ice cream that she liked on the market and so decided to run an ice cream business, which she identified as a good opportunity for her to start her own company.

c) Experience in the industry

Some entrepreneurs emphasised that their experience in industry helped them to identify new opportunities. For example, K.W. revealed that he had worked for many food companies before he decided to run his own business. He claimed that he had long experience of the food industry, so he knew how to identify an attractive opportunity:

“I have been involved with all kinds of processed foods, whether it be rice, flour, animal foods or even canned fish, and also processed pork products like, sun-dried pork and Chinese sausage, something like this. I used to work for many companies. ... There were many jobs I did there. So, I had been engaging with making noodles, instant noodles for 30 years. I worked as a manager for many companies. I used to be a maintenance manager, a production manager, etc.” (K.W. MS interview 22, p.1).

Prior experience in the industry strengthens an entrepreneur’s ability to discover an opportunity. This confirms a study by Ucbasaran et al. (2008), which showed that general human capital (e.g., work experience) contributes to opportunity identification.

d) Previous achievement

Entrepreneurs may find a new opportunity through a previous experience of success. One reason could be that a previous achievement enhances an entrepreneur’s confidence in pursuing a new opportunity. T.W. proudly told the researcher about the achievement he had had in his family’s business and that he was confident he could repeat the success with his own business:

“On the other hand, we have marketing knowledge. We have been working in the marketing field for years. We have built the strong brand of [a famous brand of his family’s business], making it famous. I’m quite confident that I can do it again. I believe I can make [a brand in his new business] famous” (T.W. SS interview 14, p.2).

T.W. is the second generation to work in his family’s business. A brand of their prepacked rice was not known outside their region during his father’s generation. After stepping into the business, T.W. successfully changed the small, family-run rice-trader firm into a nationwide and then worldwide business. The rice has become a well-known brand in Thailand. T.W.’s success attracted a lot of media attention and he has become a well-known young entrepreneur in Thailand. Hence, he used his previous success as a tool to help him identify new opportunities that should result in a new achievement if he applied his experience to a new business founded by himself.

An entrepreneur’s experience is one of the factors that affect opportunity identification (Ucbasaran et al., 2003a). The above codes show that entrepreneurs’ experience could contribute to their opportunity identification, as it could help form a knowledge corridor that leads them to identify a new opportunity that might not be seen by others.

2) Supplier’s role in opportunity identification

The data has revealed another factor on how entrepreneurs identified opportunity through their relationship with suppliers. The interaction between entrepreneurs and those who provide ingredients or input to entrepreneurs’ businesses also influences entrepreneur opportunity identification. The case can be categorised into several topics including a) coordination in developing new input, b) introduction of the new input, c) sharing news, consumers’ trend and information, and d) change in supplier’s behaviour. The calculation details are in Appendix 6-4. These sub-codes are going to be discussed respectively in the following section.

a) Coordination in developing new input

In some cases, the entrepreneurs discussed their initial idea for a new development with their supplier, as this could become an opportunity for the entrepreneur because the supplier would help the entrepreneur to develop, or find, a new input needed for the production process.

S.J. described how, during her new product development stage, she had to discuss the development of an input required for a new production process with the supplier. This is part of the information gathering necessary for product development in a large company, as in S.J.’s case. S.J. shared the following point of view about the importance of her suppliers:

“Sometimes when we want to produce new products, one of the drivers is an ingredient which can make us different. We have to develop together with our suppliers. ... Because it’s a product that doesn’t exist.... We have to inform them what we want, how we will use it, something like this” (S.J. LS interview 34, p.9).

C.C. had received some complaints from her customers, so she thought about a new way to provide a better service. She then went to her suppliers to discuss how they could help her improve the service:

“They helped facilitate the innovation. It is because we can’t do it ourselves, right? I only have the idea. When I want something, such as when I know feedback from the customers. ... I have to find a way to solve these problems. I will ask the suppliers that if we are able to do any development, We have to be good to them, the suppliers. They really help us. The technicians also help us make a kind of food storage that we want. The process is not so complicated they are working like researchers, something like that. They work as product development” (C.C. SS interview 8, p.12).

The entrepreneurs wanted to improve their business but, in these cases, they could not think about the situation alone. They needed to discuss the matter with their supplier to gather information and form a more solid idea for business development. Therefore, the coordination between entrepreneurs and their suppliers is another factor that helps entrepreneurs identify new opportunities.

b) Introducing new input for production

Some suppliers introduced new ingredients to the manufacturers for their new opportunity in product development. For example, T.W. wanted to create a variety of ready-to-eat Thai desserts and described how his supplier took part in the product development:

“Partly. We discussed. For example, if I want to develop a new product, the suppliers will help us in finding new ingredients. They support us in seeking new ingredients that we want to use for testing. We have always worked together” (T.W. SS interview 14, p.17).

In another example, K.T, the younger generation of a large-scale food processing company, shared a similar opinion about the role of suppliers in introducing new ingredients. K.T. used to produce a product made from an ingredient introduced by his supplier:

“Ummm ... for example, they introduce new and special raw materials for us, something like that. ... Actually, special raw materials mean the raw material that is not currently used in the mass market. There are only a few main ingredients for the mass market, in general” (K.T. LS interview 33, p.9).

K.T. knew his production scale was suitable for the mass market. However, he preferred to introduce new and special products regularly to attract consumers, even though he may have to stop production later because that particular product was not suitable for mass production.

In the above cases, suppliers played a role in introducing new ingredients, thereby helping the entrepreneurs identify new opportunities in the market.

c) Sharing news, consumers' trends and information

Another role of suppliers in product development is to share information with entrepreneurs. These suppliers may share news or market trends that lead an entrepreneur to manufacture a new product. K.N. illustrated how a supplier is important in finding new opportunities:

"They share with us the market trends; moreover, we have our Sales Executive Team visit abroad. We have discussed with our partners, so we know the future of the new products and understood the market's need." (K.N. LS interview 35, p.7).

d) Change in supplier's behaviour

The relationship between rice mill owners and farmers is close, as they support each other. As a result, if the behaviour of the farmers changes, the rice mill owner has to make changes to the business in order to support the modification. K.K. reported that he had brought new machines for his production because the behaviour of the farmers had changed. In order to respond to this change, the entrepreneur had to invest in new machines and technology, which he believed could be a good opportunity for his business:

"The behaviour of farmers has changed from the old days. I had a chance to see this transformation. Formerly, the rice mill was in the northeast region and each year, during the trading season, we buy rice from farmers. The period takes about 2-3 months. The farmers harvested rice in high humidity condition. They harvested, milled and dried it themselves and then gradually sold this rice to the rice mill owner. However, currently, it's changed. There are the harvester machines from the central region.... Then, the harvester machines make changes to our farmers' behaviour. Farmers no longer hire workers to crop rice but hire harvester machines instead. It's cheaper and faster to use a harvester than labourers. Consequently, once farmers' behaviour changes, the innovation in the rice mill has to change accordingly. There will be a huge amount of rice incoming each day. So, it is necessary to have an oven. It's an oven to reduce humidity. Nowadays, I can buy rice at once. Then I'm free. I can just wait to mill it" (K.K. SS interview 3, p.11).

K.K. continued by explaining why this response was necessary to his business opportunity:

"So, we essentially have to adjust ourselves because we have a cropping season once a year. We have to stock as much rice as we can to cover the annual production plan. Therefore, we have to urgently stock as much rice as possible because after

that period there will be no more rice in this region. Otherwise, the revenue will not cover the cost” (K.K. SS interview 3, p.12).

In contrast with the above discussion of suppliers’ roles, a few entrepreneurs stated that their suppliers did not play any part in their business development. M.U., the owner and founder of a start-up food company, pointed out that her suppliers do not play any role in product development:

“They don’t play any role. Because they do not relate to us indeed. We just order from them, asking them whether they can provide some ingredients for us. If it is not exactly what we want, we will ask them to provide the new ones.”

“...We have our recipe for Mooyor [Thai pork sausage]. We told the Mooyor producer what we want. No difficulty. The suppliers do not matter really” (M.U. SS interview 28, p.16).

It can be seen from the conversation above that the entrepreneur was quite confident in her ability to obtain the right ingredients from different suppliers. This might be because M.U. wanted suppliers to supply only the basic ingredients for her innovative production.

3) Entrepreneur’s passion

Another supply-side tool that influences how entrepreneur identify opportunity is entrepreneur’s passion. This code is the second least mentioned topic by entrepreneurs as they got the smallest score in score calculation (see appendix 6-5 for score calculation). Entrepreneur’s passion relates to the entrepreneurs’ personal interest in a business that drives them to find new opportunities. It includes a) self-interest, b) social responsibility, and c) childhood experience. The following discussion are ranked by their scores.

a) Self-interest

The entrepreneurs in this study sometimes presented a personal interest of theirs that could lead them to a new business opportunity. The entrepreneurs with passion in their business clearly showed their love for the products or the business they were running. M.U. is one of the best examples of this. She was very passionate about her innovative, instant local noodles. During the interview, she mentioned her passion quite often. For example,

“It started with my passion. We love Kuay Jub and we are based in Ubon Province. We thought we wanted to make Kuay Jub to be like the famous instant noodle, MaMa” (M.U. SS interview 28, p.1).

“What we are doing now is truly from our passion” (M.U. SS interview 28, p.1).

"So, I got a chance to follow my dream. It's from my passion" (M.U. SS interview 28, p.2).

"Our mind. It's solely because of our passion. Then we just started" (M.U. SS interview 28, p.10).

M.U. showed her strong passion for doing business that would be relevant to her favourite local food. She then contacted innovators about a licence to commercialise their research findings.

The entrepreneurs who referred to this theme (self-interest) were all from the younger generation, aged around 32 years old (the average age of the overall sample was 42 years old). All their businesses were small newly established firms. Considering their individual profiles, these entrepreneurs shared the same characteristics of being highly educated people from business families. Instead of stepping into a well-established family businesses, however, they chose to establish their own firms and follow their own interests. Their self-interest influenced their opportunity identification process, which helped them to pinpoint what to do in the world of business away from the umbrella of the family firm.

b) Social responsibility

An entrepreneur who strongly presented her passion in doing business for her local area was J.K.. J.K. is someone with experience in different industries, including automobiles and construction. Later, however, she wanted to find a new business that could contribute to the growth of her hometown. During the interview, she commented:

"I desired to do another business that could improve my local community. I don't want to be a businessperson who wants only the highest profit, I only have a passion for developing my hometown and the community I'm living in" (J.K. SS interview 2, p.1).

"I love my business. I think it is our strength. We love what we are doing. We wish to make the community good. Our business is not to seek profit only, but to uphold the Yasothon community. We are a private company that aims to do business for the community. Now, I can say that we are a private company that plays a role in supporting this province to be the best practice of an organic town in the country. We think that we are partly successful in helping this community be better" (J.K. SS interview 2, p.5).

"As I have told you, that we do the business with love. It is a business that is run by the heart" (J.K. SS interview 2, p.13).

J.K. accepted that following her own passion to run a business might not be the wisest choice for making a profit:

“As we aim, since in the beginning, that we didn’t just seek the highest profit, we want to make this community good. It makes us able to work within our small context. For other companies, they might not be able to do this because it isn’t worth the business profit. You get a low profit, but you have to work hard. You have to work and control many things. In terms of business wise, it’s not a smart way of doing business. But we intend to do this as we don’t mainly focus on the profit” (J.K. SS interview 2, p.13).

In the light of J.K.’s high profile in business, it would be possible for this portfolio entrepreneur to run a small business inspired by her passion, even though she only receives small returns on her investment.

c) Childhood experience

A favourite snack in childhood became one entrepreneur’s opportunity. T.W. illustrated the childhood experience that inspired his idea of an innovative dessert business:

“When I was young, I grew up outside Bangkok. I loved to eat some confectionery or snacks. My parents didn’t want me to have them much. They were afraid of monosodium glutamate and preservatives. They wanted me to have Thai dessert instead..... Therefore, I grew up with Thai desserts. At that time, I realised that no one has seriously created the brand of Thai dessert. No one has created innovation for Thai dessert. It’s possible that someone might do it before, it was not well known in the market. ... Consequently, I have started [a brand name]. It’s also from my personal preference that I grew up with Thai dessert. These are the reasons why I built this business” (T.W. SS interview 14, p.2).

Later in the interview, T.W. again stressed his passion for his new small company:

“It is my favourite. I like to eat it. I’m happy to eat it. So, I know how delicious Kaw Tom mud [a type of Thai traditional dessert made from sweet sticky rice] should be. I would love to make it” (T.W. SS interview 14, p.10).

4) Advice from entrepreneur’s networks

Advice from entrepreneur’s networks refers to the connections between entrepreneurs and their networks that help to identify new opportunities. This is the least mentioned topic from the interviews. It consists of 2 sub-categories, which are a) personal relation and b) professional network respectively. (Score calculation can be found in Appendix 6-6).

a) Personal relations

Some entrepreneurs may possess the initial agricultural products but have no idea how to innovate or add higher value, so they discover new opportunities through discussions with people with more business experience. This was reported as another way for entrepreneurs to identify a new business opportunity. For instance, K.J. is the owner of a longan farm and wanted

to process the fruit in order to add value to her business. She accepted that she did not have much knowledge about food science and she did not want to compete with the many other companies in the dried longan industry. She decided to ask her uncle for advice:

“So, I asked my uncle to help. He graduated in food science. So, I consulted with him about developing longan, So, my uncle advised me to study research or theses that relate to longan. After studying, I came up with many ideas, many products. At first, I wanted to do something about food. But my uncle didn't agree; he wanted us to do something that was valuable and had benefits for health, not just food. So, he told me to research longan seed. ...Because I was not in this field, I did not know much about this substance, but my uncle did, so he gave me some guidelines. And finally, we got the idea of longan tea” (K.J. SS interview 20, p.1).

With guidance and support from her uncle, K.J. finally had the idea to produce longan tea, which contains beneficial substances from longan seeds and pulp. Despite her uncle working in academia as a dean in a university, and not being her business partner, the entrepreneur mentioned her uncle quite often. This suggests that one of this entrepreneur's personal relationships influenced her opportunity identification.

b) Professional networks

Entrepreneurial associations can be another source of help for entrepreneurs in identifying an opportunity. For instance, K.K. informed the researcher that the association of rice mill owners shared a lot of innovation information that was beneficial for him too, as he might bring that knowledge into his factory to improve the production and the product:

“We have formed a group. The rice mill owners have to associate with each other in order to access as much information as we can. We are no longer able to lock ourselves from the outside. Knowledge is everywhere. I could say ... about 3-4 years, since I first joined the industry. I had the feeling that not everyone welcomes outsiders. But now I realise that if we close ourselves from the outside, we will feel more anxious. We are anxious about the innovation that we will miss” (K.K. SS interview 3, p.6).

S.P. had a slightly different approach from the one pursued by K.K.. Instead of directly leveraging professional associations to benefit the core business, K.K. found a new opportunity for her ice cream business through an association of car audio dealers, which is her family's core business:

“My father's friend is in the car audio business. He has a daughter, but his daughter doesn't want to do his business. He has a group for sharing updated news about car audio products to friends from different countries ... They call this group as...err... association or club, something like that. These people also have children. And their children are like they don't want to do their parents' businesses. Because we are female, car audio is not what we like. They told me they are interested in my ice

cream. The market that sounds possible to me is probably Taiwan” (S.P. SS interview 31, p.5).

A daughter of her father’s friend told S.P. about the potential of her ice cream in the Taiwanese market. S.P., therefore, saw a new opportunity to expand her business abroad and, because of their long and tight connection, she showed an interest in running an ice cream business in Taiwan with the help of her networks. This case shows how a strong tie in an entrepreneur network in one business could lead to another new opportunity in a different industry.

5.1.2 Demand-side factors

Demand-side factors refer to the factors that involve customers initially and then influence an entrepreneur’s decision. The factors influence the opportunity identification process and include the role of customers, whether business customers or consumers. Changes outside an enterprise can also lead to entrepreneurial opportunities, such as alterations in demographics, customer needs and perceptions (Drucker, 1985; Hulbert et al., 2013). These external factors can lead entrepreneurs to make changes to their business in order to respond to changing demand. However, the majority of entrepreneurship literature focuses on changes on the supply side, such as in input, processes, or products (Eckhardt & Shane, 2003).

Demand-side factors consist of two major themes: customer requirements and consumer trends. **Customer requirements** are defined as cases in which entrepreneurs are asked by their customers to make changes or develop new products to satisfy their needs. This node requires interaction between entrepreneurs and customers in sharing information with each other. The second theme is **consumer trends**, which refers to changes outside a business that affect the opportunities entrepreneurs identify. Entrepreneurs identify trends through various means in addition to direct contact with customers, for example through information that is available on the Internet, training classes, workshops, and seminars. Quantizing technique applied to this study has revealed that the most crucial issue for the entrepreneurs in the demand-side category is about customer requirements, followed by consumer trends. The detail of score calculation is shown in Appendix 6-7.

1) Customer requirements

Customer requirements are the cases in which entrepreneurs are asked by their customers to make changes or develop new products to satisfy their needs. Undiscovered customer need could be a new opportunity for entrepreneurs (Alvarez & Barney, 2007; Companys & McMullen,

2007). The entrepreneurs participating in this thesis raised some of the needs requested by their customers as the origin of their opportunity. This code can be grouped into 5 categories, including a) consumer preference, b) Customers proposing an idea, c) required quality standards, d) market research, and e) customers introducing new input. The discussion on these codes will be ordered by their score. The detail of score calculation for customer requirements code is shown in Appendix 6-8.

a) Consumer preference

This node is defined as a situation in which an entrepreneur perceives information from customers as a tool to identify a new opportunity that aims to be favoured by consumers in the market. In this sense, the customer might be an end user of the product or a middleman who resells the product to consumers. Customers can deliver information about consumer demands and preferences to entrepreneurs.

P.H. explained how her customer, a trader from the USA, told her about consumer preference in the US market, which enabled her to see an opportunity for profit:

“Formerly, we hired the outside companies to produce for us. When we realised that this product [fruit jelly filled with real fruit] has a bright opportunity in the market and we have potential to do it. We then started to invest in the production and added more flavours. The customers told [us] that they want it. They asked for new flavours of durian, longan, etc. We said OK we can make it” (P.H. SS interview 24, p.5).

Large-scale businesses may have a greater ability to connect directly with both business customers and consumers than smaller companies. K.T. illustrated how he valued consumers' suggestions as a tool for new product development:

“The company always provides numbers for consumers to call. Also, we can be contacted through online channels. The consumer may comment, ask or make suggestions about the product they want” (K.T. LS interview 33, p.10).

Valuing consumer preferences helped these entrepreneurs to identify market demand and, therefore, they could recognise a new business opportunity (Alvarez & Barney, 2007).

b) Customers proposing an idea for a new product

In some cases, customers do not simply come to buy a finished product; they come with their own idea for a new product and ask the entrepreneur to be the manufacturer. Entrepreneurs who had enough resources may identify this as an opportunity to introduce innovative products to the market. C.W. has been operating in the processed fruit business for more than 10 years.

He realised that durian products were in high demand both inside and outside Thailand but his business focused on only few types of product until a customer asked him to find a possible method of making durian juice:

“There is a customer who wants durian juice. How to make it? Firstly, we have to find the innovations for making durian juice. The durian must be in powder form in order to brew with hot water. Ummm... it is the product that...go to another market, it is a new product” (C.W. SS interview 7, p.13).

An idea a customer brought C.W. provided him with a new opportunity to differentiate the products in his business. This case is quite similar to that of W.K., whose family have been running a rice mill since their grandparents’ generation. His rice mill could be considered a small business, according to the official SME definition. However, compared with other rice mills in the area, the business was not small. Therefore, a customer who was looking for a potential manufacturer to produce organic rice pasta for the international market came to meet W.K.:

“There was someone who wanted this kind of product [he shows his prototype product to the researcher] and came to us. He was looking for someone to produce this [rice pasta] for them” (W.K. SS interview 1, p.5).

Slightly different from the case of C.W., the above customer advised W.K. on the know-how of production and introduced a special key ingredient to make the new product. This example is discussed further in a later discussion on new input.

This code represents a case in which entrepreneurs are able to recognise a profitable opportunity based on information from business customers who will market the new product to consumers. The entrepreneurs were able to make a profit from this opportunity without undertaking any marketing. These entrepreneurs worked under an original equipment manufacturer (OEM) contract with their customers.

c) Required quality standards

Quality standards are crucial for food products and are a tool to guarantee a certain level of quality of a process, product or service and to gain trust from customers. Small firms, especially those that are newly established, may not have obtained the necessary quality standards. Instead, they typically have the basic Thai Food and Drug Administration (FDA) standard. Therefore, the standards required by a particular customer are crucial. M.U., the founder of an innovative brand of instant local noodles, highlighted how she identified an opportunity in this way:

“For a simple example, if we want a place in modern trade, there will be rules that we have to follow. Our 2-3 year plan, we want to be placed in modern trade, we will start searching for the info. As a result, we know that we must have GMP [Good Manufacturing Practices]. We go ahead to achieve the GMP standard. On that day, we will be able to have a place in modern trade” (M.U. SS interview 28, p.21).

d) Market research

Market research refers to the process of collecting, analysing, and interpreting information about a market and potential customers. A company conducts market research in order to develop the products and services that it will be offer to the market.

The following excerpt from a conversation with S.J. illustrates how her company and a team of staff utilise market research to identify an opportunity:

“First we need to have good consumer insight. This will make us know what the consumers need. ... so we need to understand them by doing consumer research, consumer testing or surveying the market, for example. This helps us build communication to connect with the consumers” (S.J. LS interview 34, p.6).

“After that, the marketing team will make a plan for the product, like in this opportunity, what kind of product we want, and then we will give the direction, the frame to the R&D Team to develop the product” (S.J. LS interview 34, p.7).

A very big company like the one in the excerpts above can run market research activities properly, as it has a wide range of human resources and an appropriate budget. They conduct market research to identify customers’ needs. Large firms can invest in the human resources, budget and time needed for this propose. Consequently, only larger businesses are able to run this activity and it might not be affordable for SMEs to do this formally. Smaller firms might, however, informally collect and analyse the market information obtained by the entrepreneurs themselves. Perhaps as a result of this informal activity, the entrepreneurs who participated did not mention market research as a tool to identify a good opportunity.

e) Customers introducing new input for production

In order to create a new product, the new input or ingredient used in the process is a vital component. The topic discussed earlier, of new products proposed by customers, emphasised the product itself. Some entrepreneurs have to research the know-how to manufacture a product themselves. In some cases, however, customers not only come with an idea, they also introduce a new input/ingredient and a new process to produce the newly initiated item. W.K.,

a rice mill owner, who was asked by a customer to manufacture a new type of product, is a good example of this phenomenon:

“Customers came to us. They thought our factory is the newest in this area. We have space that they can use. It can be said that, we have all their needs. They asked us to produce organic rice for them. They already have unmilled organic rice but they were still looking for a mill” (W.K. SS interview 1, p.5).

The organic rice mentioned in the excerpt above was to be processed into an innovative rice product aimed at entering the European market. A new factory for its production was built in W.K.'s space with some advice from the customer to ensure that it would meet organic quality standards.

It was noticeable that this code was discussed only by entrepreneurs from small firms. Larger firms might be capable of finding an ingredient or input for their production through trusted suppliers. Therefore, large firms' customer may not play a part in this approach.

2) Consumer trends

Consumer trends were significant to the entrepreneurs' opportunity identification, as they utilised this information to understand their target market. Entrepreneurs can access this information through different sources, whereas the customer requirements discussed earlier were mostly derived from entrepreneurs' interactions with customers. Three key consumer trends could be captured from the interview transcripts: healthy lifestyles, urban lifestyles and an aging society respectively. Calculation scores for quantizing technique are shown in Appendix 6-9.

a) Healthy lifestyle

The issue mentioned most frequently was the trend in health and wellness, whereby people are becoming more health conscious and more selective with regard to food and the way they live. It was a key issue widely discussed amongst the sample entrepreneurs from every category, from small, medium and large businesses. This trend encompasses people of all ages, from newborns to the elderly. Innovative products targeting those people mainly highlight their benefits, nutritional composition, safer ingredients and processes. For example, organic and natural products and healthier food for weight control. P.V. illustrated how he saw new opportunities from his observations of health-conscious people, such as mothers who choose food carefully for their children:

“It turns out that it is a major customer group now. It is the group of mother and baby. ... nowadays, mothers aged between 25 to 40...nowadays, mothers are in

these ages...these mothers are more educated, unlike the mothers in the past. If they are snacks that have a lot of monosodium glutamate, the mothers will not allow the children to eat them. However, snacks and children belong together. So, the mothers want to find something for them to eat. Therefore, our products meet their needs” (P.V. LS interview 23, p.5).

He explained how his innovative product answers health-conscious consumers’ needs and why his business focuses on this opportunity:

“Because of the product itself. I would like to tell you a little bit about the processes. ... If compared to snacks in the market, our products are considered as the best snacks for health. ... trend in health which is the mega trend of the world. So, they are interested in our products. Although health may be involved with treatment, vitamins and something like that, snacks are one of the sections in this trend” (P.V. LS interview 23, p.5).

A healthy lifestyle may apply to consumers of all ages, including elderly consumers, and, therefore, this code was widely discussed by many of the entrepreneurs. For example, N.P. claimed his freeze-dried fruit were a healthy snack for everyone:

“We want to be a manufacturer and supplier of healthy snacks for people of all ages and genders. We won’t stop at just the freeze-dried products; we are interested in every food that is good for health” (N.P. MS interview 27, p.3).

b) Urban lifestyle

In 2017, more than 50% of the population in Thailand was living in urbanised areas and this figure is increasing (Statista, 2018). People tend to consume convenience foods or eat out, rather than cooking food at home. T.W., whose product was developed to solve the limitations of urban dwelling, expressed his vision in identifying a new opportunity in addition to his well-established rice trading company:

“Because people’s lifestyle is changing. In the past, people cooked their own rice. They made their own food. Nowadays, this lifestyle has changed. Even the behaviour of eating dessert, it has also changed. Some people used to drive for 10 km or 3 hours to buy good products.... People prefer not to put much effort to buy food. I think...innovation helps us to meet customers’ needs. It facilitates people’s life. ... If I can sell much grain rice today, but what about the future if people will not cook anymore? In the future, they may prefer to buy ready-to-eat food from the convenience stores, or maybe there will be more and more ready-to-eat food producers. Whom should I sell my rice to? I have to eat them myself” (T.W. SS interview 14, p.10).

As Thailand is transforming into an urban country, T.W. identified his new innovative business of ready-to-eat desserts as having a bright future. He added:

"Today, I want to do business which is able to meet consumers' needs in the future. As I told you, we are distinctive because we can serve the needs of the future. It's not easy to copy our products. This makes us distinctive. It helps us to grow" (T.W. SS interview 14, p.10).

c) Aging society

However, some entrepreneurs specified that their products mainly targeted healthy elderly consumers. This expectation came after the change in population demographics towards an aging society. For example, J.K. realised her innovative organic food might not be liked by the younger generation because of its texture, so she believed the ongoing social transformation would be h opportunity:

"I think that in the future they will continue to be sold. As in the future, it is going to be an aged society. I can see their future" (J.K. SS interview 2, p.13).

Only a few entrepreneurs specifically targeted this niche market of elderly consumers. One reason is probably because of the larger market of health products that already includes products for aging people. As a result, the majority of the text coding registered the healthy lifestyle node. There were only two entrepreneurs with a small production capacity who clearly identified their target as elderly people.

Perhaps surprisingly, during discussions on how the participants arrived at an idea for an opportunity, one entrepreneur revealed that customers did not play much of a role in his opportunity identification. He believed that, as a producer, he had more knowledge of the main ingredient (rice) than the consumers. He developed and exploited his ideas for a special healthy processed rice product over 10 years ago, when the group of people wanting a healthy lifestyle was not a growing market. There were not as many health-conscious consumers then as there are today. The target market was very niche at that time and his business could not make a profit, resulting in a financial crisis for this business.

The descriptive codes show how entrepreneurs identified opportunities in relation to the two main factors: supply-side factors and demand-side factors. The participating entrepreneurs tended to focus more on the supply side than the demand side. The explanation could be that innovative entrepreneurs are mostly proactive in offering innovative products/services to the market or in developing their business. Their discussions, therefore, mostly focused on their active roles in considering new opportunities to make a profit. Discussions on innovative opportunity mainly focused on changes in the supply side, such as in input, production method, and the development of a new product (Schumpeter, 1934).

Eckhardt & Shane (2003) point out that a change in demand alone could also lead to an opportunity, but there is limited research on demand-driven opportunities. Utilising the user perspective has been found to increase the ability to identify an opportunity (Prandelli et al., 2016). The current exploratory thesis aligns with earlier studies that highlight customer influences on entrepreneurial activities. Some of the codes show a demand-driven opportunity that triggers entrepreneurs to realise a change is needed for their business development. Customers play a role in enhancing an entrepreneur’s knowledge corridor, as they drive entrepreneurs to recognise what the customers would like to pay for and what entrepreneurs should do to attract customers.

This thesis is different from the study by Prandelli et al. (2016), which conducted a test in an experimental setting. As a result of exploratory research, the current study reveals the proactive roles of customers in the opportunity identification process. It appears that only a limited amount of the existing literature has discussed this topic.

5.2 Why do innovative entrepreneurs in a food VCH identify opportunity?

Entrepreneurs may have different reasons for identifying new entrepreneurial opportunities. Understanding their distinctive reasons will help scholars explain why entrepreneurs may identify opportunity differently.

The analysis shows that the participants mainly focused on operational reasons, followed by customer factors and financial factors respectively (Score calculation can be found in Appendix 6-10). Finance was expected to be the initial aim for most entrepreneurs to run their business. However, financial reasons were not the most common issue for these innovative entrepreneurs.

Table 5-2: Reasons for innovative entrepreneurs identifying an opportunity

Why do innovative entrepreneurs identify opportunities?	Files (number of interviewees identifying a code)	References (number of times a code is mentioned in transcripts)	Total score	Rank
Why - Operational factors	24	127	129.34	1.0
1) Business differentiation	15	39	61.52	1.1
2) Developing new market(s)	13	20	46.71	1.2

Why do innovative entrepreneurs identify opportunities?	Files (number of interviewees identifying a code)	References (number of times a code is mentioned in transcripts)	Total score	Rank
3) Improving efficiency of a production process	7	16	27.66	1.3
4) Extending shelf life	6	16	24.80	1.4
5) Social responsibility	6	14	23.84	1.5
6) Internationalisation	4	19	20.52	1.6
7) Further development opportunity	3	9	12.88	1.7
8) To change from an OEM to own brand	1	1	3.34	1.8
Why OI - Customer factors	21	42	80	2.0
1) Increasing customer choice	17	34	65	2.1
2) Solving customer pain points	6	9	21	2.2
Why OI - Financial factors	13	40	56	3.0
1) Higher value added	10	27	41	3.1
2) Higher profit	7	8	24	3.2
3) Ability to set price	3	8	12	3.3

Table 5-2 shows the majority of the entrepreneurs in this study highlighted operational reasons for opportunity identification. These innovative entrepreneurs wanted to be remarkable and, therefore, business differentiation seemed to be the key reason for them to identify a new opportunity. They expected to advance various aspects of their business operations. The operational focus included development in business and marketing strategies with the aim of better business performance.

The entrepreneurs believed that a gap existed in a market in which there were none or very few competitors offering new profitable products/services. They identified opportunities for customer-related reasons, in order to offer products/services to satisfy customers. Such products and services could also bring the entrepreneurs profits and new customers.

Financial profit was a key issue for entrepreneurial performance. In order to survive, businesses require a financial profit that is high enough for the entrepreneurs to run their activities sustainably. Some interviewees discussed money-related matters. However, some interviewees clearly stated that financial success was a basic requirement for business. Thus, in the context of innovative opportunities, they preferred not to talk about that point. This code also reveals a unique financial reason raised by farmer-entrepreneurs that might be different from the motivations of other types of entrepreneur in a VCH. They identified a new business opportunity with the aim of being a price-setter for their processed products, thus escaping the role of price-taker in a primary agro-product market. This is discussed in detail in the section on financial factors (section 5.2.3).

The advantage of taking an exploratory inductive approach is that it allows the researcher to identify uncommon reasons given by small numbers of participants. If the researcher had focused only on obvious answers, some unique explanations might have been overlooked. For example, one entrepreneur pointed out her initial reason for identifying a new opportunity was that she wanted to have a brand in the market. She chose to develop a new product (Longan extract drinks), instead of investing in marketing for an existing product (dried longan), which she had been carrying out as a manufacturer under OEM contract for many years. In financial terms, there were a few farmer-entrepreneurs who recognised that processed food could be an opportunity not simply to be a price-taker in the market.

The next sections explore the codes in detail.

5.2.1 Operational factors

Operational factors refer to reasons that relate to various aspects of business development. The sub-codes are ranked and described as follows (score calculation is shown in Appendix 6-11).

Business differentiation refers to the ways in which entrepreneurs aim to differ from other competitors in the market, to enhance customer recognitions towards their business, and initiate a selling point for business.

Developing a new market refers to the reason entrepreneurs expect to acquire new and/or more customers.

Improving efficiency refers to the instances in which entrepreneurs look for improvement in their processes to be faster, lower cost and better quality.

Extending shelf life refers to reasons for entrepreneurs specifically focusing on increasing the shelf life of their agricultural products by processing them into new products. This allows the entrepreneurs a longer period in which to sell their products and escape from seasonal limitations.

Social responsibility refers to entrepreneurs' reasons for targeting improvements in their community and other people in society.

Internationalisation relates to entrepreneurs who aim to have a global business, so find an opportunity that could bring them into the international market.

Further development opportunity describes entrepreneurs' intention to be more creative and broaden their business into a new area because they could not see a new, creative challenge in their current business.

To change from an OEM⁶ to own brand describes entrepreneurs' intentions to run a new activity, e.g., branding and marketing, but their current business is not a good choice for doing so.

1) Business differentiation

The majority of the innovative entrepreneurs who took part in this study would like to be different. As shown in the data, the rationale for identifying opportunity was their wish to differentiate their business from the others in the market. In order to be an outstanding business, entrepreneurs identified new opportunities. They shared the same opinion, in that if they did not do something special, their business would be undifferentiated from others in the same industry. For example,

"It's like nowadays, since everything is quite globalised, people can copy things of one another more. But the things that are innovative are different. The things that are different are Blue Ocean, not Red Ocean. It makes you stand out more than others. It makes you be able to show your identity most. It makes you shine bright in an industry more like me. It really happens like this" (P.V. LS interview 23, p.14).

"I think ... I don't want to be the same as the others. I want to be different. This [his product] could be my opportunity. That was what I look for and I started working on it. It has been two years that I don't give up. Because I consider it as a clear vision

⁶ original equipment manufacturer (OEM)

to make a change for my business. We have to reach that point” (T.W. SS interview 14, p.13).

The above excerpts were taken from interviews with entrepreneurs who wanted to be outstanding in order to build a strong brand name that could lead them to better brand recognition.

J.K. revealed that she identifies opportunity, not just to be different, but also to highlight her uniqueness in the market. She expected to use innovative products as a selling point for her business. It also helped with customer brand recognition:

“Our customers will feel that they have bought organic rice from the very first rice mill who produces only organic rice. We are the first rice mill which processes purely organic rice. We are the first company who can export GABA rice to Australia. I’m the first one who can export GABA rice to Australia. Australia had never allowed GABA to be imported to the country before” (J.K. SS interview 3, p.7).

“We know we are small. What we can compete with the big company on is our uniqueness” (J.K. SS interview 3, p.8).

In order to be different, some entrepreneurs believed that their products varied from those of their business rivals. This was especially so for entrepreneurs who considered themselves pioneers in the business. They expected to benefit from first mover advantage, which can lead to customers recognising their brands easily (Lieberman & Montgomery, 1998).

2) Developing new market(s)

Many of the entrepreneurs identified opportunities because they wanted to explore new markets. The majority of the entrepreneurs who talked about this issue owned well-established firms. Several newer firm owners who mentioned this had a background in business of many years, but they had registered a legal status for their business only shortly before. All of them shared the same point of view: wanting to offer an innovative product to a new market outside their traditional market, in which they had been operating for a long time. W.K. and K.D could be good examples of this viewpoint. W.K.’s family had been in the rice milling business for a long time. His rice mill factory previously ran for normal rice, until an organic process was implemented. He realised that overseas customers may prefer organic rice, which could make a greater profit. Thus, he stipulated that his factory should run an organic milling process:

“We see new target customers. The price is also higher. Hmm...the customers process our milled rice into rice porridge, drinks, and coffee whitener. They are healthy products. In Thailand, we aren’t concerned much about health, but overseas

people they are concerned more about health. So, if we want to trade with an overseas market, we should produce organic products” (W.K. SS interview 1, p.8).

K.D.’s business had been in longans since her grandparents’ generation. She was an innovative entrepreneur who aimed to make an exciting new development for her business. In addition to her core business of dried longan, she proposed the idea of a new longan processed product to a research team to realise her dream of launching innovative longan drinks. One of her aims was to acquire new customers outside the Asian market. However, since longans were not known by Western consumers, she believed it would be a better idea to innovate a new product made from longan:

“firstly, I expect this opportunity helps me to find new customer targets, of course” (K.D. SS interview 17, p.17).

“we can expand the market more, for example, the market in Europe or America, they have never tried longan” (K.D. SS interview 17, p.20).

In some cases, the entrepreneurs were even more specific, in stating that they wanted to **escape from an ordinary market**. K.D. admitted that there were many competitors in the processed longan industry. Therefore, she wanted an innovative product in order to escape from the ordinary longan industry in which fresh or dried longan was mainly consumed by Asian people:

“I don't want to go only to trade fairs in China, I want to go to Europe too hahahaha ... Well basically, first, it's because I have competitors, so I am trying to have new products to make the market higher value and get more margin. Basically, now the margin decreases” (K.D. SS interview 17, p.7).

These codes present the market rationale that influences entrepreneurs in finding a new opportunity.

3) Improving efficiency of a production process

Entrepreneurs brought innovation to their endeavours as a tool to improve their business. They expected innovation to help speed the process, reduce costs, and control quality.

a) Increasing the value of lower-grade agro-products

As agro-products, rice and fruit are graded by qualities such as size and appearance. The better products can be sold at higher prices; lower-grade ones are priced lower. Sometimes, the low prices of primary products might not be enough for the farmers to make a profit. Innovative entrepreneurs, especially those who were also farmers, endeavoured to find an approach to raising the price (ensuring higher margins and value) and maximising the use of their key

resources. R.P., whose family background was in farming, had become an entrepreneur by working closely with local farmers to develop rice products. He explained why he thought processing broken rice could be an opportunity to make a profit:

“For example, actually rice flour is made from broken rice. It is still a good food, but its price is quite low because it was broken. Its appearance is not good enough to sell at a high price. So, we process it to be rice flour. Its price is higher than the price of broken rice. Rice germ should be sold at a higher price than rice flour. Everything has been planned” (R.P. SS interview 19, p.18).

The entrepreneurs who pointed out this issue were rice and fruit farmers. They had all experienced a price crisis. Therefore, they hoped that innovation could help them increase the value of their resources so that they could be sold for more than their original price, which was very low.

b) Offering alternative uses for agro-products

Fruit and rice can be eaten on their own. However, some entrepreneurs had a vision to offer other uses for agro-products, such as those arising from the health benefits hidden inside these primary products. Innovation is key to entrepreneurs revealing products' natural benefits. An entrepreneur is someone who offers alternative uses for products in the market. K.D. is the third generation of a dried longan business family. Dried longan is the main source of income for her business; however, she felt it was no longer an exciting industry for a creative person like her. For that reason, she tried to search for something new for her well-established business. She loved learning and reading, especially gaining knowledge about the longan. The longan, like other fruit, contains health benefits. K.D. read some of the research that confirms newly found benefits of longan, which she believed could be a new opportunity for her business. Hence, she wanted to innovate as part of this new opportunity to offer a new use for fruit products and, with support from researchers, she achieved an innovative drink made from longan. Unlike the traditional longan business, whose major customers are in Asia, she planned to introduce this new product to the Western market:

“I read research of Westerners that they studied something about longans.... I read about longans' benefits, I started to see the value of them. For the main point, apart from eating them to make one feel warm, are there any other advantages? For this, I just focus on the idea that when eating them, it makes one feel warm.... There're so many. From nourishing blood to... nourishing blood is the basic property. If you read through research in depth, you will know that it helps stimulate the brain, liver function, metabolism in the body because the blood circulates through the body. Moreover, I read the research and found that it is a love tonic. At first, I wondered if it was real or not. But yeah, it's real. Westerners confirm and write it down that it's a love tonic” (K.D. SS interview 17, p.8).

c) Zero-waste production

Sometimes, a value-adding process may lead to other benefits. R.P. explained the idea for how he processed rice that resulted in a higher value of rice and a zero-waste business. R.P. believed this opportunity of zero-waste production could lead him to higher profits:

“These products are made from the waste of the rice milling process. If we bring rice into the milling process, we will get 55% of unmilled and 15% of rice husk. These are 70%. The other 10% are pieces of grass and straw. The rest of 20% are rice bran, rice germ and broken rice, which will be used to produce processed products. Ummm... we use 15% of rice husk as well. The broken rice will be processed to be rice flour. Flour for baking purposes. There are white rice flour, black rice flour, yellow rice flour, red rice flour, they are called after the kind of rice. For broken rice and rice germ, we will grind it to make instant drinks. For rice bran, it will be extracted for oil. It is the virgin oil. In the extraction process, the oil will have to be filtered using filter paper. It is to make the oil clear. Some of it which is left on the filter paper, will be used to produce cream and soap. Rice husk, grass and straw, waste from rice bran oil extraction, waste from milling process will be mixed together. Then we grind it to produce organic animal food. Our production is zero waste” (R.P. SS interview 19, p.6).

4) Extending shelf life

The key problem of the primary agricultural process is its short life. Products cannot be kept for a long time, especially fruit. If farmers cannot sell their fruits in time, they lose the opportunity for profit. Therefore, innovation is brought to their businesses as a tool to extend the life of their key resources.

S.M. is a fruit farmer who recently established a new company to process fruit from his farms. He referred to his key reason for identifying new opportunities in the fruit processing business:

“Our purposes are: First, to extend the product life. ... For example, if we want to preserve a food, and we don't have innovation, we can't do it. Right? How long can the fresh fruits stay fresh? And as I do business about fruits. These kinds of technology can extend the fruits life. ... It helps a lot. First, it helps with post-harvest shelf life. Fruit can be kept for years. From weeks, to months and now years” (S.M. SS interview 6, p.6).

Unlike traditional farmers selling fruit during a specific season, these entrepreneurs were able to sell processed products and make a profit all year round. Innovation not only increased the product's value, but also provided an opportunity for these farmers to become entrepreneurs and to make more profit from their resources with fewer seasonal limitations.

Another example of an entrepreneur who identified an opportunity because he wanted to extend a product's shelf life was T.W.. Slightly different from the previous point, in which

innovation helped to extend the life of a primary product, the innovation T.W. implemented in his business was aimed at extending the shelf life of his processed food. He used an innovative process, retort sterilisation ⁷, in manufacturing ready-to-eat Thai desserts, which allowed the product to be kept safely at room temperature for about one year.

“For this one, its shelf life is one year. This is our innovation, we develop it. ... My products can be kept for one year outside the fridge. Assuming you are abroad, you like camping, you can bring our products with you. If you go camping, there will be no electricity, so you cannot freeze it. The frozen food will be rotten. It will melt. The ice will become liquid. My products are consumer friendly” (T.W. SS interview 14, p.7).

Traditional Thai desserts can normally be kept for one day. This innovation allows consumers, manufacturers and sellers to benefit from a longer shelf life of processed food.

5) Social responsibility

a) Returning a higher profit to farmers

Some entrepreneurs, mainly those who were working closely with farmers, discussed a social rationale for their business in identifying new opportunities with the aim of returning higher profits to farmers. R.P. had worked closely with farmers for many years and was chair of a large agricultural co-operative. The company had been recently formed in order to process and sell innovative and value-added organic rice products. The organic rice used in R.P.’s processes was supplied by the members of the co-operative. It could be stated that the relationship between these organisations was closely linked by this entrepreneur.

R.P. illustrated how his businesses worked. If the company could make a large profit, it meant the business would be able to buy rice from farmers at higher prices. Since the decision maker of the company was chair of the co-operative, it was possible to allocate profits to farmers while maintaining the company’s profits:

“We’ve managed to allocate the profits to farmers. As I told you, the profits should be allocated to the co-operative. Because the higher the profits the co-operative gets, the higher the price of rice in the market will be and... Our farmers will get more income. We hope more farmers will stop using chemical farming and turn to be organic” (R.P. SS interview 19, p.9).

⁷ Retort sterilisation is a technique for sterilising food by heating it in a sealed container

He continued, explaining the relation between the different types of organisations for which he was responsible:

“Good. The reason why I give you a very short answer is that the company has grown up from the community enterprise and co-operative. Our jobs are more likely to return benefit for our society than just to make maximum profit. Therefore, our relation is good” (R.P. SS interview 19, p.20).

Establishing a new firm to run an innovative business allowed the entrepreneur to return higher profits to the farmers.

b) Improving the local community

J.K. was also concerned about farmers' profits, but she added another issue of local community improvement as a reason for her to identify an opportunity in the organic rice processing business. She repeated this reason several times during 1.5 hours of interview. This could show a strong intention of a portfolio entrepreneur to find a new opportunity in a new industry:

“I desired to do another business that could improve my local community. I don't want to be a businessperson who wants only the highest profit, only I have passion of developing my hometown and community that I'm living in” (J.K. SS interview 2, p.1).

“I love my business. I think it is our strength. We love what we are doing. We wish to make the community good. Our business is not to seek for profit only but to uphold the Yasothon community. We are a private company who aims to do business for the community. Now, I can say that we are a private company who plays a role in supporting this province to be the best practice of an organic town in the country” (J.K. SS interview 2, p.6).

“As we aim, since in the beginning, that we didn't just seek the highest profit, we want to make this community good” (J.K. SS interview 2, p.17).

6) Internationalisation

Entrepreneurs aimed to internationalise their business for different reasons. The members of the sample discussed two main points: to acquire international customers and to gain worldwide recognition. Some entrepreneurs wanted to export their business because their innovative product was designed for people in specific regions, whereas others could expect to sell at a higher price than in the domestic market. Furthermore, some entrepreneurs expected this for a more advanced reason. T.W. explained that his ultimate goal in identifying new opportunities in an innovative business was that he wanted to establish a reputation for Thai desserts:

“In fact, my slogan is that I will promote Thai dessert to be the world’s dessert. I want to make [a brand name of his dessert] to be on the top of people’s minds when thinking about Thai dessert or Thai food culture. I mean both Thai people and foreigners. You get it, right? Imagine that people around the world talking about Thai dessert. [A brand name of his dessert] will be the first top brand they are thinking of. It is like when we talk about chocolate, people know M&M, or Ferrero Rocher. I aim to be like that. People should be wowed with Thai dessert. Think of Thai food, think of [a brand name of his dessert]. if we wish to be the world’s dessert, we have to take our products to the world market.” (T.W. SS interview 14, p.8).

The data at the firm level show that T.W.’s dessert company was a small business, newly established a few years previously. This aim seemed to be very ambitious for a small nascent firm. However, the data at the individual level showed his strong profile in entrepreneurial experience. His family business was one of the top rice trading companies in the country. The revenue of this company had increased from 40 million to 2 billion baht (from around GBP 929,080 to GBP 46,445,000) in the 10 years since he stepped in to take a key role in the family business (Bangkok Post, 2018). He successfully promoted the brand name of his pre-packaged rice so that it became a famous brand. These successful experiences might have increased his confidence in setting international goals for his small innovative dessert company.

7) Further development opportunity

One reason for entrepreneurs to identify new opportunities was that they perceived that they could obtain many more opportunities for their businesses, such as the ability to be more creative and the chance to acquire a greater variety of customers. T.W. might be an example of an entrepreneur who wanted to be more creative as part of a newly identified opportunity. He illustrated his reason for seeking an opportunity in an innovative dessert business apart from the rice trading industry:

“We always develop. ... We keep expanding our product lines. We always increase our SKU [stock keeping unit]. We will not stop at the Thai dessert or snacks. We will top up our ideas, expand our products to some ready-to-eat food i.e., ready-to-eat rice and sticky rice and so on” (T.W. SS interview 14, p.4).

“I think it is a challenge as it is something new for us. It is an exciting challenge that we can produce whatever we want. The rice trading is just about milling and selling the rice. But this new business provides a lot more opportunity for us to produce a variety of products. Snacking has no limits. It is cumulative. We can differentiate the products continuously. So, I think this is the challenge. Probably, it has a brighter future than grain rice, from my point of view” (T.W. SS interview 14, p.12).

"I can keep expanding the SKU. It is not necessary to stick with the Kaw Tom mud. I have unlimited opportunities" (T.W. SS interview 14, p.12).

Rather than simply being more innovative, K.D. also expected a wider range of customers. She had been in the longan business for many years and had many customers from the Asian market. The core business was dried longan, but she wanted to innovate in longan-related products and to find new opportunities in alternative markets outside Asia:

"I wrote my idea to tell them [research team] that I wanted to make Longan heat shot⁸. I made my product with a name like this because I intended to sell them to Westerners. I don't want to go to fairs in China, I wanted to go to Europe. [laughs] ... The first opportunity is that it helps find new customer groups, of course. For example, the innovation that I mentioned, the heat shot, can be developed to many other types of products, such as spray dry or capsule, something like that" (K.D. SS interview 17, p.17).

8) To change from an OEM to own brand

An entrepreneur who participated in the study suggested a unique rationale for their opportunity identification. Numeric data may lead both researcher and audience to focus more on the general patterns (Maxwell, 2010). However, since this thesis applies a qualitative approach, a unique code mentioned by only one participant should not be ignored.

Many Thai manufacturers operate in the industry as an OEM (Khunpolkaew, 2015). They produce and sell products under OEM contracts, which means they do not market and sell to consumers under their brand names. Such is the case with K.D., who has manufactured dried longan for business customers for a number of years. She admitted that the product was no longer an exciting business for a creative person such as herself. She believed it was the right time to develop her business in a different direction and, therefore, she innovated by producing a new longan product (concentrated longan extract drinks). She hoped this innovation would transform her business model from being an OEM in a traditional longan market to being a brand owner of an innovative product:

"I think about differentiation from markets. It's like having something that is dissimilar to the others that makes the market more interesting. I've been in the circles of OEM for a long time, and I feel like I want to have something that is truly mine. ... This product is my brand because if I make a brand for that product...I think I will make it, but I still can't err... Sometimes promoting a brand takes time. I

⁸ "Longan heat shot" is the nickname for the entrepreneur's new product. She has given it this name because of its property of making the person feel warmer after drinking it.

need to tell you that if you want to make a brand for an old product, it also takes time. I think you should make a brand for a new product to make people know your brand faster” (K.D. SS interview 17, p.11).

The above example presents an operational rationale that influences entrepreneurs in identifying opportunities, as new forms of business operation are expected to help them achieve their goals.

Most of the opportunity studies discussed opportunity in the form of new product or service (Shane, 2003). Holcombe (2003) highlighted that entrepreneurial activity is a source of opportunity. The change in the role entrepreneurs do as part of the value chain could introduce a new opportunity. Therefore, as showed by this section, this thesis shows another reason which hardly presented in prior literatures regarding opportunity theory.

5.2.2 Customer factors

Customer factors relate to the fact that some entrepreneurs believed that there is a gap in the market where customer’s need has not been fulfilled. They identified opportunities for customer-related reasons in order to offer products/services to satisfy customers. These rationales include 1) increasing customer choice and 2) solving customer pain points. The discussion is ranked by the quantizing technique (score calculation is shown in Appendix 6-12).

1) Increasing customer choice

The innovative entrepreneurs in this study reported that they identified opportunities that offered customers better product quality, including improved taste, texture and nutrition. Fruit and rice can be eaten on their own. However, some entrepreneurs had a vision of **offering an alternative value proposition** for these agro-products to the market, such as the nutrition benefits not previously considered in those primary products. Innovation was a key for entrepreneurs to reveal the natural benefits of those foods. For that reason, entrepreneurs identified opportunities in order to offer alternative products to the market. For example, K.D. greatly enjoys learning and reading, especially new knowledge about the longan. She has worked in the dried longan business for many years but knows that, like other fruit, longan contain substances that offer benefits to health. K.D. found research that confirmed newly identified benefits of longan and believed this could be a new opportunity for her business. Hence, she wanted to innovate as part of this new opportunity to offer a new reason for consumers to consume fruit products. With support from researchers, K.D. developed an innovative drink made from longan to offer to customers:

"I read research of Westerners, that they studied something about longans.... I read about the longans' benefits, I started to see the value of them. For the main point, apart from eating them to make one feel warm, are there any other advantages? For this, I just focus on the idea that when eating them, it makes one feel warm.... There're so many. From nourishing blood to... nourishing blood is the basic property. If you read through research in depth, you will know that it helps stimulate the brain, liver function, metabolism in the body because the blood circulates through the body. Moreover, I read the research and found that it is a kind of love tonic. At first, I wondered if it was real or not. But yeah, it's real. Westerners confirm and write it down that it's a love tonic" (K.D. SS interview 17, p.8).

2) Solving customer pain points

Different entrepreneurs might find different gaps in the market in which to develop an opportunity. Innovation helps entrepreneurs create a new product or service that could fill market gaps to benefit consumers. This is one of the reasons for innovative entrepreneurs identifying new opportunities, as they can perceive such a gap and fill it. For example, healthy food is often said to be tasteless. However, P.V claimed that his products, aimed at health-conscious people, provided a good taste for customers. He filled the market gap he had identified by offering tasty snacks with health benefits:

... my business fulfilled the gap between people who want to eat tasty food and people who love their health since normally, the word health does not go with the word tasty. You can notice that when you eat healthy food, it is not tasty... What could we do to make health still match with tasty? Therefore, we use this gap to do business. We make healthy food tasty by its nature. So, this comes as an outstanding point for us. Because for everything that we do, if it is not tasty, the business cannot survive. Even people who love their health and want to eat healthy food, they will eat it just for a while because most of them still want to eat tasty food...something like that" (P.V. LS interview 23, p.15).

There were other reasons why the sample of innovative entrepreneurs sought to identify opportunities in the food business, such as applying freeze-drying technology to the fruit industry to make fruit products available all year round to reduce seasonal limitation, or applying the same technology used in the noodle business to produce instant Kuay Jub (local noodles). Entrepreneurs discussed this topic and shared the same explanation: their customers used to complain that a food was not available when they needed it because of the shelf-life limitation. Therefore, the entrepreneurs perceived this as an opportunity for business and they decided to close this market gap.

5.2.3 Financial factors

- 1) Financial performance is key for business. One reason entrepreneur revealed during discussion on their opportunity identification relates to financial factors. This code links to the fact that entrepreneurs looked to enhance their financial performance. It consists of several rationales which as 1) higher value added, 2) higher profit, and 3) ability to set price. These rationales are ranked by the quantizing technique and discussed below (score calculation is shown in Appendix 6-13). Higher value added

Primary agricultural products, such as rice and fruit, are foods that have their own value when directly consumed. However, innovative entrepreneurs may bring these products into value-adding processes to create new products or services that could be sold at a higher price than their initial value, returning better profits to entrepreneurs.

In response to the low price of agricultural products, there have been some efforts to increase product prices by adding higher value activities to transform agro-products into processed ones, whether this is initial-level or higher-level processing. Some of the products might still be in the same form but contain different and more appealing qualities (i.e., organic rice, GABA rice and freeze-dried fruit) and some might be transformed into a brand-new product (e.g., rice wine or non-alcoholic shots made from fruit extracts). These value-added processes helped entrepreneurs to gain higher profits than simply selling primary agro-products. For example, T.W. explained why he chose to identify a snack business as a new opportunity in addition to a rice trading business:

“One kilogram of rice costs around 20-40 baht. If we cook it, its weight will be double and its price would be ... For example, this one [he was showing a product to the researcher], the cost of sticky rice may be less than 1 baht. Assuming that I cut out the sticky rice, possibly the sticky cost is lower than 1 baht. I sell this product for 12 baht per piece. Can you see the great added value? You might see here, this piece contains just a little rice. The rice gets bigger after cooking. Its weight as grain rice is very little. So, these products give me huge added value. It can be extended to a variety of goods. The value of rice here is so little. The rice is so cheap” (T.W. SS interview 14, p.16).

- 2) Higher profit

In general, the entrepreneurs ran a business to make a profit. Increased revenue was stated as one of the most important factors for entrepreneurs in identifying opportunity. The entrepreneurs worked for business growth, a higher sales volume, more profit and increased revenue. As one of the participants stated:

“It’s normal that we must do something to have more profits. So, I think that now innovation is a very popular topic. It may work because...after I saw people who innovate, they have better profits. I want money for the first thing. I want profits first” (K.D. SS interview 17, p.10).

3) Ability to set price

The price of agricultural products is not controlled by farmers, who are generally price-takers in the market. Some farmer-entrepreneurs wanted to escape this limitation, so they processed their agro-products into new goods. As a result, they could sell their goods in a new market in which they had more freedom in setting the price.

K.J., a longan farm owner, explained that her reason for identifying a new opportunity in longan drinks was that she aimed to set her own product price. This was an opportunity to escape from being a price-taker in the market as a farmer:

“Another thing is that we can’t control the price mechanism. Well...sometimes middlemen meet and talk within their group that they will lower the price. So, we have to sell at the given price. But if I do like this, in which year they don’t increase the price...the price is low. I don’t have to sell fresh longan to them. I will then process the longan, making my own processed products. ... It’s like we don’t have to be worried or get involved with middlemen, we can develop our raw materials without being like someone who laid down products to be sarcastic to middlemen. I don’t have to be like that. It’s like if they want do something, do it... because we can’t have any conflict with them” (K.J. SS interview 20, p.14).

Entrepreneurs who were not farmers also expressed a desire to escape from price competition and to have greater ability to set product prices. T.W., whose family business has been in the rice industry for generations, described why he sought a new opportunity in a more innovative business in order to be free from price competition. His unique products allowed him more freedom to establish the price of his product in the market:

“As I told you, that rice ... people think that it is just rice. In the end, their biggest concern is about price. They will ask why I sell more expensive rice compared to rice from other countries? Why is my rice cheaper than another seller? Why is it more expensive than that seller? The buyer can easily change to buy rice from the others. The dessert business is different, the price is not the most important issue but the taste, preference, satisfaction. Even though the price is higher than another, the consumers may prefer to buy mine because they love the taste of my products. They like my brand. My products are unique. No one else produces the same things. It is very easy for customers to make decisions to try new products” (T.W. SS interview 14, p.13).

The entrepreneurs referred to above perceived that new products could provide them with an ability to set a price that allowed them to have higher profits. Consequently, they can be regarded as identifying a new opportunity in order to have more options to make a profit from their resources.

5.3 Comparison between entrepreneurs with different profiles

This section presents similarities and differences identified in this study in relation to how and why entrepreneurs identify opportunities. The discussion begins with entrepreneurs who owned businesses of different sizes, progresses to entrepreneurs in different sub-sectors and then moves to the roles entrepreneurs play in the value chain.

5.3.1 Comparison of opportunity identification between entrepreneurs owning small, medium and large businesses

This section explores the differences and similarities in the opportunity identification process among entrepreneurs when considering the size of their business. As discussed in an earlier chapter, the sample contained entrepreneurs in 26 small-scale firms (S), two medium-scale firms (M), and seven large-scale firms (L). The categorisation of business size is based on the Thai SME definitions presented in chapter 3, which consider the number of employees and the value of fixed assets (excluding land) as criteria. The researcher applied the entrepreneurs' firm-level data for this categorisation.

It is difficult to verify the actual size of an enterprise using primary data alone. The entrepreneurs in this study were not even aware of the official Thai definition of an SME. They usually referred to themselves as an SME to differentiate themselves from large enterprises. One possible reason could be their participation in SME supporting programmes, as owning an SME allowed the entrepreneurs to access a variety of supporting programmes that would benefit their business operations. Clarification of size usually requires secondary data sources, such as a government database. Some enterprises also appeared to be medium-sized firms due to extensive business operations but, in practice, may have one out of two criteria (number of employees or value of assets) that meet the requirement of being a small business, so cannot be categorised as a medium-sized business. After checking various data sources, only two of the enterprises considered in this study fell into the category of being medium-sized.

Opportunity identification for the entrepreneurs, as shown in Table 5-3, demonstrates some dissimilarities between S, M, and L businesses. The most noticeable issue is the focus on their

opportunity identification processes. Entrepreneurs in group S highly emphasise supply-side factors, including the accessibility of key ingredients, experience, networks, entrepreneur’s passion and suppliers, whereas groups M and L are more focused on demand-side factors, which are about customers. This is in line with their reason for identifying opportunity. Those in group S underline an operational rationale, which mostly aims at business differentiation as a key for business development. Larger firms, group L, show similar contributions of customer factors and operational factors, with a slightly higher score for customer factors.

Table 5-3: Comparison of opportunity identification between entrepreneurs owning small, medium and large businesses⁹

Opportunity identification of entrepreneurs owning firms of different sizes	Rank (S)	Rank (M)	Rank (L)
How - Demand side factors	2.0	1.0	1.0
Consumer trends	2.2	1.1	1.2
Customer requirements	2.1	-	1.1
How - Supply side factors	1.0	2.0	2.0
Accessibility to key ingredient(s)	1.1	2.1	2.2
Advice from entrepreneur's networks	1.4	-	-
Entrepreneur's experience	1.2	-	-
Entrepreneur's passion	1.3	-	-
Supplier's role in opportunity identification	1.5	-	2.1
Why - Customer factors	2.0	2.0	1.0
Increasing customer choice	2.1	2.1	1.1
Solving customer pain points	2.2	-	1.2
Why - Financial factors	3.0	-	3.0

⁹ The table is presented using ranking system to show how entrepreneurs in each category prioritize each code. Please see Appendix 6-14 for scoring details.

Opportunity identification of entrepreneurs owning firms of different sizes	Rank (S)	Rank (M)	Rank (L)
Ability to set up the price	3.3	-	-
Higher profit	3.2	-	3.1
Higher value added	3.1	-	-
Why - Operational factors	1.0	1.0	2.0
Business differentiation	1.10	1.10	2.20
Developing new market (s)	1.20	1.20	2.10
Extending shelf life	1.60	1.60	2.40
Further development opportunity	1.70	1.70	2.60
Improving efficiency of production process	1.30	1.30	2.30
Internationalisation	1.40	1.40	-
Social responsibility	1.50	1.50	2.40
To change from OEM to own brand	1.80	1.80	-

Entrepreneurs in group S primarily started looking for an opportunity among the resources they already possessed and this was typically undertaken as a response to a market demand. It was clear that many small-firm entrepreneurs emphasised this issue as one element of their opportunity identification process. This might be because these entrepreneurs were originally farmers. As a result, their agricultural products could be perceived as valuable assets for doing business, transforming these individuals from agriculturists into entrepreneurs.

As shown in Table 5-3 (please see appendix 6-14 for scoring details), only entrepreneurs who owned a small firm identified their experience as a driver for uncovering an opportunity. One reason could be that large firms are more systematic in their operations and opportunity identification processes. The initial idea for any development involves many people, such as staff with different functions. Consequently, it might be difficult to claim that an opportunity was introduced by the entrepreneur alone. Moreover, conversations with large-scale entrepreneurs

also revealed that they usually referred to the contribution of the staff involved in the different functions of their business.

Large-scale entrepreneurs reported that they primarily focused on customer demand as the key factor in opportunity identification. They also invested in market research to gain customer insight, which could also be a source of a new development opportunity. Some newly developed products may not succeed in the market. This situation is acceptable for large firms, which typically have a range of products and are willing to risk introducing unsuccessful new items in order to identify the best opportunities. K.T. is a good example of this approach. His company collects customer needs insight through different channels, which will be considered by teams of staff in different departments before a product can be launched on the market. He described the following:

“Actually, I think ... innovation is something based on customers’ needs. We have a variety of products to serve the consumers who are our customers. We can make fish in tomato sauce. The others can do so. So, we, our brand, differentiates from the others by introducing new products... I think these could be choices for consumers. ...The company is working on the research for new recipes to offer to the market. The consumers might like some, or dislike some. In my opinion, the company has to invent it and introduce to the consumers” (K.T. LS interview 33, p.1).

Larger firms were seen to have more formulaic processes to identify the attractiveness of different opportunities. One possible reason might be that they have large production capacity. Therefore, before making a decision to exploit an opportunity, they carefully consider whether that opportunity would be favoured by the market.

5.3.2 Comparison of opportunity identification between entrepreneurs in different sub-VCHs in a food VCH

The participating entrepreneurs were grouped into VCHs of rice, fruit and other food. Initially, the study planned to focus on actors in a rice and fruit VCH. However, during the field work, the researcher found that some entrepreneurs operating large businesses processed a variety of products using key ingredients other than rice and fruit. They are part of a varied VCH and it was difficult to fit them into a rice or fruit VCH for this study. Therefore, the study categorises entrepreneurs operating a variety of agricultural products into an ‘other variety of food’ group in order to represent entrepreneurs involved in more than one agricultural product in their business. As a result, 11 entrepreneurs were identified as being part of a rice VCH, 19 in a fruit VCH and 5 entrepreneurs in a VCH of other variety of food.

This section discusses significant points arising from the comparative analysis of entrepreneurs in different value chains.

Table 5-4: Comparison of opportunity identification between entrepreneurs in different VCHs¹⁰

Opportunity identification of entrepreneurs operating in different VCHs	Rank (Rice)	Rank (Fruit)	Rank (Other variety of food)
How – Demand-side factors	2	1	1
Consumer trends	2.2	1.1	1.2
Customer requirements	2.1	1.2	1.1
• <i>Consumer preference</i>	2.1.1	1.2.1	1.1.1
• <i>Customers introducing new input for production</i>	2.1.3	0.0	0.0
• <i>Customers proposing an idea for a new product</i>	2.1.2	1.2.2	0.0
• <i>Market research</i>	0.0	0.0	1.1.2
• <i>Required quality standards</i>	2.1.2	1.2.3	0.0
How – Supply-side factors	1	2	2
Accessibility of key ingredient(s)	1.1	2.1	0.0
Advice from entrepreneur’s networks	1.5	2.2	0.0
Entrepreneur’s experience	1.2	2.3	0.0
Entrepreneur’s passion	1.4	2.4	0.0
Supplier’s role in opportunity identification	1.3	2.5	2.1
Why - Customer factors	2	2	1
Increasing customer choice	2.1	2.1	1.1
Solving customer pain points	2.2	2.2	1.2
Why - Financial factors	3	3	3
Ability to set price	3.3	3.2	0.0
Higher profit	3.2	3.3	3.1
Higher value added	3.1	3.1	0.0
Why - Operational factors	1	1	2

¹⁰ The table is presented using ranking system to show how entrepreneurs in each category prioritize each code. Please see Appendix 6-15 for scoring details.

Opportunity identification of entrepreneurs operating in different VCHs	Rank (Rice)	Rank (Fruit)	Rank (Other variety of food)
Business differentiation	1.1	1.1	2.2
Developing new market(s)	1.2	1.2	2.1
Extending shelf life	1.6	1.3	0.0
Further development opportunity	1.4	1.7	0.0
Improving efficiency of production process(es)	1.5	1.4	0.0
Internationalisation	1.5	1.5	0.0
Social responsibility	1.3	1.6	0.0
To change from an OEM to own brand	0.0	1.8	0.0

When considering opportunity identification, it can be seen that entrepreneurs in a rice VCH focused more on the supply than the demand side, whereas those in the other two VCHs were more focused on demand factors.

The data show that entrepreneurs in the other food VCH who processed more than one agro-product largely focused on customer needs, as they considered this a crucial factor for product development. Specifically, they conducted market research to identify customer needs and preferences. One reason could be that their businesses deal with a wider range of products and market research is a tool that provides some guidance on what they should do to please consumers. Consequently, in terms of supply-side factors, entrepreneurs in the group that produces other variety of food tended to take the role of suppliers into consideration. Suppliers are important, as they provide the ingredients for new production. The group of entrepreneurs producing other variety of food also focused on customer behaviour as a rationale for them to identify opportunities. This highlights the customer-orientated behaviours of entrepreneurs in this grouping, which are different from those of entrepreneurs in the other two categories of VCH.

For those entrepreneurs in the rice VCH, opportunity identification focused on factors from the supply side. They initially focused on the resources they controlled when considering how they could identify an opportunity. The fruit VCH also highlighted the ownership of resources as key to identifying opportunity. Entrepreneurs in the rice and fruit VCHs perceived opportunity from items that were closely related to them. This was especially so with farmer-entrepreneurs, who

regarded their agricultural products as an asset and as an opportunity to engage in higher-value-adding activities. This suggests that one major reason for identifying opportunity is to add value to agro-products.

The rice and fruit VCHs vary in their characteristics, such as the price and shelf life of the products after the harvesting stage. A mature rice VCH involves a great number of people and is part of the national agenda for agro-products, but the price of rice is quite stable at a low level. Thus, entrepreneurs would like to add value by processing rice into new goods. The fruit VCH, on the other hand, is considered a developing VCH. The price of fruit has, in general, been rising in the past few years. Therefore, entrepreneurs may prefer to assess if the price of fresh produce is high and whether they are satisfied with it. If they are satisfied with the price, they could sell fresh fruit. However, if the price is low, the entrepreneurs could transform their fruit into new products to make more profit. This could explain why entrepreneurs in the fruit VCH highlighted demand-over supply-side factors.

Operational factors were important to entrepreneurs in rice and fruit VCHs in identifying an opportunity. They mostly wanted to differentiate their products from others in the market, particularly in the fruit VCH; they also raised the point of extending the shelf life of their agricultural products in the interviews. That is because fresh fruit is seasonal and only has a short life. If entrepreneurs are not able to sell fresh products in time, the fruit will rot and be of no use. Farmers can only make a profit for a short period of time during a year. Therefore, farmers and entrepreneurs seek opportunities to extend the life of their fresh fruit.

Financial factors refer to how entrepreneurs identify opportunities in order to add value to primary agro-products that are generally low in price. The opportunities identified also help entrepreneurs to maximise the value of the use of low-grade products, which are low in price and often go to waste. In some cases, new opportunities lead to zero-waste production, which helps entrepreneurs make the best use of their resources while increasing returns. Moreover, entrepreneurs in the fruit VCH also highlighted a reason for identifying an opportunity as providing some freedom to set a product price. In the fresh fruit market, farmers are not able to set the product price. They have to follow the market price, which is beyond their control. If they process fresh fruit into a new product, there is more possibility of their being able to set the price. K.J. explained why she identified a new opportunity for processing her longans into an innovative drink of longan tea:

“Another thing is that we can’t control the price mechanism. Well...sometimes middlemen meet and talk within their group that they will lower the price. So, we have to sell at the given price. But if I do like this, in which year they don’t increase the price...the price is low. I don’t have to sell fresh longan to them. I will then process the longan, making my own processed products” (K.J. SS interview 20, p.14).

The above excerpt from K.J.’s interview also shows that identifying a new opportunity for a primary product also gives farmers the flexibility to choose what best suits them at a given market price. If the market price of fresh fruit is low, the farmer can choose to process it into a new product that returns a higher value. On the other hand, if the market price is high one year, the farmers may choose to sell their products as fresh fruit if they are satisfied with the given price.

There was a unique case of a fruit entrepreneur who disclosed that she identified new opportunities because she wanted to have a new role in the market. She wanted to own a brand and conduct the marketing for her products. Although she is a well-established dried longan producer, she chose to process her longans into an innovative longan drink. She also aimed to take her new product to a new market. Currently, her fruit product is mostly sold in Asia, where she acts under an OEM contract with her business customers. She openly expressed that she wants to be a brand owner in the market outside Asia. She identified this new opportunity as a tool for her to explore new roles in the VCH.

5.3.3 Comparison of opportunity identification between entrepreneurs playing different roles in a food VCH

The comparative analysis presented in this section used the same approach as the previous section on entrepreneurs in different VCHs. In this section, the entrepreneurs are categorised by their roles in a VCH as shown in Table 5-5.

Table 5-5: Categories of entrepreneurs playing different roles

Role(s) of actors in the value chain	Definition	Number of entrepreneurs
Processors (Group A)	The entrepreneurs in this category are those who manufacture the products and sell them wholesale to others in the market. They do not have a brand for their product in the market and do not normally sell to consumers.	4

Role(s) of actors in the value chain	Definition	Number of entrepreneurs
Processors and traders (Group B)	The entrepreneurs in this category are those who manufacture the products and conduct the marketing, selling the product under their brands. They can sell directly to consumers (business to consumers) or other sellers (business to business).	20
Traders (Group C)	The entrepreneurs in this category are middlemen who do not process the products themselves but buy from others in order to sell to other sellers.	2
Farmers, processors and traders (Group D)	The entrepreneurs in this category are farmers who process their raw ingredients, such as rice and fruit, to add value to their resources. Then they market what they produce to consumers or other sellers.	9
Total		35

Table 5-6: Comparison of opportunity identification between entrepreneurs playing different roles in a food VCH¹¹

Opportunity identification of entrepreneurs playing different roles in a VCH	Rank (A)	Rank (B)	Rank (C)	Rank (D)
How – Demand-side factors	1	1	1	2
Consumer trends	1.2	1.1	-	2.2
Customer requirements	1.1	1.2	1.1	2.1
• <i>Consumer preference</i>	<i>1.1.1</i>	<i>1.2.1</i>	<i>1.1.1</i>	<i>2.1.2</i>

¹¹ The table is presented using ranking system to show how entrepreneurs in each category prioritize each code. Please see scoring details in Appendix 6-16.

Opportunity identification of entrepreneurs playing different roles in a VCH	Rank (A)	Rank (B)	Rank (C)	Rank (D)
• <i>Customers introducing new input for production</i>	1.1.3	-	-	2.1.2
• <i>Customers proposing an idea for a new product</i>	1.1.2	1.2.3	-	2.1.1
<i>Market research</i>	-	1.2.2	-	-
<i>Required quality standards</i>	1.1.3	1.2.4	-	2.1.1
How – Supply-side factors	2	2	-	1
Accessibility of key ingredient(s)	2.2	2.2	-	1.1
Advice from entrepreneur's networks	2.1	2.5	-	1.3
Entrepreneur's experience	-	2.3	-	1.2
Entrepreneur's passion	-	2.4	-	1.5
Supplier's role in opportunity identification	2.3	2.1	-	1.4
Why - Customer factors	1	2	-	3
Increasing customer choice	1.1	2.1	-	3.1
Solving customer pain points	-	2.2	-	3.2
Why - Financial factors	2	3	-	2
Ability to set price	-	3.3	-	2.3
Higher profit	-	3.1	-	2.2
Higher value added	2.1	3.2	-	2.1
Why - Operational factors	3	1	-	1
Business differentiation	-	1.1	-	1.1
Developing new market(s)	3.2	1.2	-	1.2
Extending shelf life	-	1.5	-	1.4
Further development opportunity	-	1.3	-	-
Improving efficiency of production process(es)	3.1	1.4	-	1.5
Internationalisation	-	1.6	-	1.6
Social responsibility	3.2	1.7	-	13.0
To change from an OEM to own brand	-	1.7	-	-

The data show in Table 5-6, that groups A, B and C emphasise demand-sided factors rather than the supply side. In comparison, entrepreneurs in group D highlight the significance of supply-side factors in their opportunity identification.

Group D contains farmer-entrepreneurs who farm and process agro-products. They value accessibility to resources highly as a key to innovation. They are farmers in local areas that they believe offer the best conditions to grow specific types of agriculture products. These farmer-entrepreneurs believed their possession of key ingredients supported business opportunities. They utilised the agro-products from their farms in production to enable value-adding opportunities to maximise their resources. They identified opportunity mainly because they wanted to differentiate themselves from other farmers, extend the life of their agro-products, and increase their income. The opportunity presented by selling their processed products will unlock seasonal constraints by allowing all-year-round business. It also provided an opportunity to set the price of their products, in contrast with ordinary farmers who are price-takers in the market.

On the other hand, entrepreneurs in group B, processors and traders who are not farmers, shared some factors in their opportunity identification with the farmer-entrepreneurs, such as access to key resources and the entrepreneurs' experience. However, whereas farmer-entrepreneurs strongly highlighted their possession of key ingredients, the opportunity identification for group B emphasised the role of the supplier to a greater extent. Entrepreneurs in group B did not grow the key ingredients for their production themselves and, therefore, suppliers had a role in those entrepreneurs' opportunity identification process.

Groups B and D both demonstrated the role of processor in a VCH. Their opportunity identification, therefore, showed features similar to the entrepreneurs' experience and passion that drove their opportunity identification. The processor role enabled entrepreneurs to identify opportunity primarily through their own initiative. They had more flexibility to find new opportunities based on their interests. However, the demand in the market was still at the core of their opportunity identification.

Group B was the only group that conducted and processed market research. Some of the group members were large firms that could conduct effective market research. Although group D covered more activities in the VCH, it did not mean they were large enterprises and they did not necessarily possess sufficient resources to run formal market research, which is crucial for businesses to gain customer insight. Nevertheless, the other groups might also attempt to learn

about their customers, although not from doing formal market research in the way that large-sized businesses can.

Group B was more proactive in taking consumer trends into account to identify new opportunities. This is probably due to this group having direct contact with both the production stage and the consumer. Consequently, entrepreneurs in this group were highly proactive in identifying and learning about trends and seeking new opportunities that would be favoured by the market.

Group A contains entrepreneurs who acted as processors in the VCH. They mostly pointed to the significance of demand-side factors, especially customer requirements, as a tool for opportunity identification. This could be because they mainly process their production in accordance with orders from customers. They did not have direct contact with consumers in the market, nor did they invest in marketing. Therefore, their initiatives were mainly influenced by customers who bought products to re-sell in the market. This suggests that their opportunity identification was driven more by customers. The findings regarding the customer-driven character of businesses in group A is also presented in their rationale for identifying opportunity, as they reported the primary reason was that they were largely guided by customer considerations.

It is noticeable that entrepreneurs in group C included only a few codes in the table of opportunity identification Table 5-6. These entrepreneurs acted as middlemen in the value chains. They were traders who bought and sold products but did not manufacture the products themselves. One reason might be that there are only two entrepreneurs in this group. These two traders seemed mainly to utilise innovative means, such as social media, to follow consumer and market trends in order to prepare for new opportunities. Therefore, their opportunity identification was more concentrated on demand factors, particularly requirements from customers.

The rationale for entrepreneurs to identify opportunity varied. Group A mostly stressed customer reasons, whereas groups B and D placed more emphasis on operational factors. Groups B and D clearly underlined a desire to be distinct from their competitors. In terms of operational reasons, group B showed a unique rationale in that the entrepreneurs wanted to identify new opportunities because they looked forward to further developments that could be derived from a potential opportunity. Some entrepreneurs in this group formerly worked in lower-value-adding activities, such as selling primary agro-products or operating under OEM contracts. Hence, these entrepreneurs, who were owners of established firms, looked for new

venture opportunities as they projected further opportunities that they would exploit in addition to the new opportunity.

There was one entrepreneur in group B whose reason for identifying a new opportunity was to shift the role of her business, as she wanted to operate in higher-value-adding activities. Thus, she aimed to explore a new opportunity by shifting from being an OEM of dried longan to running an innovative drink business under her own branding. Her former profile could be categorised as being in group A (a processor without branding in the market). Nonetheless, she has extended her operating roles in the VHC. She is now in group B, which meant she was expecting to make more profit from higher-value-adding activities (i.e., marketing and branding). This change allowed her to gain new customers and access a wider range of supportive programmes from the public sector. The entrepreneur explained that she wanted to explore a new supportive programme but was not eligible because her business did not meet the selection criteria. The new venture was expected to offer an opportunity to excel in the consumer market (Agrifood Consulting International, 2005).

5.4 Chapter summary

This chapter analyses the factors that affect opportunity identification process. The chapter was divided into three main sections to answer the question of how entrepreneurs identify opportunity, why they identify opportunity, and the differences of opportunity identification process between different groups of entrepreneurs.

Firstly, the chapter attempts to figure out how entrepreneurs identify opportunities. The finding shows two key issues influencing how entrepreneurs identify opportunity. They are categorised as supply-side factors and demand-side factors. Overall analysis has found that the innovative entrepreneurs in this study valued supply-side factors slightly over demand-side factors. Supply-side factors consist of the aspects relating to entrepreneurs and their relevant stakeholder. These people are supply side in the market. The factors include 1) accessibility to the key ingredient (s), 2) entrepreneur's experience, 3) supplier's role, 4) entrepreneur's passion, and 5) advice from entrepreneur's networks. On the other side of the market, demand factors have been found to influence the opportunity identification. Demand-side factors affecting opportunity identification are 1) customer requirement and 2) consumer trends.

Secondly, this chapter reveals entrepreneur's rationale to identify new opportunity. The analysis showed the most significant reason for entrepreneur is operational factors, followed by customer factors, and financial factors respectively.

Thirdly, factors influencing how entrepreneurs identify opportunities were compared in order to see the differences and similarities between groups of entrepreneurs. This aims to understand if characteristics of entrepreneurs and their businesses (size, VHC, and actor roles) affect their opportunity identification process. The assessment unveils that small business owners largely take supply-side factors into consideration when identifying opportunity. Contrarily, demand-side factors are more emphasized by medium and large business owners.

Taking VCH as an analysis angle, this study exhibits that entrepreneurs in a mature VCH of rice focused more on supply-side factors, whereas those working in a developing VCH (such as fruit VCH) heavily rely on demand-side factors as the price of fruits is fluctuated. Role of actor in the VCH is also an important aspect that contributes to the differences in opportunity identification. As showed in this chapter, farmer-entrepreneurs highlight supply-side factors as being more significant than demand-side factors. The other groups of processors who do not act as farmers themselves share a dissimilar aspect as they value supplier's roles in their opportunity identification.

In the next chapter, the analysis will be on opportunity exploitation. It will seek to explain the factor influencing exploitation process of entrepreneurial opportunities.

Chapter Six: Results – Opportunity Exploitation

This chapter looks into opportunity exploitation process. It endeavours to understand how and why entrepreneurs exploit the identified opportunity. It also provides an insight into comparative analysis between different groups of entrepreneurs. The comparison aims to explain opportunity exploitation process of entrepreneurs with dissimilar characteristics.

In this chapter, the analysis applies the same calculation method as the previous chapter (Chapter 5). Once calculated, the codes will be ranked according to their scores. The discussions of the results will be ordered by these scores. The structure shown in Figure 6-1 illustrates coding map of opportunity exploitation.

The chapter can be divided into three main topics. Firstly, it illustrates the factors that relate to how entrepreneurs exploit identified opportunity. Secondly, it exhibits entrepreneurs' rationale to exploit opportunity. And the last section provides comparative viewpoints to explain the opportunity exploitation process between groups of entrepreneurs.

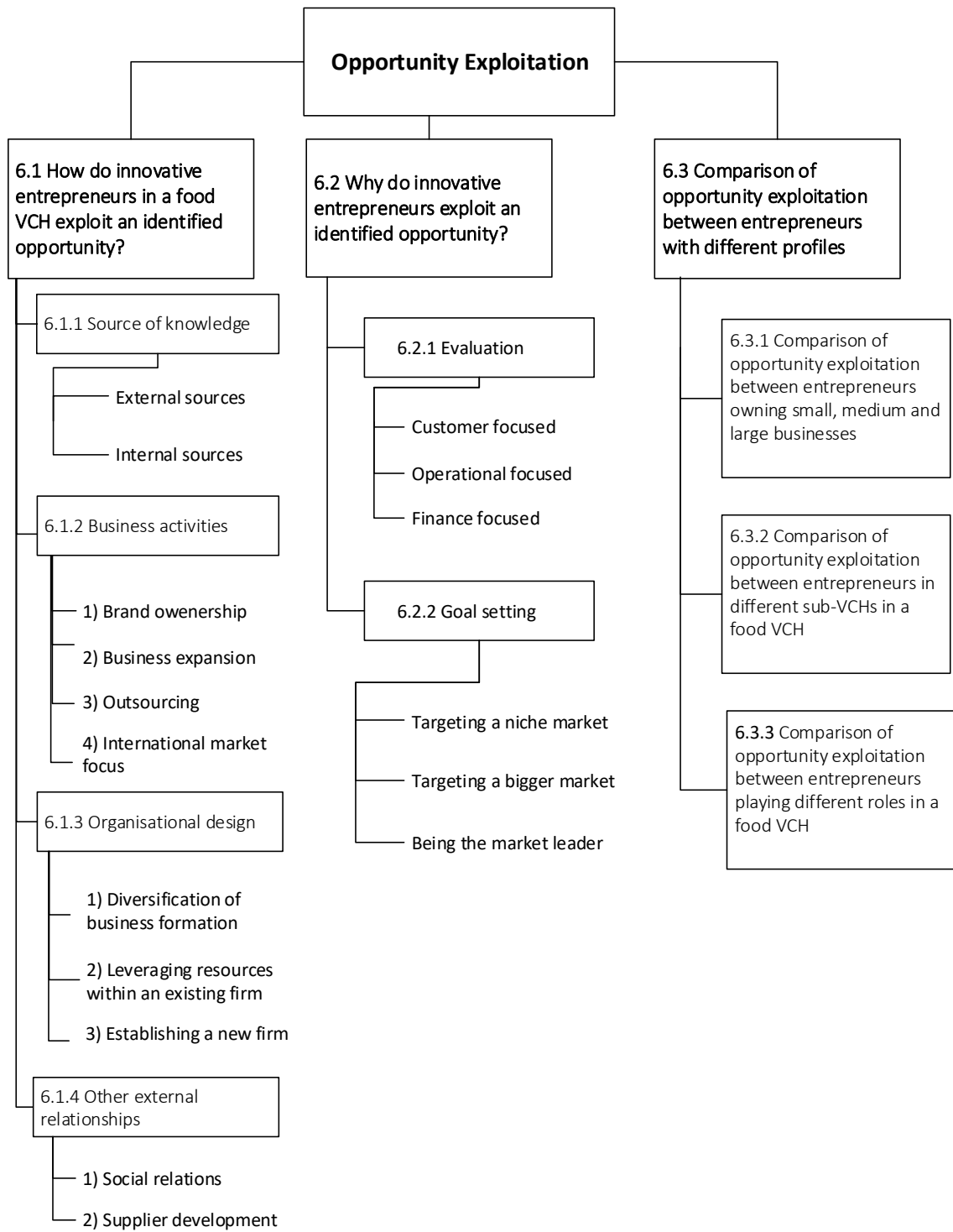


Figure 6-1: Structure of Chapter 7 and coding map

6.1 How do innovative entrepreneurs in a food VCH exploit an identified opportunity?

The in-depth interviews conducted for this study revealed several key topics discussed by the participants regarding the exploitation of a perceived opportunity. First, the majority of the entrepreneurs talked about where they obtained the knowledge to exploit a process. Sources of knowledge can come from internal and external sources. Second, the entrepreneurs identified business activities they undertook as a means of exploiting an opportunity. Third, they discussed how they structured their organisation in order to exploit an opportunity. Finally, some entrepreneurs revealed other relationships with their stakeholders that play a part in the exploitation of an opportunity. The following sections consider each topic in detail.

6.1.1 Source of knowledge

A number of scholars, such as Shane (2003) and Aldrich & Yang (2014), have endeavoured to explore the importance of education and experience in the ability of entrepreneurs to identify and exploit opportunity. Recent works by Agarwal & Shah (2014) and Foss et al. (2013) show that knowledge from outside entrepreneurs' firms and industries is also crucial for entrepreneurial performance. The current study found that sources of knowledge could exist both inside and outside entrepreneurial firms.

The quantizing technique has highlighted external sources as the most discussed topic for opportunity exploitation (Score calculation is shown in Appendix 7-1.). The topic includes technical experts, and included consultancy services, entrepreneurial networks and the feedback from customers that entrepreneurs considered key information for product development. A business that seeks external support is more likely to grow (Young, 2015). However, utilising external sources might be caused by the majority of the participants having small businesses, which generally do not have an internal R&D department or the range of human resources that exists in larger businesses. As a consequence, these entrepreneurs had to seek support and knowledge from outside, such as from government agencies, experts, researchers, and innovators.

Internal sources of knowledge were mainly in-house R&D units, as well as the various roles of the human resources that mostly operate in large businesses. Large enterprises may have more resources to recruit qualified employees for different internal functions. It was noticeable that the entrepreneurs in small firms reported that an internal source of knowledge was their own knowledge and experience. In the large firms, the only entrepreneur who discussed this topic

was from a successful business that claimed to be an SME when the interview took place. However, after cross-checking the primary data, secondary data and official criteria of Thai SME definitions, the business was re-categorised by the researcher as large.

6.1.2 Business activities

The entrepreneurs in this study discussed the roles of the activities they chose to use to run their business with the aim of making a profit from a perceived opportunity. Brand ownership was the most discussed topic among the innovative agro-food entrepreneurs, followed by business expansion, outsourcing and internationalisation. The score calculation details can be seen in Appendix 7-2.

The following section will discuss each code in detail.

1) Brand ownership

Entrepreneurs revealed their exploitation strategies regarding application of the brand. Brand ownership was the greatest concern for the participants. As raised by the Federation of Thai Industries (2018), many Thai food manufacturers run their business as an original equipment manufacturer (OEM), without marketing their brands. The analysis on brand ownership can be classified into several issues which are a) both OEM and own brand, b) acting as middlemen and having own brand, and c) OEM only.

a) Both OEM and own brand

Many Thai manufacturers act as an OEM. They are hired by customers to manufacture products under the customer's brand. Some small business owners were willing to be OEMs as a starting point for their business because promoting a brand may need more investment. Small-scale businesses do not prioritise this as a first strategy for business growth.

S.M., a fruit farmer who had just started to run a dried fruit business, is an example. S.M. showed his packages and logo to the researcher during the interview, although he admitted that he was not satisfied with them yet. Although he had a brand name for his product, which can be sold around his local area, he mostly focused on OEM work because he perceived it could be a better strategy for his new business to earn a profit:

"So, to reduce the cost of my factory, I have to sell to other companies first. ...If someone asks me "Hey! Could you produce this product for me? I have a distributor in England". That is, we will be happy to make the products for them. As we are not good . . . not good in everything. We are good at production and farming. But

marketing is something that...beyond our ability...If you are good at marketing, you can order our products . We are good at production and ingredients. We can manufacture products for you. So, we work together, it will be good” (S.M. SS interview 6, p.11).

b) Acting as middlemen and having own brand

Some entrepreneurs did not undertake their own manufacturing but acted as middlemen, buying products and selling them at a higher price than they paid. They also had a brand name for their business in order to offer customers a choice. For example, P.N. was a trader in the food business, whose clients were mainly business customers from abroad. Her job was to find new food products from manufacturers and deal with the export process to deliver those products to her foreign business customers. She explained to the researcher that she was flexible in how she traded with her customers. After she had identified a potential opportunity (e.g., an innovative product that she had not sold before), she may sell the products under her brand or the customer’s brand, depending on the situation:

“I have my own brand, but we don’t focus on marketing which sells only their own brand, just it is an option, as someone comes to buy without any brands in their mind before. They just want to buy for reselling. So, we told them we have a brand and they could use ours, but we do not focus much on marketing, something like this” (P.N. SS interview 30, p.3).

c) OEM only

One entrepreneur (N.R.) clearly stated that her business was only to manufacture under OEM contracts. N.R. was the owner of a fruit jam factory and she did not perceive an opportunity for making a profit by investing in branding because of the nature of the industry. Her customers bought her products in bulk to process into something else and she believed that she was able to attract customers through the high quality of her service.

2) Business expansion

This section presents the results for entrepreneurs who expanded their business to cover different stages in a VCH. The next opportunity they identified was in a different phase from their existing business. Therefore, the action they took to exploit the opportunity played a part in covering a new stage in the VCH. As a result, the entrepreneurs played various roles in the chain. An example is the following rice trader, who started to manufacture and export a rice dessert:

“I have rice and dessert, as what I told you . To be more specific, we have a rice trading business, specifically the grain. We have a Thai dessert business, which is a

processed food operating under [the brand name of his dessert company]. We have [the brand name of his property company] to run hotel and apartment businesses. And we have [the brand name of this logistics company] to operate logistics for the rice and Thai dessert business” (T.W. SS interview 14, p.3).

P.V. explained that his business expansion was clearly aimed at covering the value chain of a food product:

“we have a variety of products, like I’ve told you. We may be the company that has the most variety of products. And for everything in our company, now we try to do it ourselves from the upstream stage...we are going to do the upstream stages well...we are going to work on the raw ingredients ourselves soon. Therefore, we will control everything from upstream, midstream and downstream stages. As a result, the cost per gram for some products, we are quite at an advantage. Our cost is not higher than others” (P.V. LS interview 23, p.7).

There was also the case of a fruit farmer who changed to working as a businessperson in the dried fruit industry:

“I am a real orchardman, starting from preparing soil for framing, I process the production and sell the products into the market” (C.W. SS interview 7, p.10).

The above changes in roles might be due to different reasons but the factors they have in common are higher added value and greater profits. The profits for the business might be in the form of financial or non-financial value.

3) Outsourcing

After identifying an opportunity, entrepreneurs may not make the product themselves. Some chose to hire other manufacturers to help them exploit an opportunity. K.D., the owner of a dried longan factory, developed a new longan drink with the support of university researchers. Although she had the formula to make the drink, she asked another manufacturer who was more specialised in beverage making to actually produce it:

“At first, after I tried making this, there was a process that our factory couldn’t do. To manufacture drinks, there are some limitations in our factory. So, I outsource it to my friend’s factory that makes beverages. I asked my friend to make an example for me and she did it. She did this so nicely. So, the shelf life of this product can last for two years” (K.D. SS interview 17, p.8).

K.D. explained that she made this choice because it could reduce the time needed to market the product:

“I also hire an outsourcing company. However, sometimes, by hiring other people, I don’t get everything as what I expected, but I had to accept that because if I did

every step myself, I would have to spend like a year or forever to achieve it” (K.D. SS interview 17, p.16).

The entrepreneurs referred to above chose to outsource part of their production as it was not a process in which they were specialised, so that they could focus on and utilise resources in other activities, such as marketing and selling to promote their new product in the market.

4) International market focus

Entrepreneurs may choose to exploit their opportunity in the international rather than the domestic market. For example, P.V. described how his business first aimed to sell in the international market, rather than in Thailand. The price of the processed fruits was comparatively high for the Thai market, so he chose to exploit the newly developed product abroad first:

“Here’s the thing...for our business, we classify our selling into exporting for 70% and the domestic market for 30%. We sell the products in other countries more than selling them in the country since our prices are considered...they are high compared to the prices of snacks” (P.V. LS interview 23, p.3).

“At first, 100% of the products was exported to other countries, then we began to sell them in the country from 5% to 10%, and now in Thailand, we sell them around nearly 30%” (P.V. LS interview 23, p.4).

6.1.3 Organisational design

This code discusses how the entrepreneurs in this study designed their organisation for the exploitation of opportunities. Entrepreneurs applied different strategies in relation to organisational design in their opportunity exploitation stage. The choices highlighted by entrepreneurs were as follows (see Appendix 7-3 for score calculation detail): 1) diversification of business formation, 2) leveraging resources within an existing firm, and 3) and establishing a new firm.

The next section will analyse each category in depth.

1) Diversification of business formation

Entrepreneurs who owned successful small firms ran different activities depending on the type of organisation and leveraged assets from different organisations to support their core business. For example, they might alter the form of the business from a community enterprise to a company or extend their business to run in different types of organisation.

R.P. provided the background to his business model and explained why this had involved various organisations that related to his core business. Under this form of management, he had various types of organisation perform different activities along a rice value chain. Farmers sold their paddy rice to the co-operative and the co-operative bought all the rice offered by the farmers and sold it to the company. The selling price was approved by the board members of the co-operative; the buying price was approved by the board members of the company. Almost 100% of the two sets of board members were the same people.

R.P. claimed that having various types of organisation was convenient to manage. For example, the community enterprise acted as the producer, planting the rice. Farmers traded their rice with the co-operative. The company acted as the processor, undertaking the manufacturing, running the marketing campaigns and contacting exporters. R.P. continued by explaining why he exploited business opportunities through the various organisation types that he used to sell organic rice under the name of a community enterprise. A community enterprise is a form of organisation that has the status of an ordinary person and is subject to 30% income tax calculated based on the yearly income, not profits. At the time, none of the member in the community enterprise including R.P. thought about the laws relating to tax. The demand for their organic rice had continued to increase, making a significant profit for them. As a result, the community enterprise was taxed 4.7 million baht (around GBP 108,823). It was an enormous amount for a group of farmers and, as a result, R.P. realised that he had to establish a company. For these reasons, he altered the form of his processed rice business from that of a community enterprise to a company in order to reduce his tax liability.

The above finding is consistent with McKelvie & Wiklund (2004), who note that opportunity discovery and exploitation could be an intertwined process. Rather than starting with opportunity identification, followed by exploitation, the exploitation of one opportunity could lead to the identification of a new opportunity. Likewise, the opportunity exploitation by R.P. induced a new opportunity that could advance the business overall. R.P. first exploited an opportunity under the form of a community enterprise, which could not provide proper legal status for a fast-growing business. A misunderstanding of taxation law caused him some financial loss and he then took a further step to identify a new opportunity using the legal status of a limited company.

R.P.'s business originally started as a local community enterprise but J.K.'s business expanded in the opposite direction. J.K. first formed a small company to run a processed rice business. Then,

since her business had been growing, she had the idea to build a close relationship with the farmers who supplied organic rice to her company. She then established an agricultural co-operative:

“The business keeps growing and now, [a name of an agricultural cooperative] is established for increasing our farm size. Because now we don’t export everything. We also sell some of our products to exporters. So, we think that we should do all the processes in the value chain. We are only a small chain within a huge value chain of the food industry” (J.K. SS interview 2, p.16).

Entrepreneurs who wished to work sustainably not only considered the benefits to their business, but also the contributions to other stakeholders. They initiated a win-win strategy involving other stakeholders by the nature of their organisational design (Parrish, 2010). The finding in the case of J.K. could support this notion. J.K.’s opportunity exploitation was successful as consumers favoured her products. In order to expand the business, she required a higher volume of organic rice for production, so, as a means of sustaining production, she established a co-operative of organic farmers to increase the supply of rice. This was intended as a win-win strategy for J.K. and the farmers: the entrepreneur could obtain an adequate supply for larger production, and the organic rice farmers could earn a higher revenue from an assured customer for their niche product.

2) Leveraging resources within an existing firm

Some entrepreneurs chose to exploit newly identified opportunities in their existing firms. One possible reason could be that they already had viable resources in place to facilitate the new project. These entrepreneurs were from well-established firms that already had the facilities required, such as knowledgeable and experienced human resources, to achieve new goals.

3) Establishing a new firm

Entrepreneurs may choose to exploit newly identified opportunities through the creation of a new firm. For example, T.W. decided to separate his innovative dessert business from his well-established rice trading company. He chose to establish a new firm for a newly identified opportunity for several reasons:

“Because the human resources are not related to the rice trading business. OK. They might have some relation at some points. But I’ve separated them because they are different. Moreover, it’s more flexible in managing the business” (T.W. SS interview 14, p.12).

Some of the entrepreneurs did not refer to their mode of opportunity exploitation during the interviews. Not all participating entrepreneurs are included in the coding categories. In these instances, the researcher utilised secondary data, observation and informal conversations to establish the entrepreneurs' mode of exploitation. It was found that 23 of the 35 entrepreneurs (66%) chose to exploit an opportunity within their existing firm, whereas the other 34% decided to establish a new firm for a newly identified opportunity.

The majority of entrepreneurship research focuses on new firm creation as a mode of exploitation (Shane & Venkataraman, 2000; Venkataraman, 1997). However, as referred to above, the majority of the entrepreneurs participating in this study chose to exploit a newly identified opportunity inside their existing firm. Most of them were the owners of established firms or large-scale entrepreneurs. Their reasons were mainly concerned with the resources required to support their operations. Entrepreneurs who chose to exploit their new opportunity within an existing enterprise discussed the roles of knowledgeable staff as key to driving their exploitation process. The entrepreneurs may also utilise their possession of raw materials (i.e., rice and fruit) across different activities. Hence, running a new entrepreneurial opportunity in the same firm could be more convenient to leverage resources across different functions.

By contrast, entrepreneurs who chose to found a new firm can be grouped according to two key reasons: first, some entrepreneurs might not have had a prior business and, therefore, created a start-up for their exploitation process; and second, although some entrepreneurs might already have had an established firm, they wished to create a company for their new opportunity as they wanted more flexibility for the new venture. Rosa (1998) identified opportunity exploitation as a main reason for entrepreneurs owning more than one business and becoming portfolio entrepreneurs. Malfense Fierro et al. (2017) identified that portfolio entrepreneurship may be especially prevalent in developing and transitioning economies due to the higher levels of risk and uncertainty within those contexts. Another reason identified by Malfense Fierro (2012) for higher levels of portfolio entrepreneurship in developing and transitioning country contexts is the relatively small size of markets in those countries when compared to developed countries, which may necessitate diversification as a mechanism to exploit new markets. The incidence of portfolio entrepreneurship within the sample of Thai agricultural entrepreneurs in the current study may, therefore, point to the importance of portfolio entrepreneurship within Thai SMEs. However, as this thesis did not focus on portfolio entrepreneurship, future research will need to be undertaken to evaluate the extent of it in Thailand.

Although a new opportunity differs from existing business, the portfolio entrepreneurs in this study were still able to leverage resources across their firms to support each of their businesses. For example, T.W. chose to establish a new firm to exploit his newly identified opportunity and he illustrated how he managed the businesses in his portfolio:

“To be more specific, we have a rice trading business, specifically the grain. We have a dessert company, which is the processed food operating under [the name of his company] Co., Ltd. We have [the name of a property company] to run hotel and service apartments. And we have [the name of a logistics company] to operate logistics for the rice and dessert business” (T.W. SS interview 14, p.3).

This section showed a variety of choices entrepreneurs considered in opportunity exploitation stage. McMullen et al. (2007) argue that it is sometime more difficult to exploit opportunity in an existing firm than establishing a new one. This aligns with exploitation mode found in most of the former research (Cliff et al., 2006; Nieto & Gonzales-Alvarez, 2016; Kuckertze et al., 2017). However, the discussion in this section presents a more favourable choice as an existing firm. It supports some of the prior studies which considered exploitation mode in an existing organisation such as Choi & Shepherd (2004), de Jong (2013), and Hulbert et al. (2013). In addition to the selection between the two choices, this current thesis includes diversification of business formation as a key consideration in the exploitation process. There were not many studies examine this issue in opportunity process, although it could have an effect on entrepreneurs' decision.

6.1.4 Other external relationships

Entrepreneurs participating in this study disclosed that part of their opportunity exploitation process related to other stakeholders in their value chain. These relationships can be categorised as **social relations** and **supplier development**.

A few of the entrepreneurs in this study viewed their opportunity exploitation process as involving external relationships with stakeholders (as presented in Appendix 7-4). The relationships can be categorised as social relations and supplier development. Social relationships include the interaction between an entrepreneur and other units in society, such as the local community and other firms. This issue encompasses the notion of social responsibility other than simple pursuit of profit maximisation. Supplier development is concerned with activities between entrepreneurs and their suppliers in order to help them earn money to live and to acquire knowledge. The case of large-size enterprises emphasises this point.

For example, S.J., the innovation manager of a large enterprise, explained how the company considered supplier development as part of their opportunity exploitation:

“We focus on the core business; we are a manufacturer of processed foods. Therefore, we don’t produce raw materials ourselves. We will source them from reliable sources. However, for some cases, for example, coffee, we don’t own a coffee farm, but we will give coffee seeds to the farmers. We have a research unit to make sure that we get the quality seeds, and then we will give these seeds to farmers to let them grow coffee plants. We also have agricultural scholars to educate and give advice to the farmers. ... So that they have income and also knowledge. It is win-win” (S.J. LS interview 34, p.8).

Social network plays role in entrepreneurial process (Shane, 2003; Feuntes et al., 2010; Nieto & Gonzales-Alvarez, 2016; Shu et al., 2018). The network facilitates information gathering for the exploitation stage. The interaction between economic actors is believed to facilitate opportunity exploitation as entrepreneurs could gather required information through this network (Aldrich & Zimmer, 1986; Casson & Giusta, 2007; Nieto & Gonzales-Alvarez, 2016). In addition to prior literatures, this current thesis has added another aspect of social network in opportunity process. Other than taking advantage from their network, the entrepreneurs also contribute to the development of their stakeholders such as their suppliers and local people, who take part in their opportunity process. This highlights the interaction between different actors involving in the same value chain. Why do innovative entrepreneurs exploit an identified opportunity?

Entrepreneurs do not exploit all identified opportunity (Shane & Venkataraman, 2000). Entrepreneurs have a variety of decision-making reasons for supporting their exploitation of perceived opportunities. Some of the entrepreneurs in this study conducted an evaluation using different methods to assess whether the opportunity could be a good option for their business. This research investigated why the participants decided to exploit entrepreneurial opportunities and identified two approaches: evaluation and goal setting, as shown in Table 6-1.

Table 6-1: Reasons for entrepreneurs exploiting opportunities

Why do innovative entrepreneurs exploit opportunities?	Files (number of interviewees identifying a code)	References (number of times a code is mentioned in transcripts)	Total score	Rank
Why – Evaluation	18	41	117.56	1.
Customer focused	14	25	80.32	1.1
Operational focused	9	14	48.29	1.2

Why do innovative entrepreneurs exploit opportunities?	Files (number of interviewees identifying a code)	References (number of times a code is mentioned in transcripts)	Total score	Rank
a) Pilot testing ideas	5	10	30.41	
b) Internal working group	3	3	13.41	
c) Observing other businesses	1	1	4.47	
Finance focused	4	4	17.88	1.3
Why - Goal setting	10	21	62.44	2.0
Targeting a niche market	7	12	39.35	2.1
Targeting a bigger market	4	6	21.11	2.2
Firm's reputation	2	5	13.78	2.3

6.1.5 Evaluation

Before entrepreneurs decide whether to exploit an opportunity, they evaluate the potential rewards or outcomes from the activity. A positive evaluation of a newly identified opportunity will lead to the exploitation of that opportunity (Fuentes et al., 2010). The entrepreneurs demonstrated different ways of assessing expected outcomes before they invested their resources on a larger scale after a trial period. A satisfactory evaluation resulted in the decision to exploit the opportunity. The entrepreneurs in this study realised that they could gain positive financial returns from exploiting those opportunities. The rationales for entrepreneurs to exploit opportunity include customer, operational and financial dimensions (details of these codes and their scores are shown in Appendix 7-5).

Most of the entrepreneurs who participated tested their ideas to gauge if they could receive positive feedback from customers. A new product may experience uncertainty in customer demand as the customers could feel unfamiliar with the newly launched products (Olson et al., 1995). Therefore, getting knowledge about customer perception toward entrepreneur's products shows its significance in how entrepreneurs evaluate their decision to exploit opportunity. Customer feedback included customers' opinions of their sample products as well as their insights as a basis for new product development. Customers' viewpoints are significant throughout the entrepreneurial process, from initiating a new idea, to developing the new product, and trialling it in the market. The customer will demand for new product only if they

see the value in it (Aldrich & Fiol, 1994). So, positive customer feedback was a rationale for entrepreneurs' decision to exploit an opportunity.

Some of the entrepreneurs raised the point of operational focus as a key to accessing a profitable opportunity. Some of them preferred to experiment with their initial ideas by pilot testing. They would produce and sell small amounts of product to the market before making the decision to process them at full capacity. Some entrepreneurs, mostly those who owned large-scale enterprises, had an internal working group to consider whether their perceived opportunity represented a good opportunity to make a profit. There was one small business owner who reported, uniquely, that he allowed other entrepreneurs to try new technology first and he would then bring it to his business if it could offer a good outcome. However, this approach could only be applied in an entrepreneurial firm with a low degree of innovation and where the technology was not particularly radical. The innovation in that firm was the type of technology that was available in the market for any interested entrepreneur to purchase.

Financial profit is important for business success and sustainability, so a newly perceived opportunity should offer positive financial returns to entrepreneurs. Therefore, after a financial assessment, entrepreneurs would then decide whether to exploit an opportunity in the market. Even if the financial result is crucial, however, some of the entrepreneurs did not provide a clear explanation of this point as a key to exploiting opportunity. They revealed an assumption that financial profit was the initial concern of every entrepreneurial opportunity. As long as innovative opportunities offered a positive financial outcome, some of the entrepreneurs preferred not to emphasise this matter. Moreover, in some cases, the entrepreneurs disclosed that it was not just financial returns that counted; business is also about other types of profit, such as the firm's reputation in the market. This might be an explanation for the financial issue not being a common topic of discussion for the participating entrepreneurs.

6.1.6 Goal setting

Entrepreneurs' expectation of a new opportunity may vary. They have different goals for their business that they want to achieve. The entrepreneurs in this study would decide to exploit an opportunity in the market in order to reach the goal(s) they had set for their firm. They unveiled variety of the goal they set for their businesses including niche market, bigger market, and to be a market leader. The score calculation for these topics is shown in Appendix 7-6. The next section will explain these goals setting.

This section does not discuss financial targets but considers other business goals, i.e., the target market and a firm's reputation. In most cases, the innovative entrepreneurs in this study discussed their goal of acquiring a new market: either a bigger or a niche market. A large number of the participants aimed to access a larger market by offering a new product or service to customers. It was clear that the owners of small and medium-sized businesses exploited innovative opportunities aimed at making a profit in a niche market because their business capacity and innovative products might not be suitable for or favoured by mass consumers. Their goals, therefore, were to access niche markets. However, the larger firms that were able to serve large consumer bases may wish to target a specific consumer segmentation where they believe a market gap exists, such as products for health-conscious consumers and food for specific purposes (e.g., survival kits for use in natural disasters).

The goal of being a market leader could be another decision-making factor that drove entrepreneurs to exploit an opportunity they had identified. Entrepreneurs who wanted to be market leaders stated that they preferred to exploit opportunities they had identified in order to achieve that goal. For example, R.P. aimed to be the leader in organic rice products. He explained his plan to launch a new product every year in order to show the advancement of the business:

"We want to be the leader in processed organic products. Therefore, in order to be the leader, we have to introduce a new product every year. This year [2016], we have launched rice wine. We are now trying to produce tea. It is expected to be ready next year" (R.P. SS interview 19, p.10).

6.2 Comparison of opportunity exploitation between entrepreneurs with different profiles

6.2.1 Comparison of opportunity exploitation between entrepreneurs owning small, medium and large businesses

This section explores the differences and similarities in the opportunity exploitation process among entrepreneurs when considering the size of their business. As discussed in an earlier chapter, the sample contained entrepreneurs in 26 small-scale firms (S), two medium-scale firms (M), and seven large-scale firms (L).

Table 6-2: Comparison of opportunity exploitation between entrepreneurs owning small (S), medium (M) and large (L) businesses¹²

Opportunity exploitation of entrepreneurs owning firms of different sizes	Rank (S)	Rank (M)	Rank (L)
How - Business activities	2.0	1.0	4.0
Brand ownership	2.1	1.1	4.2
<ul style="list-style-type: none"> Acting as middlemen and having own brand 	2.1.2	-	-
<ul style="list-style-type: none"> Both OEM and own brand 	2.1.1	1.1.1	4.2.1
<ul style="list-style-type: none"> OEM only 	2.1.3	-	-
Business expansion	2.2	-	4.1
International market focus	-	-	4.3
Outsourcing	2.3	-	4.4
How - Organisational design	3.0	-	2.0
Diversification of business formation	3.1	-	-
<ul style="list-style-type: none"> Changing from a community enterprise to a company 	3.1.2	-	-
<ul style="list-style-type: none"> Running different activities under different types of organisation 	3.1.1	-	-
Establishing a new firm	3.2	-	-
Leveraging resources within an existing firm	-	-	2.1
How - Other external relationships	4.0	-	3.0
Social relations	4.1	-	3.1
Supplier development	-	-	3.2
How – Source of knowledge	1.0	2.0	1.0
External sources	1.1	2.1	1.2
<ul style="list-style-type: none"> Customer feedback 	1.1.3	2.1.1	-
<ul style="list-style-type: none"> Entrepreneur's network 	1.1.1	-	-
<ul style="list-style-type: none"> Technical expert 	1.1.2	-	1.2.1
Internal sources	1.2	2.1	1.1
<ul style="list-style-type: none"> Entrepreneur's knowledge 	1.2.1	-	1.1.3

¹² The table is presented using ranking system to show how entrepreneurs in each category prioritize each code. Please see Appendix 8 for scoring details.

Opportunity exploitation of entrepreneurs owning firms of different sizes	Rank (S)	Rank (M)	Rank (L)
• <i>In-house R&D</i>	1.2.2	2.1.1	1.1.1
• <i>Staff</i>	1.2.3	2.1.1	1.1.2
Why – Evaluation	1.0	-	1.0
Customer focused	1.1	-	1.1
Finance focused	1.3	-	-
Operational focused	1.2	-	1.2
• <i>Experimenting with ideas</i>	1.2.1	-	1.2.2
• <i>Internal working group</i>	-	-	1.2.1
• <i>Observing other businesses</i>	1.2.2	-	-
Why - Goal setting	2.0	1.0	2.0
Firm reputation	2.2	-	-
Targeting a bigger market	-	1.1	2.1
Targeting a niche market	2.1	-	2.2

When focusing on opportunity exploitation, entrepreneurs from firms of different sizes emphasised various topics during the discussion as illustrated in Table 6-2. Firms of all sizes promoted their brand name as one of the strategies for their business. At the same time, they also ran businesses under OEM contracts as another way to acquire profit and maximise their capacity.

Both small and large firm owners emphasised business expansion as a process for exploiting opportunities. They expanded business activities to cover different stages in the value chain of food production. For example, W.K. owned a rice mill that was in the initial processing stage. He planned to process a more advanced product than simply milling rice, as he believed customers in foreign markets were looking for organic rice products. He therefore decided to process a new production line, which required input from his milling factory to feed into the new production. He had become a high-level processing entrepreneur and an exporter to sell his product to international markets. His opportunity exploitation (organic rice pasta) was an expansion of his business to cover more activities in the VCH. This allowed him to add higher value to his rice. This entrepreneur added value to the produce at each stage of the VCH and could sell at a higher

price and make a profit. Hence, an entrepreneur who is able to cover more value-adding activities is expected to achieve higher profits than one who undertakes a single role in a VCH.

It was noticeable that there was an entrepreneur in a large firm that raised internationalisation as a tool for opportunity exploitation. The entrepreneur clearly targeted the international market as a primary market for their products because the price and nature of the items were more suitable for selling abroad, rather than in Thailand. None of the small business owners mentioned this strategy as a tool for opportunity exploitation.

The cases of small businesses showed variety in their organisational structure. Entrepreneurs in group S displayed diversification in their business formation. Some of the small firms originated from community enterprises and changed to small enterprises to pursue further opportunity. They ran business activities under diverse firm types. Holding the status of a registered enterprise is more convenient for undertaking legal transactions when working with other stakeholders. However, the status of a community enterprise also provides many benefits to the local community, such as supporting programmes from the public sector. Therefore, within the group of small businesses, there were some entrepreneurs who disclosed the advantages of holding a different enterprise status. Each status (community enterprise and small-sized enterprise) could offer both benefits and limitations to the opportunity process. These entrepreneurs were able to choose the status that was more suitable for each of the different stages in the opportunity exploitation process.

Knowledge acquired by small firms was often generated from external sources, particularly advice from experts and individuals within the entrepreneurs' networks. On the other hand, large firms highlighted internal sources of knowledge in their process of opportunity exploitation. In particular, the roles of their in-house R&D functions and staff, which were important in transforming ideas into practice. Some small business founders also identified a significance of in-house R&D that seemed to differ from the situation of other small firms. For example, T.W. primarily participated in this study as a founder of an innovative small firm. However, the data from the in-depth interview and secondary sources revealed his business background as a portfolio entrepreneur who owned multiple businesses, including a country-leading rice trading company. This could give him some benefits in running a new business in a small firm, as he was able to run activities that are rarely found in small firms, such as R&D functions.

6.2.2 Comparison of opportunity exploitation between entrepreneurs in different sub-VCHs in a food VCH

This section discusses significant points arising from the comparative analysis of opportunity exploitation of entrepreneurs operating in different VCHs. There are 11 entrepreneurs were identified as being part of a rice VCH, 19 in a fruit VCH and 5 entrepreneurs in a VCH of other variety of food. The comparison can be shown in Table 6-3 below.

Table 6-3: Comparison of opportunity exploitation between entrepreneurs in different sub-VCHs¹³

Opportunity exploitation of entrepreneurs operating in different VCHs	Rank (Rice)	Rank (Fruit)	Rank (Other variety of food)
How - Business activities	2.0	1.0	4.0
Brand ownership	2.2	1.1	4.2
<ul style="list-style-type: none"> Acting as middleman and having own brand 	-	1.1.2	-
<ul style="list-style-type: none"> Both OEM and own brand 	2.2.1	1.1.1	4.2.1
<ul style="list-style-type: none"> OEM only 	-	1.1.3	-
Business expansion	2.1	1.2	4.1
International market focus	-	1.4	-
Outsourcing	2.3	1.3	-
How - Organisational design	3.0	3.0	2.0
Business formation diversification	3.1	3.1	-
<ul style="list-style-type: none"> Changing from a community enterprise to a company 	3.1.2	3.1.2	-
<ul style="list-style-type: none"> Running different activities under different types of organisation 	3.1.1	3.1.1	-
Establishing a new firm	3.2	3.2	-
Leveraging resources within an existing firm	-	3.3	2.1
How - Other external relationships	4.0	4.0	3.0
Social relations	4.1	4.1	3.1

¹³ The table is presented using ranking system to show how entrepreneurs in each category prioritize each code. Please see scoring details in Appendix 9.

Opportunity exploitation of entrepreneurs operating in different VCHs	Rank (Rice)	Rank (Fruit)	Rank (Other variety of food)
Supplier development	-	4.2	3.2
How - Source of knowledge	1.0	2.0	1.0
External sources	1.1	2.1	1.2
• <i>Customer feedback</i>	<i>1.1.1</i>	<i>2.1.3</i>	-
• <i>Entrepreneur's network</i>	<i>1.1.2</i>	<i>2.1.2</i>	-
• <i>Technical experts</i>	<i>1.1.3</i>	<i>2.1.1</i>	<i>1.2.1</i>
Internal sources	1.2	2.2	1.1
• <i>Entrepreneur's knowledge</i>	<i>1.2.2</i>	<i>2.2.2</i>	-
• <i>In-house R&D</i>	<i>1.2.1</i>	<i>2.2.1</i>	<i>1.1.1</i>
• <i>Staff</i>	<i>1.2.3</i>	<i>2.2.3</i>	<i>1.1.2</i>
Why – Evaluation	2.0	1.0	1.0
Customer focused	2.1	1.1	1.1
Finance focused	-	1.3	-
Operational focused	2.2	1.2	1.2
• <i>Experimenting with ideas</i>	<i>2.2.1</i>	<i>1.2.1</i>	<i>1.2.2</i>
• <i>Internal working group</i>	-	<i>1.2.2</i>	<i>1.2.1</i>
• <i>Observing other businesses</i>	<i>2.2.2</i>	-	-
Why - Goal setting	1.0	2.0	2.0
Firm reputation	1.2	-	-
Targeting a bigger market	-	2.2	2.1
Targeting a niche market	1.1	2.1	2.2

The VCH of other variety of food is represented by entrepreneurs who used different key ingredients and were not restricted to a single item. They had a variety of products and their reasons for exploiting an opportunity were, therefore, mostly focused on customer factors. Those in a food VCH considered customer feedback when making a decision regarding whether they should exploit an identified opportunity. This is also associated with the finding regarding opportunity identification processes, in which customers play a major role.

The main reason that entrepreneurs in a rice VCH exploited opportunity was that they wanted to target niche markets which they could sell products at higher price. Rice contains a lot of benefits and has a nutritional value that is good for health. The entrepreneurs emphasised this point and targeted the niche markets of healthy lifestyle consumers and elderly people. While the rice VCH targeted a niche market, the fruit and other food VCHs mostly gave targeting a bigger market as the rationale for their opportunity exploitation. Fruit entrepreneurs, for example, may want to exploit more opportunity through innovation because an innovative process could extend fruit life. Thus, these entrepreneurs expected to access larger markets with innovative products; otherwise, farmers could mainly only sell their fruit to middlemen and nearby local markets (which are on a smaller scale). Innovative procedures allowed them to acquire more customers. In the food VCH, entrepreneurs exploited their newly identified opportunity as they wanted to access more customers. Therefore, exploiting a new opportunity, such as new and innovative products, provided more chances of their being favoured by a greater number of customers in the market.

6.2.3 Comparison of opportunity exploitation between entrepreneurs playing different roles in a food VCH

In this section, the entrepreneurs are categorised by their roles in a VCH. There are:

Group A: entrepreneurs playing as processor (4 entrepreneurs)

Group B: entrepreneurs playing as processor and trader (20 entrepreneurs)

Group C: entrepreneurs playing as trader (2 entrepreneurs)

Group D: entrepreneurs playing as farmer, processor, and trader (9 entrepreneurs)

(The details of each categories were described earlier in Chapter 6, Table 5-5).

Table 6-4: Comparison of opportunity exploitation between entrepreneurs playing different roles in a VCH¹⁴

¹⁴ The table is presented using ranking system to show how entrepreneurs in each category prioritize each code. Please see Appendix 10 for scoring details

Opportunity exploitation of entrepreneurs playing different roles in a VCH	Rank (A)	Rank (B)	Rank (C)	Rank (D)
How - Business activities	2	2	1	2
Brand ownership	2.1	2.1	1.1	2.2
<ul style="list-style-type: none"> Acting as middleman and having own brand 	-	2.1.2	1.1.1	-
<ul style="list-style-type: none"> Both OEM and own brand 	-	2.1.1	1.1.2	2.2.1
<ul style="list-style-type: none"> OEM only 	2.1.1	-	-	-
Business expansion	2.1	2.3	1.2	2.1
International market focus	-	2.4	-	-
Outsourcing	-	2.2	-	2.3
How - Organisational design	3	3	-	3
Diversification of business formation	-	3.3	-	3.1
<ul style="list-style-type: none"> Changing from a community enterprise to a company 	-	-	-	3.1.2
<ul style="list-style-type: none"> Running different activities under different types of organisation 	-	3.3.1	-	3.1.1
Establishing a new firm	3.1	3.2	-	3.2
Leveraging resources within an existing firm	-	3.1	-	-
How - Other external relationships	-	4	-	4
Social relations	-	4.1	-	4.1
Supplier development	-	4.2	-	-
How - Sources of knowledge	1	1	2	1
External sources	1.1	1.2	-	1.1
Internal sources	-	1.1	2.1	1.2
Why - Evaluation	1	1	1	1
Customer focused	-	1.1	-	1.1
Finance focused	-	1.3	1.1	1.3
Operational focused	1.1	1.2	-	1.2
Why - Goal setting	-	2	-	2
Firm reputation	-	2.3	-	2.1
Targeting a bigger market	-	2.2	-	-

Opportunity exploitation of entrepreneurs playing different roles in a VCH	Rank (A)	Rank (B)	Rank (C)	Rank (D)
Targeting a niche market	-	2.1	-	2.1

In Table 6-4, entrepreneurs in this study who acted as traders in the market (groups B, C and D) mostly raised the point of brand ownership as being important in their opportunity exploitation. These entrepreneurs marketed and sold their products to the market under their own brands. Hence, branding was crucial for their exploitation process, as it established market recognition. Entrepreneurs in the later stage of a chain could add higher value to the product and make a greater profit. Acting as a trader in a VCH is expected to create higher value from marketing and branding activities.

In particular, opportunity exploitation for entrepreneurs in group D concerned the expansion of their business from farming to trading. As discussed earlier, the later stage of a VCH is about making a higher profit; the farmer-entrepreneurs in group D endeavoured to expand their roles from growing crops to processing and selling their value-added products to the market. After identifying an opportunity, the entrepreneurs exploited that opportunity by running activities to cover multiple stages in the VCH. They aimed for better profits from new opportunities. Engaging in a combination of activities in opportunity exploitation stage could support entrepreneurs to be successful (Fadahunsi & Rosa, 2002). As they expanded their activities, covering various VCH stages, entrepreneurs in group D also demonstrated variety in their organisational structure in opportunity exploitation. Most of the farmers initially started their business in the form of a community enterprise, in which they could process and sell their products locally. However, once their business was growing, community enterprises seemed to have some limitations. For example, a community enterprise is not a legal entity. Therefore, the farmer-entrepreneurs altered their organisation to a limited company to explore more opportunities in a bigger market and run activities with fewer legal limitations. Nonetheless, they were still part of a community enterprise for a range of other reasons, such as having access to a variety of supportive schemes and grants that are only offered to community enterprises. On the other hand, they could access other SME development programmes using their legal entity as a limited company. It can be stated that holding different types of organisation allows

better access to government support for entrepreneurs, particularly farmer-entrepreneurs such as those in group D.

The group with longer chains (i.e., groups B and D) illustrated their leveraging of both internal and external sources of knowledge. However, there is some contrast between these two groups. Those in group D emphasised the use of external sources, whereas group B highlighted internal sources slightly more in comparison with external sources of knowledge. Entrepreneurs operating fewer activities (groups A and C) appeared to rely on a single knowledge source. One possible explanation could be that their activities are not very complicated and the entrepreneurs were able to address challenges using local knowledge.

6.3 Chapter summary

This chapter explores the opportunity exploitation process of innovative entrepreneurs in agro-food value chain.

It illustrates four different topics, that were discussed by entrepreneurs when considering exploitation of opportunities, namely source of knowledge, business activities, organisational design, and other external relationship respectively. The analysis shows that the most considered factor for entrepreneurs exploiting their opportunity was about source of knowledge. Majority of entrepreneurs valued external sources (such as technical experts) as essential resources, whereas a smaller number of entrepreneurs discussed internal sources of knowledge. The entrepreneurs ranked brand ownership the first while talking about business activities. For organizational design, they revealed that most concerned strategy is to diversify types of organisation in addition to the selection of establishing a new firm or exploiting opportunity in an established firm. Furthermore, this chapter exhibits rationale for entrepreneurs' rationale to exploit opportunity that the most significant reasoning for them is evaluation, followed by goal setting.

Further comparative analysis on the opportunity exploitation process shows both differences and similarities in exploitation process between groups of entrepreneurs. The most significant difference between the small and the large firms is where they gain knowledge. While the small business mostly acquires knowledge from external sources, the large business heavily relies on its internal sources. Every firm size broadly markets their own brands and offers OEM contract as a strategy to exploit opportunity. Next, the finding of organizational design illustrates the difference between the owners of different firm size. The group of entrepreneurs owning small

business shows organisational diversification as one of their strategy, which is hardly found in a group of large business owners. Applying VCH to categorise entrepreneurs, it exhibits that entrepreneurs operating in a variety of food essentially focused on customer factors as a key reason for them to exploit opportunity. Different groups of actor roles also display contradiction of the choice of opportunity exploitation strategy amongst entrepreneurs acting dissimilar roles.

The following chapter (chapter 7) will exhibit roles of supporting agencies in entrepreneurial opportunity process.

Chapter Seven: Results - Roles of Supporting Agencies

This chapter presents the findings regarding the roles of supporting agencies in facilitating opportunities for entrepreneurs. The first section presents the topics raised by entrepreneurs during the interviews. The topics were related to the help the entrepreneurs received or expected to receive from the relevant supporting agencies, as they thought this assistance could allow them to succeed in their opportunity identification and exploitation processes. A later section compares the findings presented in the first section of the data received during expert interviews and secondary sources. Figure 7-1 outlines the structure of this chapter.

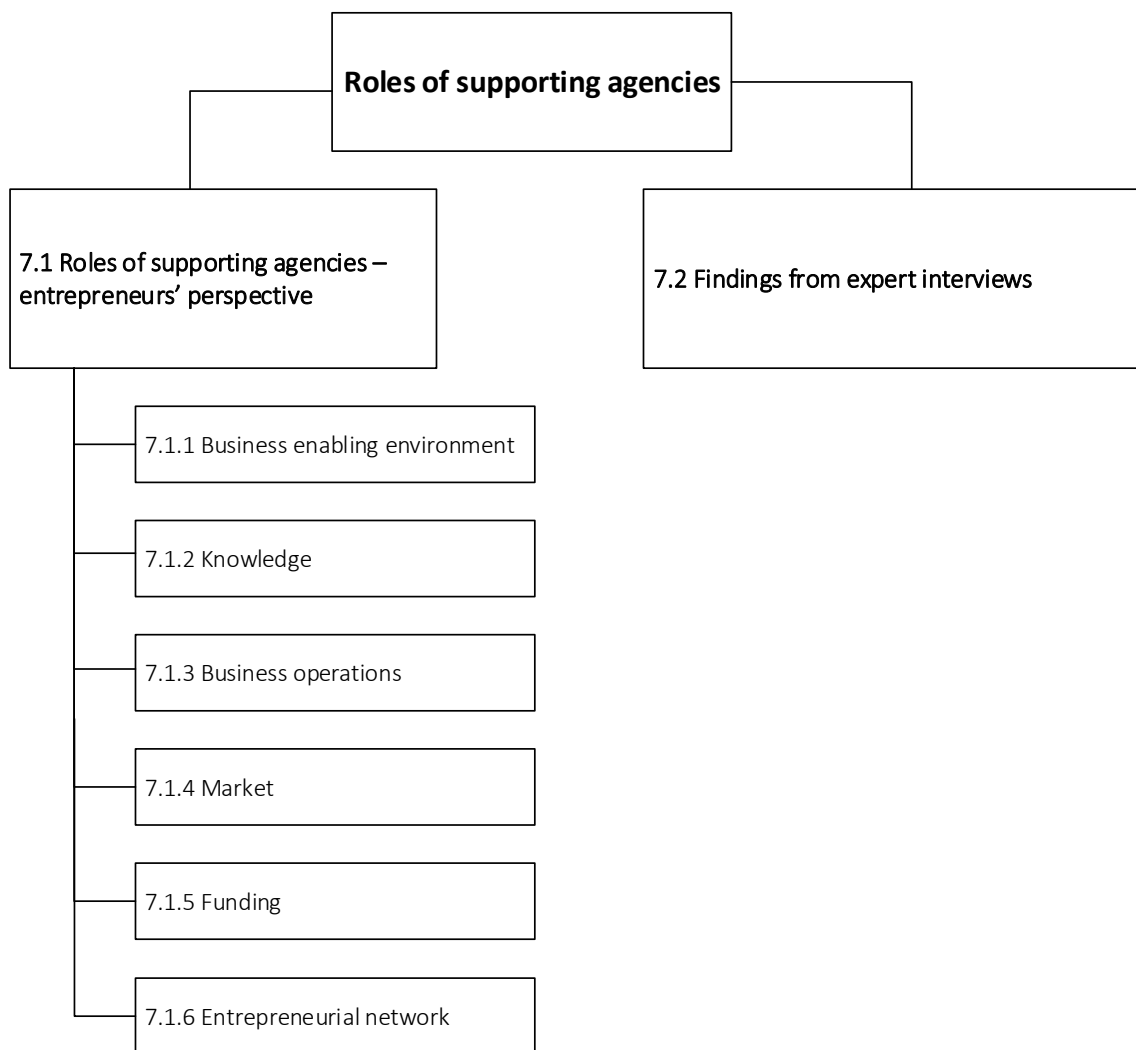


Figure 7-1: Structure of chapter 8 and coding map

7.1 Roles of supporting agencies – entrepreneurs’ perspective

The interviews with the entrepreneurs who took part in this study revealed various aspects of the roles of supporting agencies in their opportunity process. The researcher also applied a coding process to categorise the entrepreneurs’ views on various agencies, e.g., the public sector, financial sector, and educational institutes, which could support their entrepreneurial activities.

The data shown in Table 7-1 show some of the key issues that entrepreneurs expected from supporting agencies. The same calculation method used in the earlier section was also applied to NVivo statistical data to demonstrate the significance of each code.

Table 7-1 Roles of supporting agencies from the entrepreneurs’ perspective

Codes	Files	References	Score	Rank
Business enabling environment	15	35	74.68	1
Knowledge	12	44	74.29	2
Business operations	9	23	46.62	3
Market	7	16	32.73	4
Funding	6	9	25.32	5
Entrepreneurial network	1	1	3.77	6

7.1.1 Business enabling environment

A business enabling environment provides the conditions in which entrepreneurs’ businesses can operate efficiently. A definition of a business enabling environment has been given (Goodpaster, 2011) as “the set of policy, institutional, regulatory, infrastructure and cultural conditions that govern formal and informal business” (p.4). A great number of people argue that a good business enabling environment includes having a less bureaucratic process, good infrastructure and education systems that help the private sector to achieve its goals (Altenburg et al., 2008).

The majority of entrepreneurs are concerned about the **continuance of government support**. In general, people in the private sector expect a low level of bureaucracy that can facilitate business activities (Altenburg et al., 2008). The participating entrepreneurs expressed expectations of various aspects of government support. Some of the participants expected an end-to-end service. Since the various forms of government support are run by different agencies in Thailand, some entrepreneurs found it difficult to access support when they wanted to take a further step in their entrepreneurial development. Many programmes exist in isolation and

are not linked with others. It could be difficult for entrepreneurs to access support continually before they were able to exploit their new opportunity successfully in a market. The entrepreneurs found supporting schemes to be very complicated and difficult to navigate (Young, 2015). It was also the case that some support targeted short-run benefits.

In some cases, the entrepreneurs desired **faster services** from government agencies in order to facilitate their business activities. T.W., an innovative entrepreneur, created new products with the aim of generating interest in the market. He explained that a faster government service would be good for his business. However, as a producer, he had to wait several months before he could obtain FDA¹⁵ approval for a new food product. It would be easier for him to make a deal with business customers if it took less time to receive FDA approval because sometimes customers did not want to wait.

Some international-level entrepreneurs expected stronger **nation branding**, which could help them to promote their businesses in the global market. Similar to a company that wants to promote a positive image in order to attract consumers, a country can utilise a branding technique to attract attention from international communities (Fan, 2006). Nation branding is a strategy aimed at building a good reputation for a country (Szondi, 2008). Food entrepreneurs hoped that Thailand could reach the point at which consumers thought of Thailand first as a key food producer in the world. They felt that Thailand should be a well-known country for good food products, in addition to its famous tourism industry.

7.1.1.2 Knowledge

This category refers to entrepreneurs' expectation that supporting agencies could provide new knowledge, including up-to-date technology, innovation, training courses, and research support for entrepreneurs. Support that could enhance entrepreneurs' knowledge could be given at any stage in the opportunity identification and exploitation process.

At the opportunity identification stage, the knowledge each entrepreneur possesses could facilitate their recognition of new ideas that could be new opportunities (Baron, 2006). The ability to identify a new opportunity varies according to the individual because people hold different information that will play a particular role in their opportunity identification (Kaish &

¹⁵ Food and Drug Administration, Thailand.

Gilad, 1991). The information each entrepreneur in this study possessed helped them to realise new opportunities. That knowledge could come through a variety of supporting programmes. Some entrepreneurs were proactive in learning by attending **training courses, seminars and workshops** organised by a range of supporting agencies. They wanted the relevant agencies to provide new knowledge and information to assist them in their development. Up-to-date information, such as market trends and new technology, would broaden an entrepreneur's ability to identify a new opportunity. In addition to the formal education that was mostly discussed as a crucial form of human capital contributing to entrepreneurial opportunities (Cooper et al., 1994), the knowledge obtained through supporting programmes could also enhance the human capital of the entrepreneurs. With a greater range of knowledge, entrepreneurs could have a broader vision with regard to perceiving opportunities.

At a later stage in their development, the entrepreneurs expected supporting agencies to provide knowledge that would help them transfer ideas they had identified into practice. Some entrepreneurs wanted the government to provide **researchers** to assist them in transferring their ideas into actual products. Entrepreneurs raised the issue that they sometimes knew what they wanted to do, but they needed assistance from researchers to advise them in how to achieve that idea. Thus, **supportive research** is also needed to facilitate successful opportunity exploitation.

In some cases, the entrepreneurs even wanted the government to provide a list of the **ready-to-use innovations** that were available for commercialisation. There are agencies in Thailand that provide this support; however, entrepreneurs may not be able to access this information, so they do not realise that the support exists.

7.1.3 Business operations

This category refers to the support that helps entrepreneurs in their business operations processes, such as productivity improvement, logistics, quality standards, and packaging, by providing business advisory services for an entrepreneur's business. Supporting agencies provide a consultancy service for entrepreneurs. These external consultants could be researchers from universities or experts from the public sector. Consultants/advisors give advice to entrepreneurs in order to achieve a target, which includes organisational development, knowledge management, capacity building, and problem solving (Bennett & Robson, 2003; Lambrecht & Pirnay, 2005). The output from this kind of support could be delivered in many

forms, such as new product development, packaging, quality standards, business plans, or technology to improve productivity and reduce cost.

The entrepreneurs who discussed this type of support were small business owners. They were supported in order to enhance their business operations and help them increase the profits from the opportunities they had exploited. S.M. is a good example of this approach. After identifying the opportunity that he wanted to pursue (freeze-dried fruit), he participated in a project organised by a public agency. Experts visited his factory and advised him that he urgently needed new packaging if he wanted this product to be saleable and attract customers. S.M. then obtained a new packaging design that he could use to transport the processed fruit and that would appeal to customers. S.M. realised that he had a limited budget to hire a packaging designer on his own. The supporting programme assisted him to obtain the necessary resources that would contribute to the successful exploitation of this new opportunity in the market.

7.1.4 Market

This category refers to the support that could help entrepreneurs in marketing activities, such as promoting their brands, business and connecting with new customers. This is expected to help entrepreneurs to link with a market, whether domestically or internationally.

One of the main constraints for small business is the lack of adequate information about the market (Mambula, 2004). Entrepreneurs in this study expected to gain customers through different activities, such as attending trade fairs and business matching events. In some cases, the entrepreneurs could not find an opportunity to meet potential customer on their own due to limited resources. Such events provided the opportunity for entrepreneurs to meet new customers. For example, P.Y., who had a small business, was able to connect with a large business customer through a business matching activity organised by the public sector. Without this kind of supporting activity, entrepreneurs may find it difficult to gain access and present their products to a large customer. Supporting agencies played a role in connecting entrepreneurs to the market so that they could profit from their new entrepreneurial opportunity.

7.1.5 Funding

This category refers to entrepreneurs' expectation that supporting agencies could help them by providing financial support or access to financial resources. Such resources were expected to support entrepreneurial activities. It was mainly the case that the entrepreneurs discussing this

topic were small firm owners. Financial capital is crucial for entrepreneurs to follow their desire of turning an idea into a real business. Government financial support helps entrepreneurs to access other necessary resources, such as technologies, licences, and competent employees. This leads to higher competitive advantage, so that entrepreneurs can compete in the market and make a profit (Pergelova & Angulo-Ruiz, 2014).

Funding seemed to be a limitation for some small business owners (Doh & Kim, 2014; Lee et al., 2010). In contrast with large firms, which possess more resources to advance the technology for a new opportunity (Lichtenthaler, 2003), small business entrepreneurs need financial support in order to exploit their business ideas. For example, P.Y. told the researcher that a supporting agency (a university) introduced a new technology which she believed could be an opportunity for her business. However, she could not pursue that opportunity because she did not have the budget to do so. The machine was costly and the supporting agency did not provide any further financial support. The agency came only to advise on new technology that should be of benefit to exploiting a new opportunity. Although the entrepreneur learned about a new potential opportunity, she could not process the next step to exploit the plan and make it a reality because of the financial limitation. Financial aid from government agencies could help entrepreneurs, SME owners in particular, to innovate and exploit new opportunities (Doh & Kim, 2014).

There was one case of a small business owner (entrepreneur C.W) who pointed out the disadvantage of being a small business in terms of funding access. The entrepreneur explained that being a small business owner was more difficult than operating a business in a form of a community entrepreneur or co-operative members. The latter probably involved both an economic and a social agenda. Hence, there could be more agencies to support this type of community-based business. This issue is consistent with the choice to run a business under a variety of organisation types (as discussed as part of diversification in business formation), whereby an entrepreneur chooses to operate different activities under different organisation types (small company, community enterprise, and co-operative). In doing so, entrepreneurs are able to access a wider range of supporting schemes, from both economically and socially orientated agencies.

7.1.6 Entrepreneurial network

This category refers to the support available for building entrepreneurial networks that connect entrepreneurs with each other. A network is a crucial factor in every stage of entrepreneurial opportunity, as shown in the earlier discussion of the opportunity identification and exploitation

process. An entrepreneurial network is one of the vital factors that help entrepreneurs to identify and develop opportunities (Hulbert et al., 2013). Previous research, such as Fischer & Reuber (2003), found that entrepreneurs in a rapid-growth business might even prefer to have advice from their network, rather than government agencies. This highlights the significance of a network-based approach that would help entrepreneurs to expand their businesses. The government should play a role in linking entrepreneurs with their peers (Fischer & Reuber, 2003).

However, not many of the participating entrepreneurs raised the topic of the assistance they wanted from supporting agencies. One possible reason could be that the majority of participating entrepreneurs were already members of entrepreneurial networks. They were part of the networks and some were even at the executive level. Consequently, despite networks being important for entrepreneurial opportunities, the participating entrepreneurs did not highlight this as the main expectation that they had of supporting agencies. The entrepreneur who did talk about this topic was new to the food business, although she had previously been in other industries. She expected supporting agencies to help her connect with other people in the same business so that she could learn about the industry and keep up to date with knowledge and technology.

Figure 7-2 below illustrates the roles of supporting agencies in the opportunity identification and exploitation process. The figure shows that the majority of supporting activities operate during the process of opportunity exploitation.

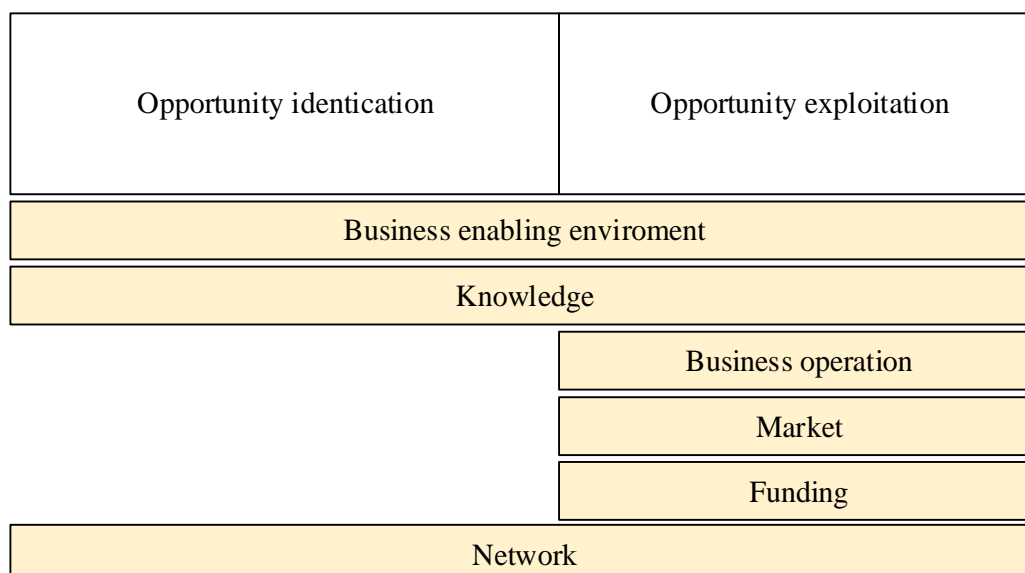


Figure 7-2: Entrepreneurs' expectation of support in their opportunity identification and exploitation process

Although some of the entrepreneurs benefitted from the programmes provided by supporting agencies, some did not participate in any of the available schemes. Those entrepreneurs varied in their business size and were mostly small firm owners. There are several reasons for this. Entrepreneurs mainly pointed out that they were able to run their business without assistance from the public sector. There were a few entrepreneurs who clearly stated that they had never considered, or searched for, any government support. The entrepreneurs might not have understood the potential benefits that supporting agencies could offer to their business, so they were not interested in seeking support (North et al., 2011).

7.2 Findings from expert interviews

This study also collected data from 11 experts who were in various supporting agencies, including the public sector, private sector and educational institutes. Interviewing experts who have significant expertise in a field broadens the researcher's perspectives on the topic. Furthermore, expert interviews also offered information from another perspective to benefit the data analysis by adding to the information gained from the entrepreneur interviews (Kolb, 2008).

The discussion in the previous section was based on entrepreneurs' expectations of supporting programmes provided by relevant agencies. This section discusses the findings from expert interviews and whether they match the entrepreneurs' expectations. During the interviews, the experts might not have covered all the support they offer to foster entrepreneurs' activities. Therefore, the author conducted research on secondary data in order to clarify some issues that might have been missed during the interviews.

Table 7-2: Comparison between entrepreneurs' perspective on support needed and the supporting activities provided by the relevant agencies

Support needed from the entrepreneurs' perspective	Findings from expert interviews	Findings from secondary data
Business enabling environment	<ul style="list-style-type: none"> - One-stop service: the minister - Help entrepreneurs to develop ideas until commercialisation: DITP, KMITL interview - Involving large firms to help smaller ones: DIP¹⁶, DITP¹⁷, KMITL¹⁸, minister - Nation branding: DITP interview 	<ul style="list-style-type: none"> - Licensing Facilitation Act, B.E. 2558 (2015) <p>There are many Thai licensing laws that do not specify a period of time, the required documents or evidence, and the procedure for granting a licence. Some individuals, such as businesspeople and entrepreneurs, may find it difficult to contact the authorities. Therefore, the government (OPDC: Office of Public Sector Development Commission) has proposed a new law in order to standardise the government service.</p>
Knowledge	<ul style="list-style-type: none"> - Entrepreneurship courses in higher education: CMMU¹⁹ - Providing knowledge: CMU, DITP, NFI²⁰, NIA interview - Linking entrepreneurs to experts: NFI interview 	<p>There are several agencies under the Ministry of Science and Technology that provide a list of ready-to-use innovations (E-Catalogue) from which interested entrepreneurs can choose. They have different types of innovation, e.g., machines and products. Their services also include business matching,</p>

¹⁶ Department of Industrial Promotion

¹⁷ Department of International Trade Promotion

¹⁸ King Mongkut's Institute of Technology Ladkrabang

¹⁹ College of Management, Mahidol University

²⁰ National Food Institute

Support needed from the entrepreneurs' perspective	Findings from expert interviews	Findings from secondary data
		mentoring and e-learning, which can be accessed through the following links: https://www.nstda.or.th/tlo http://www.estimarket.com http://www.mosttech.most.go.th/technology.php?tid=2
Business operations	<ul style="list-style-type: none"> - Help to enhance competitive advantage: DIP, DITP interview - Providing consultants to advise entrepreneurs: DIP, DITP, KMITL, NFI - Providing technical services to the food business: NFI interview - Support entrepreneurs to commercialise research findings: NFI interview 	
Market	<ul style="list-style-type: none"> - National brands: DITP interview - Market-led development: DIP, NFI interview 	
Funding	<ul style="list-style-type: none"> - Linking entrepreneurs to financial resources: DIP, KMITL and NIA interviews 	
Entrepreneurial network	<ul style="list-style-type: none"> - DIP 	<ul style="list-style-type: none"> - Ministry of Industry (especially the DIP) plays a role in building and strengthening entrepreneurs' networks, such as the NEC (New Entrepreneurs Creation) and ATSME (Association for the promotion of Thai Small and Medium Entrepreneurs).

As presented in Table 7-2, the experts revealed their roles in supporting entrepreneurs in different activities. The findings show that entrepreneurs' expectations of support were responded to by some of the programmes offered by the supporting agencies.

Business enabling factors were addressed by many of the experts as they aimed to facilitate entrepreneurial activities. Some key issues, such as nation branding, were directly highlighted by experts as part of their job to promote Thai entrepreneurs in the international market. Some of the entrepreneurs raised the idea that they expected less confusing and better continuity in being supported by different agencies, as these issues were realised at the policy-maker level. There have been several attempts to improve public sector services in order to facilitate entrepreneurial activities. For example, the Thai government, through the Office of Small and Medium Enterprise Promotion, established the SME One-Stop Service Centre in 2015 with the aim of being a focal point for service inclusion offered to help entrepreneurs in various ways. However, some scholars urge that specific cultures and forms of bureaucracy may have an impact on the implementation of a one-stop service in a transitional economy (Janenova & Kim, 2016). Further studies may be needed to evaluate the effectiveness of this new service in the Thai context with regard to whether it reduces the constraints entrepreneurs formerly faced.

Moreover, in order to speed public services, a new Act has been implemented: the Licensing Facilitation Act, B.E. 2558 (2015). This law requires an authority to provide clear rules, the procedure for application submission so that applicants will know exactly what they need to provide, and how much time it should take to grant a particular licence. These attempts show the effort the public sector is making to improve its service to help entrepreneurial activities.

There are a number of agencies that offer new **knowledge** for entrepreneurs, including education offered by universities and training courses or workshops organised by a variety of relevant supporting agencies. Moreover, some agencies assist in linking entrepreneurs with technical experts that could help them to develop an idea into a new product. Entrepreneurial activities will be increased after entrepreneur exploit the opportunity in the market (Dvoulety, 2017). Therefore, investing in R&D expenditure could be another mean to facilitate opportunity exploitation (Sanders, 2007). It is crucial that the supporting agencies emphasise of their roles to provide new knowledge in a variety of forms to support opportunity exploitation. From the entrepreneurs' perspective, there was a case in which an entrepreneur pointed out that the government should provide a list of ready-to-use innovations for entrepreneurs intending to commercialise. The secondary data source revealed the existence of this support by the Ministry

of Science and Technology. The public sector needs to undertake marketing to promote their supporting services in order to raise entrepreneurs' awareness of government assistance.

This section described the attempts made by supporting agencies to aid entrepreneurs in their entrepreneurial activities. Unfortunately, in some cases, entrepreneurs might have limited information on the services available, so some entrepreneurs believed that their needs had not been served by the relevant agencies. However, the supporting agencies usually have limited budgets for running projects and budget allocation to market a service might be capped. Thus, entrepreneurs who proactively search for supporting programmes may have a greater chance of accessing those services.

7.3 Chapter summary

This chapter illustrates the roles of supporting agencies in entrepreneurial opportunity process, particularly on the identification and exploitation stages. The discussions were from two viewpoints of entrepreneurs and experts.

Entrepreneurs' perspectives disclose multiple expectations on the offers from supporting agencies. The most frequently discussed topic was about the business enabling factors (i.e. less bureaucratic process, faster services, good infrastructure and policy that help entrepreneur to achieve their goals). The next significant role of supporting agencies is providing knowledge to facilitate opportunity process. The entrepreneurs also demand for the help to support business operations, especially opportunity to link with the market. Funding and networks were the last two issues that the innovative entrepreneurs in this study expect from the supporting agencies. The analysis shows that most of the supports from agencies are in the stage of opportunity exploitation, rather than the identification process.

The next chapter (chapter 8) concludes the thesis and provides recommendation for policy makers and future research.

Chapter Eight: Conclusion

This thesis aims to explain the process of opportunity identification and exploitation. The researcher attempted to achieve the aims by answering the following questions:

1) Opportunity identification

1.1 How do innovative entrepreneurs in a food VCH identify opportunity?

1.2 Why do innovative entrepreneurs identify opportunity?

2) Opportunity exploitation

2.1 How do innovative entrepreneurs in a food VCH exploit the identified opportunity?

2.2 Why do innovative entrepreneurs exploit the identified opportunity?

3) What are the differences or similarities in the opportunity identification and exploitation process between entrepreneurs operating in an agro-food VCH?

3.1 What are the differences or similarities between entrepreneurs owning small, medium and large businesses?

3.2 What are the differences or similarities between entrepreneurs in different sub-VCHs in a food VCH?

3.3 What are the differences or similarities between entrepreneurs playing different roles in a VCH?

4) What are the roles of supporting agencies (e.g., government agencies and research institutes) during the process of opportunity identification and exploitation?

This chapter summarises the analysis and finding of this thesis. It then presents the contributions this research made for entrepreneurship study. Furthermore, this conclusion chapter provides recommendation for policy makers and offers direction for future study.

8.1 Research questions and findings

This research attempts to explain the opportunity identification and exploitation process of entrepreneurs in the agro-processed food industry in Thailand. Its aim is to explore the factors that contribute to entrepreneurs' strategies in identifying and exploiting opportunity and to identify the reasons behind them.

As displayed in Figure 8-1, the analysis in this thesis involves entrepreneur's profile both individual and firm level. Chapter 5 has demonstrated entrepreneur's profiles which mostly in line with prior literatures on factors that facilitate opportunity identification and exploitation.

Notable features include the relatively high level of qualification of the entrepreneurs (Koellinger, 2008; Ucbasaran et al., 2008), their engagement with business networks (Fuentes et al., 2010; Nieto & González-Álvarez, 2016; Shane, 2003; Shu et al., 2018), and their prior entrepreneurship experience (Shane, 2000; Ucbasaran et al., 2009; Westhead et al., 2005b). Noticeably, more than 50% of participating entrepreneurs are portfolio entrepreneurs. They are believed to play important roles in the economy (Malfense Fierro et al., 2017; Westhead et al., 2004). Additionally, the environment that the entrepreneurs are in also influence their entrepreneurial opportunity (Shane, 2003). The firm-level profiles, such as firm size and their activities in the value chain are found to play roles in opportunity identification and exploitation process.

The findings from this study (for research question 1 – 3) are summarised in Figure 8-1.

Explanations of each research question are discussed in the following sections.

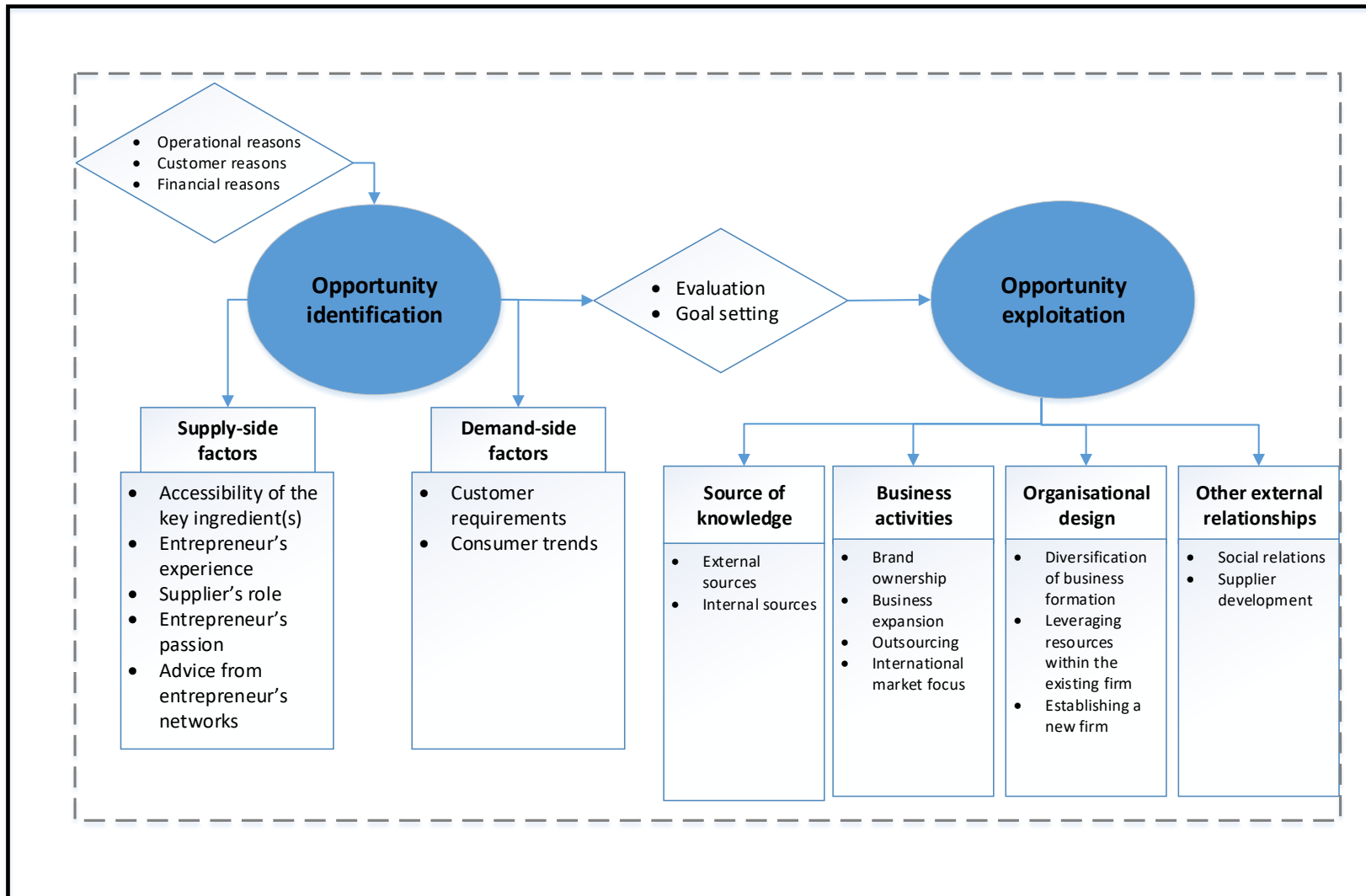


Figure 8-1: The process of opportunity identification and exploitation

8.1.1 Research question 1 - Opportunity identification

1) *How do innovative entrepreneurs in the food VCH identify opportunity?*

The entrepreneurs in this study consider a variety of factors in their opportunity identification process. The factors can be categorised into two groups: supply side and demand side as displayed in Figure 8-1.

Supply-side factors refer to those aspects relevant to entrepreneur and their relevant stakeholders who offer a product and/or service to the market. These factors involve ideas that emerge from the entrepreneur, supply-side of the market. In comparison, demand-side factors include the role of customers, both business customers and consumers, in the process of opportunity identification. Business customers purchase product and resell it in the market, while consumers buy products for their use. The demand-side factors relate to the changes outside an enterprise that influence entrepreneurial opportunity, such as a change in customer demographics, customer needs or perceptions.

The overall analysis of opportunity identification revealed that the sample of innovative entrepreneurs in the processed food industry emphasise supply-side slightly over demand-side factors. This consistent with the presence of majority of entrepreneurship literatures which greatly involve with supply factors (Eckhardt & Shane, 2003). They mostly considered the resources they possessed as crucial assets in terms of their opportunity. These entrepreneurs are closely related to the agricultural sector, as some of them act as farmers themselves, living in the local area where crops are grown and all of them process agro-products into higher-value items. Therefore, at the stage of opportunity identification, accessibility to key ingredients plays the most significant role in facilitating the identification process. Second, an entrepreneur's experience is the next factor largely discussed by the participants. The majority of the participants are experienced entrepreneurs and they believe their experience contributes to the identification of opportunity. This experience involves their observation, previous pain points or achievements in the business, and general experience in the industry that contributes to identification of a new opportunity.

Third, an entrepreneur does not act alone, but in relation to other stakeholders of the business (Granovetter, 1985). In this study, the participants raised points regarding the supplier roles that take part in opportunity identification. Fourth, entrepreneurs' passion was pointed to by some of the sample, as they think it influences how they recognise opportunity. Last, entrepreneurial

networks contribute to opportunity identification, as entrepreneurs receive advice from both personal and professional networks that could influence opportunity identification.

Customer also play roles in entrepreneurial opportunity (Shane, 2003). This thesis reveals roles of customer that influence opportunity identification process. For demand-driven factors, the entrepreneurs considered two main categories of issue regarding their customers: customer requirements and consumer trends. The former are defined as those factors that entrepreneurs are asked about by their customers and involve making a change or developing a new product/service to satisfy customers' needs. The latter refer to changes outside the business that affect entrepreneurs and prompt them to act upon those changes. Unlike customer requirements, entrepreneurs may perceive consumer trends as different from being contacted by customers. Customer requirements show a remarkable impact on opportunity identification over consumer trends. The entrepreneurs predominantly considered consumer preference as a key source of ideas for a new opportunity. Entrepreneurs in the processed food industry were found to have had ideas for new products proposed by their customers. Opportunity identification here is influenced by direct suggestions from customers (mainly business customers) who bring an idea to the entrepreneurs. In some cases, customers even introduce a new input required for a new product to entrepreneurs. The required quality standards are also considered a tool for identifying a new opportunity for some entrepreneurs. In some enterprises, the required quality standards guide entrepreneurs to which area they should improve in order to acquire profit. Particularly in small businesses, the quality standards required by customers lead them to acquire new ideas for new processes to deliver better products/services. Market research is also conducted by some firms who expect to gain customer insight systematically.

Another demand-side factor involves consumer trends. Changing consumer taste is an external environment that affects entrepreneurial opportunity. Innovative entrepreneurs seek to understand what consumers in their markets want to consume and what types of product consumers would like to buy. Trends in the food market include seeking a healthy lifestyle, pursuing an urban lifestyle, and an aging society. The innovative products for these market trends are, for example, healthy drinks (substance extracted from fruit seeds or rice), ready-to-eat meal or dessert that can be kept at room temperature for a year, and freeze-dried fruits which can be consumed with less seasonal limitation and offer better nutrition than other type of snacks. These trends help entrepreneurs draw ideas for new products/ services they could

deliver to the market. Food entrepreneurs take these issues into account as a tool for identifying new opportunities.

2) Why do innovative entrepreneurs identify opportunity?

The rationale for entrepreneurs identifying opportunity can be categorised into three primary reasons: operational, customers, and financial factors. Operational reasons attracted more discussion from the majority of the participants in this study. First, the sample of innovative entrepreneurs identified a new opportunity mostly because they wanted to differentiate themselves from their competitors. These entrepreneurs are largely experienced, so they predominantly identify an opportunity to differentiate their businesses by focusing on aspects such as market, production, product quality, and a chance to rise to a new challenge (e.g., stepping out of the shadow of an OEM contract to own a brand name for their product).

Second, customer factors involved the entrepreneurs' intention to offer a better product/service to customers as well as offering a solution to customer complaints. Last, financial reasons seemed not to be a very popular topic for innovative entrepreneurs when discussing their rationale for identifying an opportunity. However, since some of them possess low-value agro-products, they are willing to add value in order to make more profit from their resources. Some of the entrepreneurs raised the point regarding financial reasons that these are not directly about making more profit, but the ability to set the price of a product. That is because the price of a primary agro-product is not set by the producer (here it is a farmer-entrepreneur) and, therefore, some farmers decide to identify a new opportunity in the processed food sector in order to have more freedom in setting the price of their products.

8.1.2 Research question 2 - Opportunity exploitation

1) How do innovative entrepreneurs in a food VCH exploit opportunity?

The analysis revealed a range of topics that entrepreneurs value as part of their opportunity exploitation. The most popular topic was sources of knowledge, followed by business activities, organisational structure, and then other relationships with stakeholders.

Sources of knowledge: These are the factors entrepreneurs consider in their opportunity exploitation and could be external or internal. A greater number of participants regarded external sources as essential knowledge resources. These include advice from technical experts, entrepreneur networks, and customer feedback. These are the sources of information that entrepreneurs utilise for the opportunity exploitation stage. However, some entrepreneurs may

leverage their internal resources, such as in-house R&D, staff, and the entrepreneur's own knowledge. Internal knowledge may require high investment (such as R&D activities and employing qualified staff), so not every firm can rely on these factors in their exploitation of opportunity.

Business activities: These were involved in the discussion about activities that entrepreneurs perform in order to turn ideas into practice and make profit. Most of them value brand ownership as a key issue in exploiting opportunity in the market. Mainly, entrepreneurs chose to have an OEM contract and use branding as a way of making a profit and adding value for the identified opportunity. Some entrepreneurs chose to expand activities to cover different stages in the VCH as a strategy to exploit opportunity. A few of the entrepreneurs opted for outsourcing and the international market as strategies for opportunity exploitation.

Organisational design: This concerns the organisational management strategy that entrepreneurs select for their exploitation of opportunity. This was in addition to choosing whether to exploit a newly identified opportunity in an existing firm or as a new start-up. The majority of the sample chose to diversify the types of their organisation to facilitate opportunity exploitation. The exploitation mode is, sometimes, more complex than simply starting up a new firm. However, the rationale behind the decision may be influenced by external factors (such as relevant laws and regulations) other than the entrepreneur's choice. In this study, some of the entrepreneurs decided to diversify the mode of exploitation and run their businesses under different types of organisation.

Other external relationships: A few of the entrepreneurs viewed their opportunity exploitation process in relation to external relationships. In addition to expecting a profit, the entrepreneurs also considered social relations, such as social responsibility activities, as part of their opportunity exploitation. As entrepreneurs do not run entrepreneurial activities in isolation, their activities may relate to other people in society, whether social or business relations (e.g., supplier development).

2) Why do innovative entrepreneurs in a food VCH exploit opportunity?

There were a variety of rationales for entrepreneurs exploiting an identified opportunity. The rationales can be grouped into two main categories: evaluation and goal setting.

First, entrepreneurs referred to evaluations as a strategy for making decisions. Evaluation consists of a range of aspects, i.e., customer focus, operational focus, and financial focus.

Innovative entrepreneurs largely considered customer feedback as the key evaluation tool to decide if they should proceed with opportunity exploitation. They primarily involved customers in the development process to learn from their opinions. Positive customer feedback could trigger an exploitation process. In some cases, the entrepreneurs may have to reconsider the proposed idea if customers do not seem to be happy with what is suggested. Some entrepreneurs assessed potential opportunity using operational activities, such as pilot testing, internal working groups, and observations from other users. Only a few of the entrepreneurs mentioned financial assessment.

The second reason to exploit an opportunity is goal setting. Entrepreneurs varied in the goals for which they aim, so exploit an opportunity in order to achieve an objective. Innovative entrepreneurs mostly target a niche market since the participants are from the agro-sector, which is considered a low-tech industry. Innovative entrepreneurs introduced innovation to add value and make a higher profit in a niche market for innovative agro-products. On the other hand, some entrepreneurs perceived innovation as a tool for targeting a bigger market. For example, if an innovation helps to extend fruit shelf life, an entrepreneur can export products to an international market. A small number of participants wanted to exploit opportunity because they want to be market leaders and, in order to lead the market, they need to exploit an innovative idea that could distinguish them from other businesses. Their goal accelerates the decision to exploit an opportunity.

8.1.3 Research question 3

What are the differences or similarities between the opportunity identification and exploitation process of entrepreneurs operating in an agro-food VCH?

In order to understand entrepreneurial opportunity and the identification and exploitation process, this thesis takes entrepreneurs' characteristics into account in order to learn what creates different opportunity processes for a variety of entrepreneurs. The findings of this study could explain the mechanisms that lead to variances in opportunity identification and exploitation for different entrepreneurs. As illustrated in Figure 8-2, entrepreneurs in an open system might be affected by a variety of factors. These factors are the mechanisms that create different opportunity processes for different entrepreneurs.

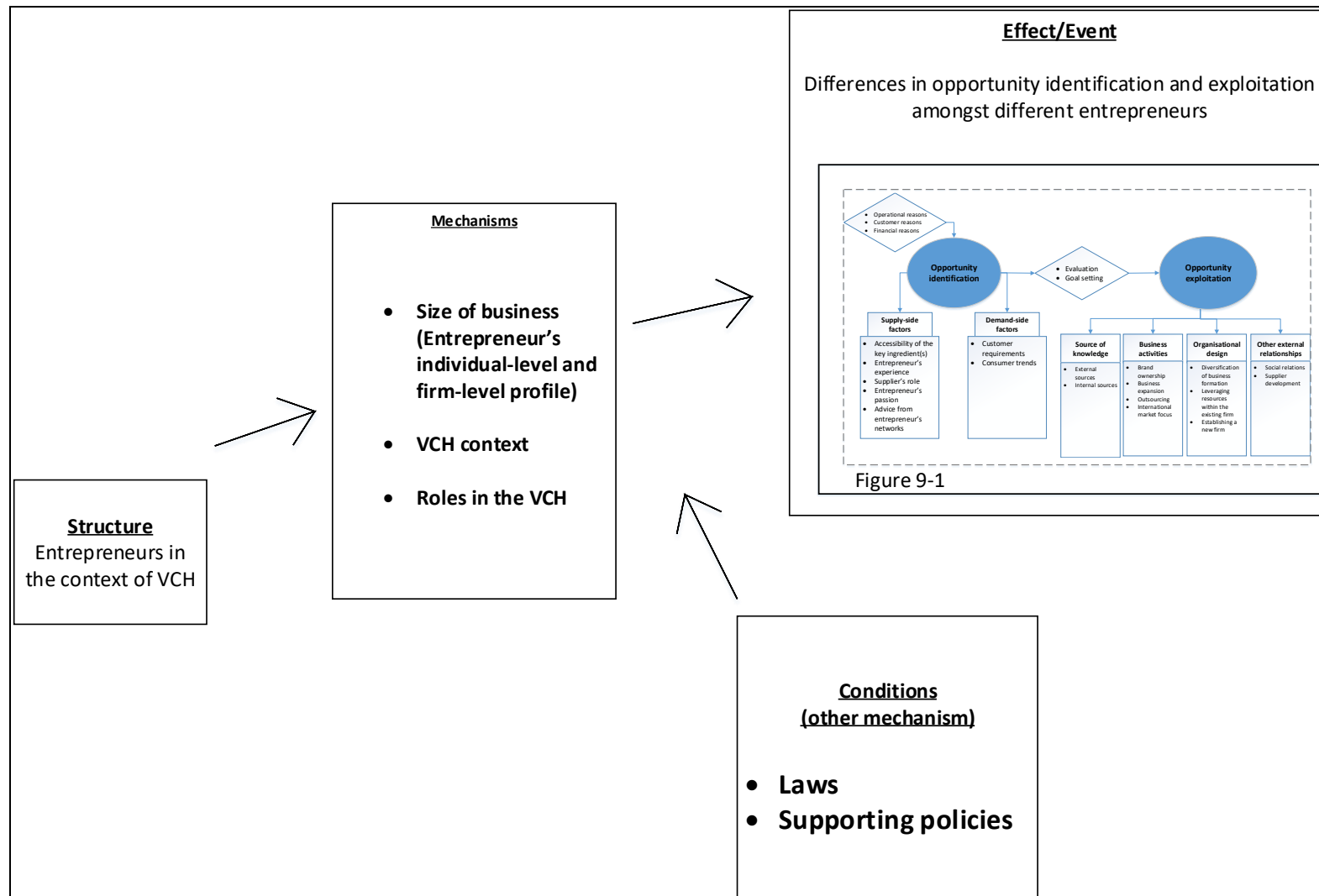


Figure 8-2: Mechanisms that drive different opportunity identification and exploitation processes. Adapted from the view of causation

First, the entrepreneurs can be grouped by firm size: small, medium and large, following the Thai SME definition. Second, they can be categorised by the VCH in which they operate. These VCHs consist of rice, fruit and other types of food. Last, the entrepreneurs are arranged by their activities and the roles they play as part of a VCH. The actor categories are: 1) processor, 2) processor and trader, 3) trader, and 4) farmer, processor and trader. The study discovered a disparity in the entrepreneurial opportunity amongst a range of entrepreneurs.

Size: By categorising the entrepreneurs by firm size, this study revealed a dissimilarity in their opportunity identification processes as shown in Figure 8-3. Small business owners largely take supply-side factors into consideration when identifying opportunity but medium and large business entrepreneurs emphasise demand-side factors more. An explanation might be that some small business entrepreneurs are farmers and in local community enterprises that are closely linked to the source of the ingredients. On the other hand, large enterprises, which have more resources such as staff, funding and larger production lines, emphasise demand factors more. They hold a more formulaic process for identifying opportunities.

When considering opportunity exploitation, every firm size broadly markets brands together by offering an OEM contract as a strategy to exploit opportunity. In terms of organisation structure, small-size businesses appear to run different firm types, including community enterprises and limited companies, as part of their opportunity exploitation. Holding different organisation types allows them to access support and benefits from different supporting agencies, which could facilitate successful opportunity exploitation. Small firms rely heavily on external sources of knowledge, while large companies clearly highlight their internal sources, such as in-house R&D and human capital (i.e., their employees). A significant difference between the choice of small and large firms in where to obtain knowledge shows that large firms possess more resources to expedite an opportunity exploitation process. However, the case of portfolio entrepreneurs illustrates their readiness to operate similar activities to those of large firms (i.e., internal R&D). Although the firm-level profile shows that they are small in size, the individual-level profile of the entrepreneurs demonstrates that these individuals are better equipped than other small firms' owners.

		Small	Medium	Large	
Opportunity identification	How	<ul style="list-style-type: none"> Supply-side Demand-side 	<ul style="list-style-type: none"> Demand-side Supply-side 	<ul style="list-style-type: none"> Demand-side Supply-side 	
	Why	<ul style="list-style-type: none"> Operational factors Customer factors Financial factors 	<ul style="list-style-type: none"> Operational factors Customer factors Financial factors 	<ul style="list-style-type: none"> Customer factors Operational factors Financial factors 	
Opportunity exploitation	How	Business activities	<ul style="list-style-type: none"> Brand ownership Business expansion Outsourcing 	<ul style="list-style-type: none"> Brand ownership 	<ul style="list-style-type: none"> Business expansion Brand ownership Inter' market focus Outsource
		Organisational design	<ul style="list-style-type: none"> Business formation diversification Establishing new firm 		<ul style="list-style-type: none"> Leveraging resources in an existing firm
		Other external relationships	<ul style="list-style-type: none"> Social relations 		<ul style="list-style-type: none"> Social relations Supplier development
	Source of knowledge	<ul style="list-style-type: none"> External sources Internal sources 	<ul style="list-style-type: none"> External & internal sources 	<ul style="list-style-type: none"> Internal sources External sources 	
Why	Evaluation	<ul style="list-style-type: none"> Customer focused Operational focused Financial focused 		<ul style="list-style-type: none"> Customer focused Operational focused 	
	Goal setting	<ul style="list-style-type: none"> Niche market Firm reputation 	<ul style="list-style-type: none"> Bigger market 	<ul style="list-style-type: none"> Bigger market Niche market 	

Figure 8-3: Opportunity identification and exploitation of entrepreneurs owning firms of different sizes

Value chain: By grouping the entrepreneurs into sub-sectors (rice, fruit and other types of food), as illustrated in Figure 8-4, the data illustrate that entrepreneurs in a mature rice VCH are more focused on supply-side factors, whereas others mostly base their opportunity on demand-related factors. Rice VCHs and fruit VCHs vary in their characteristics, e.g., the price and shelf life of the products after the harvesting stage. The price of rice is quite low and stable, so entrepreneurs would like to add value by processing rice into new goods. Fruit, on the other hand, is considered a developing VCH. In general, its price fluctuates more than that of rice. Therefore, fruit entrepreneurs may prefer to see if the price of fresh products is high and if they are satisfied with it. If they are satisfied, they will then sell fresh fruit. However, if the price is low, they will transform their fruit into new products to make more profit. This could explain why entrepreneurs in fruit VCHs highlight demand factors over supply factors.

When examining opportunity exploitation, the entrepreneurs who processed a variety of food essentially focused on customer factors. This is consistent with the reason for their opportunity identification, in which customer factors also play a significant role. These entrepreneurs have a greater variety of resources to hand and, therefore, customers are crucial driving factors in their opportunity process. The rationale for entrepreneurs in rice VCHs is to exploit opportunity because they want to target niche markets. Innovation helps them to release the nutritional value and benefits of rice in alternative forms, rather than consumption as part of a meal. Therefore, entrepreneurs in this group target a niche market in which an innovative rice product could sell at a higher price. In contrast, fruit entrepreneurs target a bigger market. Fruit has a very short shelf life and is seasonal. In general, fruit farmers have to sell fresh fruit as fast as they can; otherwise, the fruit will rot and be unsaleable. With innovation, fruit can be processed into new products. These entrepreneurs are thus able to sell in a bigger market and access more customers.

		Rice	Fruit	Other varieties of food	
Opportunity identification	How	<ul style="list-style-type: none"> • Supply-side • Demand-side 	<ul style="list-style-type: none"> • Demand-side • Supply-side 	<ul style="list-style-type: none"> • Demand-side • Supply-side 	
	Why	<ul style="list-style-type: none"> • Operational factors • Customer factors • Financial factors 	<ul style="list-style-type: none"> • Operational factors • Customer factors • Financial factors 	<ul style="list-style-type: none"> • Customer factors • Operational factors • Financial factors 	
Opportunity exploitation	How	Business activities	<ul style="list-style-type: none"> • Business expansion • Brand ownership • Outsourcing 	<ul style="list-style-type: none"> • Brand ownership • Business expansion • Outsourcing • Inter' market 	<ul style="list-style-type: none"> • Business expansion • Brand ownership
		Organisational design	<ul style="list-style-type: none"> • Business formation diversification • Establishing new firm 	<ul style="list-style-type: none"> • Business formation diversification • Establishing new firm • Leveraging resources in an existing firm 	<ul style="list-style-type: none"> • Leveraging resources in an existing firm
		Other external relationships	<ul style="list-style-type: none"> • Social relations 	<ul style="list-style-type: none"> • Social relations • Supplier development 	<ul style="list-style-type: none"> • Social relations • Supplier development
	Source of knowledge	<ul style="list-style-type: none"> • External sources • Internal sources 	<ul style="list-style-type: none"> • External sources • Internal sources 	<ul style="list-style-type: none"> • Internal sources • External sources 	
Why	Evaluation	<ul style="list-style-type: none"> • Customer focused • Operational focused 	<ul style="list-style-type: none"> • Customer focused • Operational focused • Financial focused 	<ul style="list-style-type: none"> • Customer focused • Operational focused 	
	Goal setting	<ul style="list-style-type: none"> • Niche market • Firm reputation 	<ul style="list-style-type: none"> • Niche market • Bigger market 	<ul style="list-style-type: none"> • Bigger market • Niche market 	

Figure 8-4: Opportunity identification and exploitation between entrepreneurs in different VCH

Actor roles²¹: When considering entrepreneurs operating different roles in a VCH (as shown in Figure 8-5), the research shows that the group of farmer-entrepreneurs highlight supply-side factors as being more significant than demand-side factors. This is mainly because of their possession of the key ingredients, which are rice and fruit. They identify new opportunities for processing food in order to unlock themselves from seasonal constraints. The other group of processors who do not act as farmers themselves share some viewpoints with the group of farmer-entrepreneurs. However, since they do not grow crops, the suppliers play a role in their opportunity identification. The entrepreneurs that process a greater variety of activities does not mean they are large in size. Their opportunity identification is mostly influenced by supply factors. This is unlike the group of actors who perform fewer activities that are high in value (e.g., entrepreneurs who operate as processors and traders), who may possess more of the resources required to run formal market research to gain customer insight.

The opportunity exploitation of entrepreneurs operating in different roles shows some dissimilarity in the choice of exploitation activities. Almost every group indicated brand ownership as a strategy for exploiting opportunity, but only the group of processors (without a trader role) contrasted with this norm. They decide to work under an OEM contract only. The group of farmer-entrepreneurs underlined the expansion of their business as a strategy for opportunity exploitation. A product is then able to be sold at a higher price at the end of the chain. They then attempt to cover various stages in the VCH, from farming to trading.

Concerning organisational design, farmer-entrepreneurs demonstrated more complex options for their business organisations. They hold a variety of organisation types, including community enterprises and limited companies. In some cases, the entrepreneurs take part in running an agricultural co-operative. These organisations are able to support and facilitate their opportunity exploitation process. Having a variety of firm legal statuses allows farmer-entrepreneurs to access the different kinds of support offered by a range of supporting agencies,

²¹ Participating entrepreneurs were categorised into 4 groups according to the role(s) they are playing in the VCH.

Group A: Processor

Group B: Processor and trader

Group C: Trader

Group D: Farmer, processor and trader

with both economic and social agendas. The source of knowledge for different groups of VCH actors presents some contrast between these entrepreneur categories. Entrepreneurs with a greater variety of activities, operating a longer VCH, demonstrate the use of both internal and external sources of knowledge. However, farmer-entrepreneurs stress the use of external sources, whereas general processors and traders focus slightly more on internal knowledge sources. In contrast, groups of entrepreneurs operating fewer activities (i.e., processors or traders) in a chain illustrate their focus on a single source of knowledge, either external or internal.

		Group A	Group B	Group C	Group D	
Opportunity identification	How	<ul style="list-style-type: none"> • Demand-side • Supply-side 	<ul style="list-style-type: none"> • Demand-side • Supply-side 	<ul style="list-style-type: none"> • Demand-side 	<ul style="list-style-type: none"> • Supply-side • Demand-side 	
	Why	<ul style="list-style-type: none"> • Customer factors • Operational factors • Financial factors 	<ul style="list-style-type: none"> • Operational factors • Customer factors • Financial factors 		<ul style="list-style-type: none"> • Operational factors • Financial factors • Customer factors 	
Opportunity exploitation	How	Business activities	Brand ownership & Business expansion	<ul style="list-style-type: none"> • Brand ownership • Outsourcing • Business expansion • Inter' market 	<ul style="list-style-type: none"> • Brand ownership • Business expansion 	<ul style="list-style-type: none"> • Business expansion • Brand ownership • Outsourcing
		Organisational design	<ul style="list-style-type: none"> • Establishing new firm 	<ul style="list-style-type: none"> • Leveraging resources in an existing firm • Establishing new firm • Business formation diversification 		<ul style="list-style-type: none"> • Business formation diversification • Establishing new firm
		Other external relationships		<ul style="list-style-type: none"> • Social relations • Supplier development 		<ul style="list-style-type: none"> • Social relations
	Source of knowledge	<ul style="list-style-type: none"> • External sources 	<ul style="list-style-type: none"> • Internal sources • External sources 	<ul style="list-style-type: none"> • Internal sources 	<ul style="list-style-type: none"> • External sources • Internal sources 	
Why	Evaluation	<ul style="list-style-type: none"> • Operational focused 	<ul style="list-style-type: none"> • Customer focused • Operational focused • Financial focused 	<ul style="list-style-type: none"> • Financial focused 	<ul style="list-style-type: none"> • Customer focused • Operational focused • Financial focused 	
	Goal setting		<ul style="list-style-type: none"> • Niche market • Bigger market • Firm reputation 		<ul style="list-style-type: none"> • Firm reputation & bigger market 	

Figure 8-5: Opportunity identification and exploitation of entrepreneurs playing different roles in VCH

8.1.4 Research question 4

What are the roles of supporting agencies (e.g., government agencies and research institutes) during the process of opportunity identification and exploitation?

From the entrepreneur's perspective, the most significant topic from the entrepreneur's viewpoint is the **business enabling environment**. Entrepreneurs want the government to provide better business enabling environment that could support their opportunity process. This includes less bureaucratic process, faster services, good infrastructure and policy that help entrepreneur to achieve their goals (Altenburg et al., 2008). Mainly, the entrepreneurs have found that the supports from different agencies are not linked together. It was not easy for them to access further support after finishing the current programme because of poor navigation in the supports (Young, 2015).

Next, the roles of supporting agencies in providing **knowledge**. The support may come in different forms including training course, workshop, or seminar. The knowledge possessed by each individual contributes to the ability to recognise new opportunity (Baron, 2006). Therefore, by providing new knowledge to entrepreneurs, the supporting agencies take part in enhancing entrepreneurs' ability to identify new opportunities. Additionally, some entrepreneurs expect for supportive research and researchers to help them transforming their idea into practices. This facilitates the opportunity exploitation process.

Supporting agencies play roles in assisting entrepreneur in their **business operations**. The programmes help entrepreneurs to operate business so that the entrepreneurs can make profit from the opportunities they have exploited. Some entrepreneurs want to be linked with the **market**, so that they their newly exploited opportunity can be reached by customers. Because some small firms have limited market information (Mambula, 2004). So, they expected for the supports that can connect them with more customers. **Funding** aid was also discussed. Especially during the exploitation stage, some small firm owners faced financial constrain to exploit their idea. Although they were able to identify opportunity, but it might not be affordable for small business entrepreneurs to exploit the opportunity. Therefore, the entrepreneur wants to have financial aid from the supporting agencies in order to further develop the identified opportunity.

Lastly, although **entrepreneurial networks** are important in opportunity identification and exploitation (Hulbert et al., 2013), there were only a few participants who wanted assistance that connected them with entrepreneurial networks. This might be explained by the profiles of

participants in this study that mostly have entrepreneurship experiences and they are well connected with their networks.

The supporting programmes greater involve with opportunity exploitation process than the identification stag

8.2 Research contributions

8.2.1 Theoretical contributions

1) Opportunity identification

A recent attempt to define activities in an opportunity process, i.e. Kuckertz et al. (2017), excluded the perspective of demand from opportunity identification, as it was believed that the demand aspect does not play a significant role in the process. They believed communication with customers may assist entrepreneurs to evaluate the idea, but the relevance between opportunity recognition and customer communication was not clear. However, this thesis has found, although at a lower degree than supply-side factors, that demand-side elements play a crucial role in the process of opportunity identification. The sample shows that customers facilitate entrepreneurs' identification of opportunity. Knowledge about customers in particular is believed to be crucial to an entrepreneur's decision to proceed with an opportunity (Choi & Shepherd, 2004). In addition to understanding customers' needs, this thesis, demonstrates that customers proactively influence opportunity identification in some cases. Most entrepreneurship studies appear to focus on entrepreneurs as a unit of analysis. The entrepreneur thus seems to be the key player in the process. In practice, customers also play a role in opportunity identification. Consequently, the definition of opportunity identification should not ignore the aspect of customers (demand factors) in its consideration.

2) Opportunity exploitation – mode of exploitation

Most entrepreneurship research focuses on opportunity exploitation occurring in settings for new firms, such as Cliff et al. (2006); Kuckertz et al. (2017); Nieto & González-Álvarez (2016); Welpé et al. (2012). Only a few studies have focused on opportunity exploitation in an existing firm, for example Choi & Shepherd (2004); de Jong (2013); Hulbert et al. (2013). This thesis presents modes of exploitation that not only consider new firms, but also established firms. A greater number of entrepreneurs in the sample chose to exploit newly identified opportunities in an established firm context than through establishing new firms. However, sometimes, the choice of exploitation mode is influenced by several factors that can include external forces (e.g., laws and regulations) and internal aspects (e.g., an entrepreneur's new strategy to advance business). This causes entrepreneurs to reconsider a new entrepreneurial opportunity and exploit it in an entirely new firm, as opposed to an existing one (Rosa, 1998; Rosa & Scott, 1999).

The above finding may contribute to the question of why it is not always easy to exploit opportunity in an existing firm (McMullen et al., 2007). In this case, opportunity exploitation will start a new loop of entrepreneurial opportunity. In a second loop, the mode of exploitation probably shifts to the setting up of a new firm. This study suggests that most opportunity exploitation occurs inside an existing organisation. The types of organisation in which entrepreneurs choose to exploit their opportunity are also crucial for entrepreneurial opportunity. In some cases, the chosen types may activate a new loop of opportunity, with or without the entrepreneur's intention.

This study also shows that the selection of a single choice of exploitation mode is not always the case for entrepreneurs. Some entrepreneurs choose to diversify organisation types to facilitate the operations of their opportunity exploitation. They therefore choose to exploit opportunity in both newly established and existing firms. The activities run under these different bodies are intended to support each other. For example, one entrepreneur was required to set up a new company because his former firm was no longer appropriate to continue running successful activities. Otherwise, a financial loss would have occurred as an effect of external factors (e.g., tax law). The entrepreneur chose to run an exploitation process under both a new start-up and the established firm in order to facilitate the endeavour. In addition, some entrepreneurs legalise their firms under different types of organisation in order to access a variety of supporting policies.

3) Form of opportunity

Entrepreneurs identify and exploit opportunities that mostly come in the form of a new product or service (Shane, 2003). This thesis, as have the majority of studies, found that most of the participants pursue opportunities that are in the form of new products or services. Nevertheless, rather than treating entrepreneurs as if they all are performing the same activities, this research offers a viewpoint for considering entrepreneurial behaviours through their role(s) in a value chain. By applying this perspective, the findings show a case in which an entrepreneur does not start identifying an opportunity from an idea for a new product or service; the entrepreneur begins to recognise an opportunity as an idea for changing business activities. That transforms entrepreneurs from original equipment manufacturers (producing and wholesaling products to business customers) to marketers in a consumer market, or moving from being farmers (growing and selling primary agro-products) to processors (adding value to raw ingredients and selling at a higher price). Although the entrepreneurs' final outcome is to offer a new product/service to

the market, their primary opportunity is involved with the idea of changing to a new role in the VCH.

This thesis therefore contributes to the knowledge regarding the form of opportunity that may come as an idea for an actor's new role in a VCH. For this form of opportunity, the process of opportunity identification and exploitation, from the initial idea to upgrading a VCH stage until the launch of a new product/service in the market, may be more complex than other forms of opportunity. This could also explain the innovation paradigm that exists in innovation literature that involves a change in a business model. Entrepreneurs shift their roles and activities to introduce a new product/service to a new market.

4) Source of opportunity

Sources of opportunity may come from a change in supply and demand (Eckhardt & Shane, 2003; Shane, 2003). However, only a small number of studies have focused on demand-driven opportunity. Most of the discussion on opportunity source is of supply-driven factors, such as a change in a product/service, process or organising method (Shane, 2003). Changes in the demand side can be considered 'market opportunities' (Hulbert et al., 2013). Hulbert et al. (2013) argue that a significant source of opportunity for SMEs is embedded in the market and caused by market dynamics. Likewise, this thesis also contributes to the knowledge of sources of opportunity.

However, in addition to the contributions of prior studies, the current research highlights the consumers/customers role in inducing entrepreneurial opportunity. For instance, a customer might come with an idea for a new product and even introduce a new input for production. The research demonstrates the proactive role of customers who act in the first instance and influence entrepreneurs to be alert to opportunity. In this case, entrepreneurs' opportunity identification and exploitation are triggered by the customer.

5) Process of opportunity

Entrepreneurial opportunity was previously been conceptualised as a linear process (Shane, 2003). However, some scholars suggest that the process could be that of an entwined relationship (Davidsson, 2003; 2015; McKelvie & Wiklund, 2004). Davidsson (2015) suggests in a conceptual paper that feedback on new venture creation outcomes (opportunity exploitation) could lead to a change in a venture idea. Nevertheless, an empirical explanation for this conceptual idea is needed.

This thesis in part contributes to this call by highlighting a non-linear process of entrepreneurial opportunity. It has found that opportunity exploitation may lead to the identification of another new opportunity. First, entrepreneurs identify and exploit a primary opportunity. The outcome of the first exploitation induces entrepreneurs to rethink the exploited opportunity. This triggers a new opportunity identification. In addition to the feedback from customers and resource providers (Davidsson, 2015), empirical evidence in this thesis has illustrated the effects of external factors (i.e., laws and regulations) on the outcome of opportunity exploitation that cause a revised opportunity identification. For example, one entrepreneur was required to reconsider the legal status of a firm in order to fit with a fast-growing business. The previous firm type (community enterprise) caused him an unusually high tax rate, as it was not entitled to a corporate tax rate. The entrepreneur had to reassess a new opportunity as a consequence of the outcome of the first exploited opportunity. Without any changes in external factors (rules, regulation, policy, industry context, etc.) or market demand (demographics of consumers, consumer preference, etc.), entrepreneurial opportunity is inevitably affected by the surrounding circumstances, which causes a non-linear opportunity process. As illustrated Figure 8-6, entrepreneurial opportunity is surrounded and affected by external factors and a first opportunity exploitation can trigger a new opportunity identification. An overlapping of the opportunity identification phases shows an unclearly bounded entrepreneurial process.

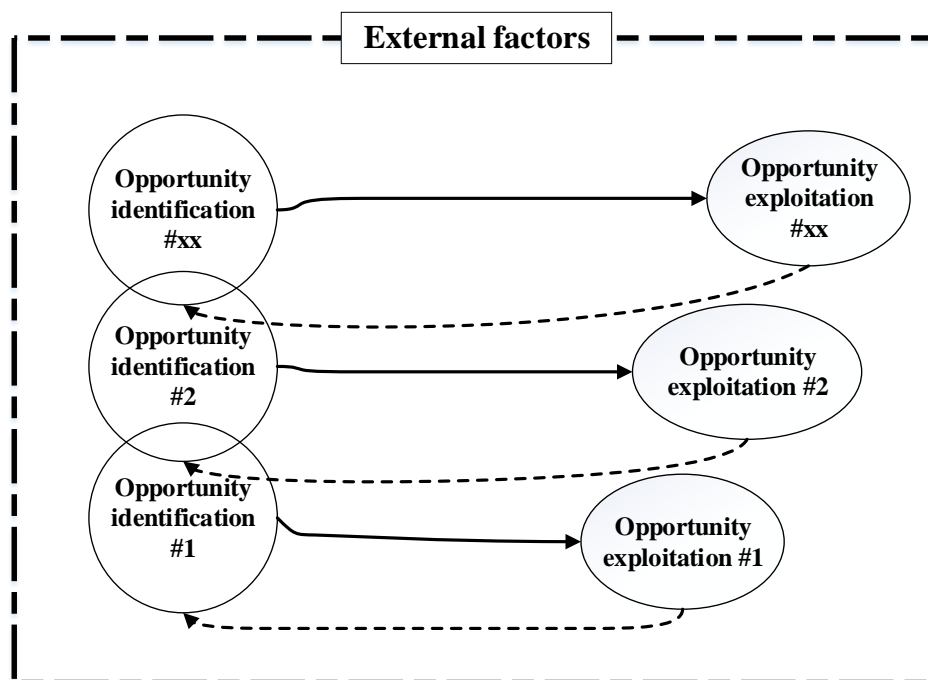


Figure 8-6: Intertwined relationship between opportunity identification and exploitation

8.2.2 Methodological contribution

This research contributes to the use of numbers in qualitative research at the quantising level. The technique is numerical conversion of qualitative data to facilitate pattern recognition and verify interpretation (Miles & Huberman, 1994). While the entrepreneurship field is currently dominated by positivist approaches, qualitative research is becoming more widely accepted (McDonald et al., 2015). This research developed a method used in the qualitative data analysis stage: score calculation used for a ranking system. In addition to prior research that accounts for both the frequency of the incidents that occurred in an interview and the number of individuals who discussed the issue, i.e., Malfense Fierro (2012), the current author advanced the formula used for calculating scores. The author has progressed Malfense Fierro (2012) method by working on the limitations of his approach. Score calculation in his thesis equally weights two figures (the number of entrepreneurs and the number of times that code is mentioned) that are different in their fractions. For example, 10 out of 24 entrepreneurs is not equal to 10 out of 100 references. This would be scored as 20 (10 entrepreneurs plus 10 references) when following Malfense Fierro's (2012) method. The basic summation of the two figures may mislead in terms of the significance of a phenomenon in certain situations. The author improved the process by transforming these figures into percentages before combining both into a score.

The process is based on the original work of Miles & Huberman (1994), which suggests a link between qualitative and quantitative data. The method is expected to increase the validity and internal generalisability of the research (Maxwell, 2010). The process developed in this study provides statistical data to support qualitative analysis. As a consequence of enhancing the method, the data displayed in this thesis utilise a scoring system to identify the strength of the phenomenon.

8.2.3 Empirical contributions

1) Entrepreneurship in the Thai context

Entrepreneurship in Thailand is regarded as a key topic for the economic development of the country. However, there are only a few studies in the Thai context that aim to understand entrepreneurial opportunity, particularly the process of opportunity identification and exploitation. This research is one of the first pieces of entrepreneurship literature to focus on the process of opportunity identification and exploitation in the Thai context. This research has included accounts from entrepreneurs from a variety of firm sizes and considered multiple levels

of entrepreneur profiles, at both the individual and firm level. More than half the participants were found to be portfolio entrepreneurs. The results show the roles of portfolio entrepreneurs who are playing a crucial role in the economy, but there is a lack of study and understanding of this type of entrepreneur in Thailand. To the best of the author's knowledge, this thesis is amongst the first to reveal the roles of portfolio entrepreneurs in the Thai economy.

The entrepreneurship topic in the Thai context generally regards firm size as a unit of analysis and policy formation and largely ignores the aspect that some entrepreneurs may possess a great deal of resources to facilitate their entrepreneurial opportunity. Shane (2009) argues that good policy should not promote every entrepreneur equally, but those with growth potential. Portfolio entrepreneurs seem to have some features that show their ability to exploit opportunity just as the large firms do. This makes them different from novice entrepreneurs who own small firms. The current policy and academic viewpoint in the Thai context appear not to pay much attention to the special characteristics of portfolio entrepreneurs, who could contribute a greater degree of economic development than general small and medium-sized business owners.

2) Entrepreneurs as actors in a VCH

In addition to traditional industry analysis, this current study has applied the VCH concept to analyse entrepreneurial opportunity. The VCH perspective offers a new viewpoint from which to investigate the opportunity identification and exploitation process. All the participants are in the same processed food industry but can be classified according to their roles in a VCH. The finding is that the diversification of VCH actors may contribute to a difference in entrepreneurs' opportunity identification and exploitation processes.

Shane (2003) explains industry as a factor affecting entrepreneurial opportunity. The sample in this study is from the food industry as a whole. However, since they are categorised into sub-VCHs of rice and fruit, the findings disclose a disparity in the opportunity processes between entrepreneurs in these two value chains. The price of raw materials plays a role in the process of exploitation. The contrast in price between rice and fruit could be an explanation.

Generally, the price of rice is more stable than that of fruit. Fruit-entrepreneurs, therefore, take price into consideration with regard to whether they should exploit an opportunity. If they are satisfied with the given price of fresh fruit, they prefer selling fresh fruit to processed. Thus, this shows that even if entrepreneurs operate in the same industry, the VCH may have a specific

impact on an entrepreneur's strategy. This thesis makes an empirical contribution regarding the opportunity process of actors in different sub-VCHs in the same industry. These entrepreneurs might be affected differently by the context of their particular sub-sector within the same industry context.

8.3 Policy recommendations

1. Role-shifting entrepreneurs should receive more supports as their opportunity identification and exploitation processes are more complex than. For instance, the case of farmers who are willing to change their roles to work as processor and traders. Their exploitation process is more complex than entrepreneurs who run the process in their current roles. The supporting agencies could help them to address obstacles and difficulties that they might face and alleviate those challenges, so that these entrepreneurs will be able to advance the value of their business.
2. Policy makers should consider significant of portfolio entrepreneurs in their economy. As this research showed some similarities in the opportunity process between large firm owners who possess a great number of resources and small business owners who own multiple businesses in their portfolio. Policy formation should consider this fact as a key to promote more entrepreneurial activities and enhance budget spending efficiency through this type of entrepreneurs. Portfolio entrepreneurs have been found to in some developing and emerging country context to significantly contribute to the creation of jobs and economic development (Malfense Fierro et al., 2017). Therefore, apart from the firm size, the types of entrepreneur, whether they own more than one business, should be another point for policy makers to consider when designing supporting policy for entrepreneurs.
3. It is difficult for supporting agency to know exactly when an entrepreneur will identify a new opportunity. This research has shown that most of the supporting programmes could be drawn into the opportunity exploitation stages. However, this does not mean that supporting agencies could not play role in opportunity identification stage. The finding shows the contribution of knowledge enhancement programmes to the identification of opportunity. Therefore, this study suggests that the government agencies could provide support, such as business enabling factors, entrepreneurial

network building activities, and knowledge enhancement programmes, in order to facilitate opportunity identification process.

8.4 Limitations

A number of limitations in this exploratory inductive research exist and are listed below.

1. This study inevitably faced one of the limitations attached to qualitative research: the issue of generalisability. The samples were approached using purposive sampling and a snowballing technique. They were not random and are not representative of the entrepreneur population.
2. In some cases, the researcher could not gain access to interview the entrepreneurs themselves but spoke to their managers, particularly in large-sized businesses. Fortunately, only four of the 35 entrepreneur participants (11%) were managers of large-scale public companies. These managers reviewed a list of questions and affirmed that they were able to be an informant for this research.
3. Since the participants of focus were from the agro-food sector, which can be undertaken in different parts of the country, many of them operated businesses in their local areas. This caused a tight schedule for the researcher while in the field due to time and resource limitations as a result of the distances between the various entrepreneurs.
4. As a result of the limitation on resources and access to informants (large-scale entrepreneurs were very difficult to access), the numbers of entrepreneurs in each category could not be equally distributed during the analysis process.
5. The coding and quantifying process was based on primary data from interview transcripts that sometimes did not cover all the facts regarding the business of being an entrepreneur. For example, in the case of exploiting opportunities, the entrepreneurs did not discuss their choice of exploitation mode, regardless of whether they had established a new firm or created a new venture within an existing firm. As a result, the coding process was not able to capture this type of content. The analysis, therefore, needs to be supported by secondary data.

8.5 Recommendations for future research

1. The sample this thesis consists of a variety of types of entrepreneur that can be categorised by different criteria. However, after grouping them into each category, the numbers of entrepreneurs in each group were not equally distributed. This current research did not compare codes on a one-by-one basis because of the limitation of the sample distribution. It instead compared the differences and similarities between the different groups using an overview of their significant choices. Future research should be more precise in balancing distribution across categories. This would reduce the risk of misinterpretation led by an unequal distribution of the sample. An improvement in sample distribution would offer deeper analysis of the comparison for every single code.

2. This thesis has conducted research with entrepreneurs in mature and developing VCHs and found some factors that contribute to the dissimilarities between the two. For more comprehensive understanding of entrepreneurial opportunity, further studies could consider comparative research of entrepreneurs from hi-tech and low-tech VCHs. The characteristics of these two VCHs demonstrate some differences, such as a producer-driven chain and a buyer-driven chain (Gereffi et al., 2005). The opportunity identification and exploitation process for entrepreneurs in these two VCHs may be distinctive. Future research could seek to understand where the differences lie and whether they are caused by the nature of the industry or other external factors, such as related supporting policies, or the nature of the entrepreneurs who play a role in the chains.

3. The findings from this study reveal a large proportion of portfolio entrepreneurs in the sample. This could demonstrate the role of this entrepreneur type in the economy. However, there appears to be a lack of studies discussing their roles in the Thai context. There should be more research concerning portfolio entrepreneurs in Thailand. The data shown in this thesis illustrate significant roles of portfolio entrepreneurs amongst the groups of participants. This type of entrepreneur should receive more attention from researchers in the Thai context, as their entrepreneurial activities could help to enhance economic growth. However, the majority of Thai research is more focused on firm-level data and overlooks the collective profile of entrepreneurs who may be revealed to possess many businesses that could facilitate their new ventures. Their opportunity identification and exploitation process may be dissimilar from that of other types of entrepreneur.

4. The opportunity process for entrepreneurs who shift actor roles (such as from farmer to processor) appears to be more complex than for general entrepreneurs who operate their opportunity identification and exploitation at the same stage in the VCH. Therefore, future research could study in detail the obstacles that role-shifters might face during the transition period. The relevant agencies could then offer suitable support to these entrepreneurs. It would also help to promote farmers who are at an earlier stage in the VCH to create value-added activities. The poor in a VCH would therefore have an opportunity to make more profit, rather than just being sellers of low-value products.

5. In the context of developing countries, such as Thailand, entrepreneurial activities may initially take place in community enterprises. These are a form of organisation that is able to run economic activities but does not hold a legal entity under the Civil and Commercial Code. The entrepreneurial opportunity that starts in this type of organisation faces more complicated processes, particularly at the exploitation stage. Instead of choosing whether to exploit an opportunity in an existing firm or start a new one, these entrepreneurs may also have to consider the types of organisation available for their exploitation, as different set-ups may be associated with various advantages and disadvantages. In a developing country, community enterprises are not just economic actors, but also the trigger for promoting the local economy and social development. More studies should focus on the choice of these community enterprises to exploit opportunity, particularly in comparison with general entrepreneurs. The choices entrepreneurs make could help policy makers and researchers understand their behaviour and the rationale behind their decisions. This would provide guidance to support future entrepreneurial activities.

8.6 Chapter summary

This conclusion chapter has highlighted a number of contributions in entrepreneurship literatures and qualitative research. This study reveals demand side of the market that play roles in opportunity identification. The source of opportunity may come the customer, in addition to entrepreneur initiatives. The exploitation of opportunity in this research are not only through an establishment of a new firm. Some entrepreneurs chose to exploit new opportunity within their existing organisation. In some cases, entrepreneurs chose to diversify organisation types in order to facilitate their opportunity exploitation. The complex exploitation choices also lead to a discovery a non-linear opportunity process.

This thesis has made methodological contribution as it developed scoring system to progress the number in qualitative study. The current technique reduces limitation of Malfense Fierro (2012) scoring system in which the newly purposed tool has transformed numbers with different fraction into percentage.

Moreover, this study is among the first study that applied the concept value chain to analysis the process of opportunity identification and exploitation. This has made empirical contribution to entrepreneurship literature as it proposes a new analysis viewpoint has not been frequently discussed in entrepreneurship studies.

The findings and contributions made in this thesis offer some implication for policy makers and further research in order to advance understanding on opportunity identification and exploitation process.

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Appendix 1 Review of literatures on opportunity identification and exploitation derived from SLR process

Author(s)	Key Finding	Type	Sample size	Literature/ Theoretical lens	Sector	Context	Methodology
Shane (2000)	People do not equally discover opportunities. Prior knowledge about market influences entrepreneur's discovery of opportunity. Such knowledge comes from various sources e.g. work experience, personal event and education	Empirical	8 new ventures	Austrian Economics	Hi-tech industry	USA	Qualitative (interview)
Gaglio & Katz (2001)	a conceptual model explains entrepreneurial alertness by alertness schema and hypothesized cross-linkages	Conceptual	-	Entrepreneurial alertness, cognitive approach, psychological schema of alertness,	-	-	Review of relevant literatures
Ardochvili et al. (2003)	Personality traits, social networks and prior knowledge are antecedents of entrepreneurial alertness, which could lead to business opportunities	Conceptual	-	Dubin's (1978) theory building framework	-	-	Review of relevant literatures
Paulson & Townsend (2004)	Wealthier family are more likely to invest than the poorer ones. Entrepreneurs in poorer regions face greater financial constraints than the richer central region	Empirical	-	-	-	Thailand	-
DeTienne & Chandler (2004)	Propose opportunity identification as a competency that can be learn and develop. The result shows that individuals can learn opportunity identification process and develop both number of ideas and innovativeness of those ideas. A predisposition toward innovation does not significantly alter the ability to learn processes of opportunity identification	Empirical	130 senior level undergraduates	Opportunity creation	Education	USA	Quantitative (Hypothesis testing, Solomon Four Group Designed experiment)
Choi & Shepherd (2004)	Entrepreneurs with higher knowledge on customer demand are more likely to exploit opportunity. Also, these entrepreneurs tend to exploit opportunity when they fully develop vital technologies, possess managerial capability, and obtain stakeholder supports.	Empirical	55 respondents from hi-tech businesses	Resource-based view	Hi-tech industry	USA	Quantitative (Conjoint Experiment)
Zahra et al. (2005)	The study suggests that IE should be test as sensemaking process	Conceptual	-	Cognition, International entrepreneurship	-	-	Review of relevant literatures
Vandekerckhove & Dentchev (2005)	Suggest entrepreneur to break their cognitive limitation by utilising stakeholder relationship	Conceptual	-	Network perspective on	-	-	-

Author(s)	Key Finding	Type	Sample size	Literature/ Theoretical lens	Sector	Context	Methodology
				stakeholder management			
Park (2005)	Purpose complex model of opportunity recognition consisting of founder, knowledge and experience of firm, and technology	Empirical	A case of hi-tech startup		Hi-tech industry	(UK)	Qualitative
Baron & Ensley (2006)	Pattern recognition is the key component for opportunity recognition. The prototypes of business opportunity for experienced entrepreneurs are clearer than the novice entrepreneurs.	Empirical	88 experienced entrepreneurs and 106 novice entrepreneurs	Pattern recognition, Prototype theory	Variety	USA	Quantitative
Baron (2006)	Propose pattern recognition framework to explain process of opportunity identification. The pattern includes 3 significant factors for identification; active search, alertness and prior knowledge. Also, it explains the relationship between these 3 factors.	Conceptual	-	Human Cognition	-	-	Review of relevant literatures
Mueller (2007)	Hi-tech startup activities has higher impact on economic growth than general entrepreneurship	Empirical			Variety	Germany	Quantitative
Corbett (2007)	Learning asymmetries play roles in opportunity identification. It showed that the information asymmetries exist because learning asymmetries exist.	Empirical	380 technological professionals (including founders, owners, managers, engineers, researchers)	Experiential learning theory (Kolb's concept)	Technology industry	USA	
Zahra (2008)	The study proposes that both discover and creation of opportunity are important and play complementary roles. They both have different search process. They form a self-regenerating and reinforcing dynamic cycle where opportunity discovery promotes future creation.	Conceptual		Opportunity discover, Opportunity creation, information search, Absorptive capacity	Technology-based established companies	-	Review of relevant literatures
Ucbasaran et al. (2008)	Individuals with entrepreneurship-specific human capital show higher ability to identify and exploit opportunities. Entrepreneurs who possess higher information search intensity significantly identified more opportunities. But it was not clear if they could pursue more or less business opportunities.	Empirical	588 firm owners	Human capital: General human capital (education, work experience), Entrepreneurship-specific human capital (Business ownership experience, capabilities)/	Variety	Great Britain	Quantitative (Hypothesis testing using Ordered logit analysis)

Author(s)	Key Finding	Type	Sample size	Literature/ Theoretical lens	Sector	Context	Methodology
				Information search intensity			
Klein (2008)	Opportunity is subjective phenomenon. Opportunity is imagined, not discovered or created, in the decision maker's mind. The study also proposes investment as a unit of analysis in entrepreneurship research.	Conceptual	-	Cantillon-Knight-Mises understanding of entrepreneurship as judgment	-	-	Review of relevant literatures
Dyer et al. (2008)	Innovative entrepreneurs engage in information-seeking behaviour and motivation to change the status quo.	Empirical	72 successful and unsuccessful entrepreneurs, 310 executives	Network theory			Qualitative (grounded theory)
Ucbasaran et al. (2009)	Experienced entrepreneurs can identify more opportunities and exploit more innovative opportunities. The novice entrepreneurs compensate their lack of experience by investing in human capital e.g. education and training. Failure experience in business is not related with innovativeness of exploited opportunity.	Empirical	630 entrepreneurs	Cognitive theory, Motivation theory	agriculture, forestry and fishing, production, construction and services	Great Britain	Quantitative (questionnaire, hypothesis testing)
Vaghely & Julien (2010b)	Entrepreneurial opportunity can be recognised or constructed at the same time using various combinations.	Empirical	10 SMEs (65 interviews)	Human information processing	Variety	Not specified	Qualitative (interview, case study, grounded theory)
Pacheco et al. (2010)	Entrepreneurs escape from dilemma that does not support sustainable practices by influence the formation of institution (industry norm, property right, government registration) with environmental initiatives to establish incentives for the game. Such creation of opportunities may generate positive externalities for other sustainable entrepreneurs to discover opportunity in the market.	Conceptual	-	Game theory (prisoner's dilemma), sustainable entrepreneurship	-	-	Review of relevant literatures
Fuentes et al. (2010)	The effects of prior knowledge and social networks on opportunity exploitation. The prior knowledge derived from prior opportunity exploitation associates with success of entrepreneurs. Successful opportunity exploitation experience and strong entrepreneurial network positively effect opportunity development and exploitation.	Empirical	242 entrepreneurs			Spain	Quantitative (Hypothesis testing)

Author(s)	Key Finding	Type	Sample size	Literature/ Theoretical lens	Sector	Context	Methodology
Alvarez et al. (2013)	It shows the investigation of how the opportunities are formed, discovery approach and creation approach. Two approaches emerged from different theoretical and epistemological tradition.	Conceptual	-	Opportunity discovery, Opportunity creation, Opportunity exploitation	-	-	Review of relevant literatures
Suddaby et al. (2015)	They identified 2 themes to explain where opportunities come from, imprinting and reflexivity. Imprinting is about the significant influence of social and historical context on entrepreneurs' discovery of opportunities. Reflexivity concept can be explained by the entrepreneurs' opportunity creation. Opportunities are created by reflection on the possibility of creative realities.	Conceptual	-	Opportunity discovery and opportunity creation	-	-	Qualitative (Applying grounded theory analysis to study the recurring patterns of 9 qualitative papers on JBV special issue on qualitative research)
Yitshaki & Kropp (2016)	A development of framework linking entrepreneurial motivation, opportunity recognition and prosocial activities. It also proposed push and pull factors that influence SE to recognise the opportunity	Empirical	30 social entrepreneurs	Social entrepreneur, entrepreneurial motivation	Social entrepreneurs	Israeli	Qualitative (grounded theory, life story analysis)
Stritar & Drnovsek (2016)	When the opportunity emerged, entrepreneur recombine 3 components of technology stack, business model and architecture design for product/service	Empirical	2 cases of Youtube and Skype	Opportunity discover and opportunity creation	Technology	-	Qualitative (exploratory case study, abductive reasoning, analysis of secondary data sources)
Ren et al. (2016)	The positive effects of affective trust (emotional based) and cognitive trust (evidence based) of network ties on identification and exploitation process. The former has mediating effect, the latter has moderating effect on such process	Empirical	207 new entrepreneurs	Entrepreneurial network ties, affective trust, cognitive trust	Variety	China	Quantitative (hypothesis testing)

Author(s)	Key Finding	Type	Sample size	Literature/ Theoretical lens	Sector	Context	Methodology
							using longitudinal data)
Prandelli et al. (2016)	User perspective taking can enhance ability to recognise opportunity. Entrepreneur's prior knowledge moderate this relationship.	Empirical	137 graduate students in Business School	Cognitive process (user perspective taking) and opportunity recognition, prior knowledge	Food		hypothesis testing using a scenario-based experiment with business students (collecting data by questionnaire)
Nieto & González-Álvarez (2016)	Social capital, both individual and regional level, has effect on entrepreneur opportunity identification and exploitation. The individual level seems to have greater effect. Individual with entrepreneurial network is more likely to become entrepreneur.	Empirical	36 expert interviews	Social capital and opportunity identification and exploitation	Variety	Spain	Mix method (Hypothesis testing using GEM data and expert interviews)
Karimi et al. (2016)	Students in elective entrepreneurship education programmes showed significant increase in entrepreneurial intention, but not the case for students in compulsory programme	Empirical	205 university students	Theory of planned behaviour, entrepreneurial intention, entrepreneurship education	Variety	Iran	Quantitative (hypothesis testing collecting data by questionnaires)
Jarvis (2016)	It suggested to measure individual's attitude entrepreneurship as an approach to measure entrepreneurial intention	Conceptual	-	Theory of planned behaviours, cognitive process	-	-	Review of relevant literatures
Hansen et al. (2016)	A model of opportunity elements	Conceptual	-	Cognitive process and behavioural process	-	-	Review of relevant literatures

Author(s)	Key Finding	Type	Sample size	Literature/ Theoretical lens	Sector	Context	Methodology
Fortunato & Alter (2016)	The research found that theory of opportunity discovery and opportunity creation failed to capture the different of rural entrepreneur's actions. It challenged if the academic discussion in entrepreneurial opportunity consistent with entrepreneur's real life.	Empirical	Interview 83 entrepreneurs and institutional actors, 66 written survey	Entrepreneurial opportunity: discover perspective and creation perspective	-	USA	Mix method (interview and survey)
Vinogradov & Jorgensen (2017)	Immigrant and native entrepreneurs utilise different resources. Human capital has significant positive effect on native entrepreneurs, but not the case for immigrant ones. Financial capital positively effects native entrepreneurs, but negatively affect the migrants	Empirical	116 immigrant and 864 native Norwegian entrepreneurs with new firms		Variety	Norway	Online survey. Testing hypothesis by logistic regression and descriptive statistic
Song et al. (2017)	Entrepreneurial network reliance has meaningful indirect effect on opportunity recognition. It also plays role as a part of entrepreneurial success.	Empirical	278 startup manager	Opportunity recognition, entrepreneurial network, entrepreneurial orientation	Variety	South Korea	Quantitative (Questionnaires, Hierarchical regression analysis and a bootstrapping analysis)
Félix González et al. (2017)	The study confirms the key role of information search for opportunity discovery and innovation radicalness for opportunity creation in social entrepreneurship	Empirical	13 interviews, 74 questionnaires with social entrepreneurs	Opportunity discovery (information search, environment and network) and opportunity creation (bricolage capabilities, innovation radicalness and blind variations) in social entrepreneurs	Variety	Mexico	Mix methods (interview & questionnaire survey)
Cantu (2017)	Entrepreneurial knowledge spillover in startup firm begins by building a relationship (with incubator and business partners) and then the incubator will turn to be a mediator between the startup and business partners	Empirical	Single case study, 30 semi-structured interviews	Network entrepreneurial knowledge spillover	Interactive design (creative industry)	Italy	Qualitative (A case study approach, semi-structured interviews)

Author(s)	Key Finding	Type	Sample size	Literature/ Theoretical lens	Sector	Context	Methodology
Acosta et al. (2017)	External factors such as regulatory context, culture, prior knowledge, incentives and network have high impact on identification of opportunity, particularly in the alertness phase	Conceptual	-	International entrepreneurial opportunity	-	-	Review of relevant literatures

Appendix 2 Profile of sample entrepreneurs

No.	Entrepreneur	Year of establishment	Fixed assets excluding land (GBP) <small>(Exchange rate as of 2014: GBP 1=THB 43.37)</small>	Number of employees	Firm size	Export	Main market (international/ domestic)	ISIC description	OEM
1	W.K.	1971	157,359.67	25	S	Yes	Domestic	Manufacture of food products	Yes
2	J.K.	2004	11,338.08	20	S	Yes	International	Manufacture of food products	No
3	K.K.	2010	1,201,479.3 4	23	S	No	Domestic	Manufacture of food products	Yes
4	A.T.	2002	71,840,453. 89	5,500	L	No	Domestic	Manufacture of food products	No
5	O.W.	2016	0.00	20	S	Yes	Domestic	Manufacture of food products	No
6	S.M.	2016	NA	<10	S	No	Domestic	Wholesale trade, except for motor vehicles and motorcycles	Yes

No.	Entrepreneur	Year of establishment	Fixed assets excluding land (GBP) (Exchange rate as of 2014: GBP 1=THB 43.37)	Number of employees	Firm size	Export	Main market (international/domestic)	ISIC description	OEM
7	C.W.	2005	1,139.01	8	S	No	Domestic	Manufacture of food products	Yes
8	C.C.	2003	180,846.67	100	S	No	Domestic	Food and beverage service activities	No
9	M.P.	2004	NA	14	S	Yes	Domestic	Wholesale trade, except for motor vehicles and motorcycles	Yes
10	N.R.	1999	NA	40	S	Yes	International	Manufacture of food products	Yes
11	B.R.	1989	145,013.47	30	S	No	Domestic	Manufacture of food products	Yes
12	P.K.	2002	NA	40 members	S	No	Domestic	Manufacture of food products	No

No.	Entrepreneur	Year of establishment	Fixed assets excluding land (GBP) (Exchange rate as of 2014: GBP 1=THB 43.37)	Number of employees	Firm size	Export	Main market (international/domestic)	ISIC description	OEM
13	S.S.	2011	NA	162 members	S	No	Domestic	Manufacture of food products	No
14	T.W.	2013	86,786.67	40	S	Yes	International	Wholesale trade, except for motor vehicles and motorcycles	Yes
15	P.Y.	2006	NA	10 members	S	No	Domestic	Manufacture of food products	Yes
16	T.N.	1996	1,567,837.0 8	80	M	Yes	International	Wholesale trade, except for motor vehicles and motorcycles	Yes
17	K.D.	2005	10,441.36	10	S	Yes	International	Manufacture of food products	Yes

No.	Entrepreneur	Year of establishment	Fixed assets excluding land (GBP) (Exchange rate as of 2014: GBP 1=THB 43.37)	Number of employees	Firm size	Export	Main market (international/domestic)	ISIC description	OEM
18	S.Y.	2009	0.00	80	S	No	Domestic	Manufacture of food products	No
19	R.P.	2015	12,572.61	30	S	Yes	Domestic	Wholesale trade, except or motor vehicles and motorcycles	Yes
20	K.J.	2014	0.00	10	S	No	Domestic	Manufacture of food products	Yes
21	R.T.	2015	0.00	10	S	No	Domestic	Manufacture of food products	Yes
22	K.W.	2001	0.95	70	S	NO	Domestic	Manufacture of food products	Yes
23	P.V.	2010	7,883,906.89	350	L	Yes	International	Manufacture of food products	Yes
24	P.H.	1982	187,920.82	60	S	Yes	International	Wholesale trade, except for motor	Yes

No.	Entrepreneur	Year of establishment	Fixed assets excluding land (GBP) (Exchange rate as of 2014: GBP 1=THB 43.37)	Number of employees	Firm size	Export	Main market (international/domestic)	ISIC description	OEM
								vehicles and motorcycles	
25	P.T.	2015	22,930,138. 11	1,000	L	Yes	International	Manufacture of food products	Yes
26	P.P.	2015	26,483.76	5	S	No	Domestic	Other manufacturing	Yes
27	N.P.	2010	1,158,209.5 7	100	M	Yes	International	Manufacture of food products	Yes
28	M.U.	2015	11,298.13	11	S	No	Domestic	Manufacture of food products	No
29	W.P.	2016	NA	5	S	No	Domestic	Manufacture of food products	No
30	P.N.	1993	960,620.11	15	S	Yes	International	Wholesale trade, except for motor vehicles and motorcycles	No

No.	Entrepreneur	Year of establishment	Fixed assets excluding land (GBP) (Exchange rate as of 2014: GBP 1=THB 43.37)	Number of employees	Firm size	Export	Main market (international/domestic)	ISIC description	OEM
31	S.P.	2015	111,584.10	5	S	No	Domestic	Food and beverage service activities	Yes
32	P.D.	1994	2,471,493,3 59.47	110,594	L	Yes	International	Manufacture of food products	Yes
33	K.T.	1994	9,760,365.3 9	1,270	L	Yes	Domestic	Manufacture of food products	Yes
34	S.J.	1993	152,235,708 .81	2,800	L	Yes	Domestic	Manufacture of food products	No
35	K.N.	1976	45,573,726. 81	2,000	L	Yes	International	Manufacture of food products	Yes
		Nascent firm: 11/35 = 31% Established firm: 24/35 = 69%			Size: Small: 26/35 = 74% Medium:	Export: No: 18/35 = 51% Yes:	Main market: Domestic: 23/35 = 66% International: 12/35 = 34%	ISIC code: Manufacture of food products: 25/35 = 71% Wholesale trade 7/35 = 20%	OEM: Yes: 24/35= 69% No: 11/35=3 1%

No.	Entrepreneur	Year of establishment	Fixed assets excluding land (GBP) (Exchange rate as of 2014: GBP 1=THB 43.37)	Number of employees	Firm size	Export	Main market (international/domestic)	ISIC description	OEM
					2/35 = 6% Large: 7/35 = 20%	17/35 = 49%		Food and beverage service activities 2/35 = 6% Other manufacturing 1/35 = 3%	

Appendix 3 Semi-structured interview template (entrepreneur interview)

1. Background information

1.1 Date of Interview _____ Duration _____

1.2 Company name _____

Location _____

1.3 Name of interviewee _____

Position _____

Age _____ Nationality _____

Qualifications _____

Experience _____

1.4 Contact Details

Address _____

Tel. _____

Email _____

Company background

1.5 Would you please tell about the background of your company? How and when did you start your business?

1.6 When was the company founded?

1.7 What is the type of your business (Sole proprietor/ Partnership/ Private limited company/ Limited company/ others)

1.7.1 Value of fixed asset (excluding land) _____

1.7.2 Number of employees (Full time/ part time) _____

1.8 Does the company operate in foreign countries? If so, which countries?

1.9 What are your main products, which are the best sellers? What percentages do they consist of revenue?

1.10 Who are your main customers? What types are they?

1.11 Do you customers ever bring suggestions for innovations to your companies or new products?

1.12 What are your main markets (international or domestic)?

1.13 Why do you focus these markets?

1.14 What is different about these markets?

1.15 Who are your competitors?

1.16 How would you define your company strategy?

1.17 What make you different from the competitors? (i.e. what do you do better or differently?)

1.18 What do you think it is your competitive advantage?

1.19 What are the key resources that contribute to competitive advantage of your business?

1.20 How is the overall sale revenue in the last 5 years?

1.21 How is the overall profit in the last 5 years?

2. Innovation propensity

2.1 Do you believe innovation is important in your industrial sector? Why?

2.2 Have you innovated in your business? If so, how and why?

2.3 Have you used technology from outside? How and why did you start using this technology?

2.4 Do you think there are any advantages/ problems for innovating within your firm because of your size? What are they?

3. Opportunity identification and exploitation

3.1 Does innovation help you to identify new business opportunity? If so, how? Do you have an example of this in your current business/es?

3.2 How do you identify a good opportunity? What are the things that you look for before you invest in new opportunity?

3.3 How do you exploit opportunities within the business?

3.4 How do you assess whether this opportunity is better than other opportunity?

4. Value chain

4.1 Do you know where your position in the value chain of (rice/pineapple/ longan/ mangosteen) is? Where is it?

4.2 What are the main activities of your business?

4.3 How do they add value to your business?

4.4 How do you think about the industry you are in? (Growing/ Mature/ Declining/ Turbulent)

4.5 What are the relationship of you and upstream (suppliers) businesses? Are you in contact to help each other? Why?

4.6 Do they play role in your innovation? If so, could you please elaborate?

4.7 What are the relationship of you and downstream (customers) businesses?

4.8 Do this relationship play role in your innovation? If so, could you please elaborate?

5. Government Policy

5.1 Do you know of any government policies that assist you to innovate/ take advantage of new market opportunities?

5.2 What government policies are important to your business? Could you please elaborate and explain how you take advantage of them?

5.3 What government policies hinder your business?

5.4 What do you think government should do to help entrepreneurs in terms of innovation?

...

Appendix 4 Semi-structured interview template (expert interview)

1. Background information

1.1 Date of Interview _____ Duration _____

1.2 Organisation and type of organisation _____

1.3 Focus of organisation _____

1.4 Name of interviewee _____

Position _____

Age _____

Qualification _____

1.5 Contact Details

Address _____

Tel. _____

Email _____

Roles of organisation

1.6 Could you please tell about the roles of your organisation in supporting innovation for entrepreneurs? What do you do?

1.7 How does your NGO/programme help entrepreneurs' businesses?

1.8 Who are your main customers? What types of business are they?

2. Strategies and policies

2.1 What is your strategy in supporting innovation for Thai entrepreneurs?

2.2 What do you think Thai entrepreneurs need in order to develop innovation for their business?

2.3 What are current policies exist in supporting innovation for Thai entrepreneurs? How could it improve? What work, what does not in your experience?

2.4 What are the biggest challenges for Thai firms in this industry?

2.5 Is there any difference in supporting businesses of different sizes? If so, could you please elaborate?

...

2.6 What do you think could be further done to help the (rice/ pineapple/ longan/ mangosteen) industry?

3. Stakeholders in supporting Thai entrepreneurs

3.1 Are there other stakeholders involving in your policies to support entrepreneurs?
Who are they? What do they do?

3.2 Do you have any collaboration with other organisations in helping entrepreneurs in different stage in the value chain? If so, what are they? And how does this collaboration help entrepreneurs?

4. Country competitiveness

4.1 How is Thailand different from the others selling the same products?

4.2 What do you think contribute to Thailand competitive advantage in your industry (rice/ pineapple/ longan/ mangosteen)?

4.3 Do you know what other countries do to foster innovation? If so, could you please explain?

4.4 Are these models relevant to Thailand? If so, how? If not, why?

Appendix 5 List of experts

No	Organisation	Position of interviewee(s)	Type of organisation
1	National Innovation Agency (NIA), Ministry of Science and Technology	Department manager - Biobusiness sector	Public sector
2	Department of Industrial Promotion, Ministry of Industry	Director of Strategy Management	Public sector
3	National Food Institute, Ministry of Industry	1. Manager - Bureau of innovation promotion 2. Deputy Director - Department of Innovation promotion and knowledge development	Public sector
4	Ministry of Industry	Minister	Public sector
5	Engineering Innovative Development and Technology Service Centre (EIDTs), Faculty of Engineering, King Mongkut's Institute of Technology Ladkrabang	Advisor to Dean for Administration	University
6	North-eastern Food Valley, The Federation of Thai Industry Chiangmai Chapter	Manager	Private sector
7	Network of Northern Thailand Agriculturist	- Former Member of Parliament, Committee on agriculture and co-operatives - Chairman of Northern Thailand Agriculturist - Owner of longan farms	Private sector
8	Faculty of Agro-Industry, Chiang Mai University	Lecture & Researcher	University
9	Department of International Trade Promotion, Ministry of Commerce	Director of office of innovation and value creation	Public sector
10	College of Management, Mahidol University	- Vice dean of College of Management - Head of entrepreneurship and Innovation programme	University
11	Rice exporter association	- Board executive advisor at Thai Rice Exporter Association - Former Purchasing Manager at a large rice trading company in the country	Private sector

Appendix 6 Quantizing tables for Chapter 5 (Opportunity Identification)

Appendix 6-1 : Supply-side factors

How do innovative entrepreneurs identify opportunities?	Files (number of interviewees identifying a code)	References (number of times a code is mentioned in transcripts)	Total score	Rank
Supply-side factors	24	103	125.48	1.0
Accessibility of the key ingredient(s)	16	49	72.79	1.1
Geographical advantage, good place for farming	10	17	37.96	
Possession of key resources	9	22	37.87	
<i>Farmers, orchardmen</i>	7	13	27.18	
<i>Having a close relation with farmers</i>	2	9	10.69	
Low price of resources, low cost of ingredients	7	8	24.42	
Being a local entrepreneur	5	5	17.05	
Excess capacity	2	4	7.92	
Entrepreneur's experience	11	15	39.72	1.2
Observation	4	6	14.74	
Pain points	3	5	11.33	
Experience in the industry	3	3	10.23	
Previous achievement	1	1	3.41	
Supplier's role in opportunity identification	10	14	36.31	1.3
Coordination in developing new input	5	7	18.15	
Introducing new input for production	3	3	10.23	
Sharing news, consumer trends, info.	2	2	6.82	
Change in supplier's behaviour	1	2	3.96	
Entrepreneur's passion	5	21	25.89	1.4
Self-interest	3	12	15.20	
Social responsibility	1	5	5.62	
Childhood experience	1	4	5.07	
Advice from entrepreneur's networks	5	14	22.02	1.5

How do innovative entrepreneurs identify opportunities?	Files (number of interviewees identifying a code)	References (number of times a code is mentioned in transcripts)	Total score	Rank
Personal relations	3	9	13.54	
Professional networks	3	5	11.33	

Appendix 6-2 : Supply-side factors – Accessibility of the key ingredient (s)

How do innovative entrepreneurs identify opportunities?	Files (number of interviewees identifying a code)	References (number of times a code is mentioned in transcripts)	Total score	Rank
Supply-side factors	24	103	125.48	1.0
Accessibility of the key ingredient(s)	16	49	72.79	1.1
a) Geographical advantage, good place for farming	10	17	37.96	
b) Possession of key resources	9	22	37.87	
• <i>Farmers, orchardmen</i>	7	13	27.18	
• <i>Having a close relation with farmers</i>	2	9	10.69	
c) Low price of resources, low cost of ingredients	7	8	24.42	
d) Being a local entrepreneur	5	5	17.05	
e) Excess capacity	2	4	7.92	

Appendix 6-3 : Supply-side factors – Entrepreneur’s experience

How do innovative entrepreneurs identify opportunities?	Files (number of interviewees identifying a code)	References (number of times a code is mentioned in transcripts)	Total score	Rank
Supply-side factors	24	103	125.48	1.0
Entrepreneur's experience	11	15	39.72	1.2
a) Observation	4	6	14.74	
b) Pain points	3	5	11.33	

How do innovative entrepreneurs identify opportunities?	Files (number of interviewees identifying a code)	References (number of times a code is mentioned in transcripts)	Total score	Rank
c) Experience in the industry	3	3	10.23	
d) Previous achievement	1	1	3.41	

Appendix 6-4: Supply-side factors - supplier's role in opportunity identification

How do innovative entrepreneurs identify opportunities?	Files (number of interviewees identifying a code)	References (number of times a code is mentioned in transcripts)	Total score	Rank
Supply-side factors	24	103	125.48	1.0
Supplier's role in opportunity identification	10	14	36.31	1.3
a) Coordination in developing new input	5	7	18.15	
b) Introducing new input for production	3	3	10.23	
c) Sharing news, consumer trends, info.	2	2	6.82	
d) Change in supplier's behaviour	1	2	3.96	

Appendix 6-5 : Supply-side factors – entrepreneur's passion

How do innovative entrepreneurs identify opportunities?	Files (number of interviewees identifying a code)	References (number of times a code is mentioned in transcripts)	Total score	Rank
Supply-side factors	24	103	125.48	1.0
Entrepreneur's passion	5	21	25.89	1.4
a) Self-interest	3	12	15.20	
b) Social responsibility	1	5	5.62	
c) Childhood experience	1	4	5.07	

Appendix 6-6 : Supply-side factors – Advice from entrepreneur’s networks

How do innovative entrepreneurs identify opportunities?	Files (number of interviewees identifying a code)	References (number of times a code is mentioned in transcripts)	Total score	Rank
Supply-side factors	24	103	125.48	1.0
Advice from entrepreneur’s networks	5	14	22.02	1.5
a) Personal relations	3	9	13.54	
b) Professional networks	3	5	11.33	

Appendix 6-7 : Demand-side factors

How do innovative entrepreneurs identify opportunities?	Files (number of interviewees identifying a code)	References (number of times a code is mentioned in transcripts)	Total score	Rank
How – Demand-side factors	28	78	123.09	2.0
Customer requirements	19	48	80.81	2.1
Consumer preference	14	27	54.92	
Customers proposing an idea for a new product	4	9	16.40	
Required quality standards	4	5	14.19	
Market research	3	5	11.33	
Customers introducing new input for production	2	2	6.82	
Consumer trends	15	33	61.09	2.2
Healthy lifestyle	9	17	35.11	
Urban lifestyle	6	12	23.77	
Aging society	2	4	7.92	

Appendix 6-8 : Demand-side factors – Customer requirements

How do innovative entrepreneurs identify opportunities?	Files (number of interviewees identifying a code)	References (number of times a code is mentioned in transcripts)	Total score	Rank
How – Demand-side factors	28	78	123.09	2.0
Customer requirements	19	48	80.81	2.1

How do innovative entrepreneurs identify opportunities?	Files (number of interviewees identifying a code)	References (number of times a code is mentioned in transcripts)	Total score	Rank
a) Consumer preference	14	27	54.92	
b) Customers proposing an idea for a new product	4	9	16.40	
c) Required quality standards	4	5	14.19	
d) Market research	3	5	11.33	
e) Customers introducing new input for production	2	2	6.82	

Appendix 6-9 : Demand-side factors – customer trends

How do innovative entrepreneurs identify opportunities?	Files (number of interviewees identifying a code)	References (number of times a code is mentioned in transcripts)	Total score	Rank
How – Demand-side factors	28	78	123.09	2.0
Consumer trends	15	33	61.09	2.2
a) Healthy lifestyle	9	17	35.11	
b) Urban lifestyle	6	12	23.77	
c) Aging society	2	4	7.92	

Appendix 6-10 : Reasons for innovative entrepreneurs identifying an opportunity

Why do innovative entrepreneurs identify opportunities?	Files (number of interviewees identifying a code)	References (number of times a code is mentioned in transcripts)	Total score	Rank
Why - Operational factors	24	127	129.34	1.0
9) Business differentiation	15	39	61.52	1.1
10) Developing new market(s)	13	20	46.71	1.2
11) Improving efficiency of a production process	7	16	27.66	1.3
12) Extending shelf life	6	16	24.80	1.4
13) Social responsibility	6	14	23.84	1.5

Why do innovative entrepreneurs identify opportunities?	Files (number of interviewees identifying a code)	References (number of times a code is mentioned in transcripts)	Total score	Rank
14) Internationalisation	4	19	20.52	1.6
15) Further development opportunity	3	9	12.88	1.7
16) To change from an OEM to own brand	1	1	3.34	1.8
Why OI - Customer factors	21	42	80	2.0
3) Increasing customer choice	17	34	65	2.1
4) Solving customer pain points	6	9	21	2.2
Why OI - Financial factors	13	40	56	3.0
4) Higher value added	10	27	41	3.1
5) Higher profit	7	8	24	3.2
6) Ability to set price	3	8	12	3.3

Appendix 6-11 : Operational factors

Why do innovative entrepreneurs identify opportunities?	Files (number of interviewees identifying a code)	References (number of times a code is mentioned in transcripts)	Total score	Rank
Why - Operational factors	24	127	129.34	1.0
1) Business differentiation	15	39	61.52	1.1
2) Developing new market(s)	13	20	46.71	1.2
3) Improving efficiency of a production process	7	16	27.66	1.3
4) Extending shelf life	6	16	24.80	1.4
5) Social responsibility	6	14	23.84	1.5
6) Internationalisation	4	19	20.52	1.6
7) Further development opportunity	3	9	12.88	1.7

8) To change from an OEM to own brand	1	1	3.34	1.8
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Appendix 6-12 : Customer factors

Why do innovative entrepreneurs identify opportunities?	Files (number of interviewees identifying a code)	References (number of times a code is mentioned in transcripts)	Total score	Rank
Why - Customer factors	21	42	80	2.0
1) Increasing customer choice	17	34	65	2.1
2) Solving customer pain points	6	9	21	2.2

Appendix 6-13 : Financial factors

Why do innovative entrepreneurs identify opportunities?	Files (number of interviewees identifying a code)	References (number of times a code is mentioned in transcripts)	Total score	Rank
Why - Financial factors	13	40	56	3.0
1) Higher value added	10	27	41	3.1
2) Higher profit	7	8	24	3.2
3) Ability to set price	3	8	12	3.3

Appendix 6-14 : Scoring details for opportunity identification of entrepreneurs owning small, medium and large businesses

Opportunity identification of entrepreneurs owning firms of different sizes	FILE S ²²	REF S ²³	Score S	Rank S	FILE M	REF M	Score M	Rank M	FILE L	REF L	Score L	Rank L
How - Demand side factors	20	51	85.32	2.0	1	4	5.07	1.0	7	23	32.71	1.0
Consumer trends	10	18	38.52	2.2	1	4	5.07	1.1	4	11	17.51	1.2
Customer requirements	14	33	58.23	2.1	0	0	0.00	-	5	12	20.92	1.1
How - Supply side factors	18	91	101.70	1.0	1	2	3.96	2.0	5	10	19.81	2.0
Accessibility to key ingredient(s)	14	45	64.86	1.1	1	2	3.96	2.1	1	2	3.96	2.2
Advice from entrepreneur's networks	5	14	22.02	1.4	0	0	0.00	-	0	0	0.00	-
Entrepreneur's experience	11	15	39.72	1.2	0	0	0.00	-	0	0	0.00	-
Entrepreneur's passion	5	21	25.89	1.3	0	0	0.00	-	0	0	0.00	-
Supplier's role in opportunity identification	5	6	17.60	1.5	0	0	0.00	-	5	8	18.71	2.1
Why OI - Customer factors	16	29	59.59	2.0	1	1	3.34	2.0	4	12	17.17	1.0
Increasing customer choice	13	25	49.10	2.1	1	1	3.34	2.1	3	8	12.40	1.1
Solving customer pain points	3	4	10.49	2.2	0	0	0.00	-	3	5	10.96	1.2
Why OI - Financial factors	11	38	49.61	3.0	0	0	0.00	-	2	2	6.67	3.0

²² FILE refers to number of interviewees identifying a code

²³ REF refers to number of times a code is mentioned in transcripts

Opportunity identification of entrepreneurs owning firms of different sizes	FILE S ²²	REF S ²³	Score S	Rank S	FILE M	REF M	Score M	Rank M	FILE L	REF L	Score L	Rank L
Ability to set price	3	8	12.40	3.3	0	0	0.00	-	0	0	0.00	-
Higher profit	5	6	17.16	3.2	0	0	0.00	-	2	2	6.67	3.1
Higher value added	10	27	41.49	3.1	0	0	0.00	-	0	0	0.00	-
Why OI - Operational factors	19	112	107.87	1.0	1	4	4.77	1.0	4	11	16.69	2.0
Business differentiation	12	35	51.03	1.10	1	1	3.34	1.10	2	3	7.15	2.20
Developing new market (s)	9	14	32.41	1.20	1	2	3.81	1.20	3	4	10.49	2.10
Extending shelf life	4	14	18.13	1.60	1	1	3.34	1.60	1	1	3.34	2.40
Further development opportunity	3	9	12.88	1.70	0	0	0.00	1.70	0	0	0.00	2.60
Improving efficiency of a production process	6	14	23.84	1.30	0	0	0.00	1.30	1	2	3.81	2.30
Internationalisation	4	19	20.52	1.40	0	0	0.00	1.40	0	0	0.00	-
Social responsibility	5	13	20.51	1.50	0	0	0.00	1.50	1	1	3.34	2.40
To change from OEM to own brand	1	1	3.34	1.80	0	0	0.00	1.80	0	0	0.00	-

Appendix 6-15 : Scoring details for opportunity identification of entrepreneurs in different VCHs

Opportunity identification of entrepreneurs operating in different VCHs	FILE Rice	REF Rice	Score Rice	Rank Rice	FILE Fruits	REF Fruits	Score Fruit	Rank Fruit	FILE Other variety of food	REF Other variety of food	Score Other variety of food	Rank Other variety of food
How – Demand-side factors	8	29	38.88	2.0	15	32	60.54	1.0	5	17	23.68	1.0
Consumer trends	4	10	16.95	2.2	8	17	32.25	1.1	3	6	11.89	1.2
Customer requirements	7	19	30.5	2.1	8	15	31.14	1.2	4	11	17.51	1.1
<ul style="list-style-type: none"> Consumer preference 	4	10	16.95	2.1.1	6	10	22.67	1.2.1	4	7	15.3	1.1.1
<ul style="list-style-type: none"> Customers introducing new input for production 	2	2	6.82	2.1.3	0	0	0	0.0	0	0	0	0.0
<ul style="list-style-type: none"> Customers proposing an idea for a new product 	2	5	8.48	2.1.2	2	4	7.92	1.2.2	0	0	0	0.0
<ul style="list-style-type: none"> Market research 	0	0	0	0.0	0	0	0	0.0	3	5	11.33	1.1.2
<ul style="list-style-type: none"> Required quality standards 	3	4	10.78	2.1.2	1	1	3.41	1.2.3	0	0	0	0.0
How – Supply-side factors	10	53	57.85	1.0	10	44	52.88	2.0	4	6	14.74	2.0
Accessibility of key ingredient(s)	7	25	33.81	1.1	9	24	38.97	2.1	0	0	0	0.0

Opportunity identification of entrepreneurs operating in different VCHs	FILE Rice	REF Rice	Score Rice	Rank Rice	FILE Fruits	REF Fruits	Score Fruit	Rank Fruit	FILE Other variety of food	REF Other variety of food	Score Other variety of food	Rank Other variety of food
Advice from entrepreneur's networks	2	4	7.92	1.5	3	10	14.1	2.2	0	0	0	0.0
Entrepreneur's experience	7	11	26.08	1.2	4	4	13.64	2.3	0	0	0	0.0
Entrepreneur's passion	3	14	16.31	1.4	2	7	9.58	2.4	0	0	0	0.0
Supplier's role in opportunity identification	5	6	17.6	1.3	1	2	3.96	2.5	4	6	14.74	2.1
Why OI - Customer factors	8	15	30.03	2.0	10	16	36.23	2.0	3	11	13.83	1.0
Increasing customer choice	7	14	26.7	2.1	7	12	25.74	2.1	3	8	12.4	1.1
Solving customer pain points	1	1	3.34	2.2	3	4	10.49	2.2	2	4	7.63	1.2
Why OI - Financial factors	6	18	25.76	3.0	5	20	23.86	3.0	2	2	6.67	3.0
Ability to set price	1	1	3.34	3.3	2	7	9.06	3.2	0	0	0	0.0
Higher profit	3	3	10.01	3.2	2	3	7.15	3.3	2	2	6.67	3.1
Higher value added	5	15	21.46	3.1	5	12	20.03	3.1	0	0	0	0.0
Why OI - Operational factors	9	52	50.59	1.0	13	71	71.11	1.0	2	4	7.63	2.0
Business differentiation	6	22	27.67	1.1	8	16	30.51	1.1	1	1	3.34	2.2
Developing new market(s)	4	6	14.3	1.2	7	11	25.26	1.2	2	3	7.15	2.1

Opportunity identification of entrepreneurs operating in different VCHs	FILE Rice	REF Rice	Score Rice	Rank Rice	FILE Fruits	REF Fruits	Score Fruit	Rank Fruit	FILE Other variety of food	REF Other variety of food	Score Other variety of food	Rank Other variety of food
Extending shelf life	1	2	3.81	1.6	5	14	20.98	1.3	0	0	0	0.0
Further development opportunity	2	7	9.06	1.4	1	2	3.81	1.7	0	0	0	0.0
Improving efficiency of production process(es)	2	4	7.63	1.5	5	12	20.03	1.4	0	0	0	0.0
Internationalisation	2	4	7.63	1.5	2	15	12.89	1.5	0	0	0	0.0
Social responsibility	3	8	12.4	1.3	3	6	11.44	1.6	0	0	0	0.0
To change from an OEM to own brand	0	0	0	0.0	1	1	3.34	1.8	0	0	0	0.0

Appendix 6-16 : Scoring details for opportunity identification of entrepreneurs playing different roles in a food VCH

Opportunity identification of entrepreneurs playing different roles in a VCH	FILE A	REF A	Score A	Rank A	FILE B	REF B	Score. B	Rank B	FILE C	REF C	Score C	Rank C	FILE D	REF D	Score D	Rank D
How – Demand-side factors	4	15	19.72	1.0	15	46	68.27	1.0	2	2	6.82	1.0	7	15	28.29	2.0
Consumer trends	2	2	6.82	1.2	9	24	38.97	1.1	0	0	0	0.0	4	7	15.3	2.2
Customer requirements	3	13	15.75	1.1	9	22	37.87	1.2	2	2	6.82	1.1	5	8	18.71	2.1
• Consumer preference	3	9	13.54	1.1.1	8	15	31.14	1.2.1	2	2	6.82	1.1.1	1	1	3.41	2.1.2

Opportunity identification of entrepreneurs playing different roles in a VCH	FILE	REF	Score	Rank	FILE	REF	Score.	Rank	FILE	REF	Score	Rank	FILE	REF	Score	Rank
	A	A	A	A	B	B	B	B	C	C	C	C	D	D	D	D
• Customers introducing new input for production	1	1	3.41	1.1.3	0	0	0	-	0	0	0	-	1	1	3.41	2.1.2
• Customers proposing an idea for a new product	1	4	5.07	1.1.2	1	2	3.96	1.2.3	0	0	0	-	2	3	7.37	2.1.1
• Market research	0	0	0	-	3	5	11.33	1.2.2	0	0	0	-	0	0	0	-
• Required quality standards	1	1	3.41	1.1.3	1	1	3.41	1.2.4	0	0	0	-	2	3	7.37	2.1.1
How – Supply-side factors	2	12	12.34	2.0	13	44	61.45	2.0	0	0	0	0.0	9	47	51.68	1.0
Accessibility of key ingredient(s)	1	7	6.72	2.2	6	14	24.88	2.2	0	0	0	0.0	9	28	41.18	1.1
Advice from entrepreneur's networks	2	4	7.92	2.1	1	2	3.96	2.5	0	0	0	0.0	2	8	10.13	1.3
Entrepreneur's experience	0	0	0	-	6	8	21.56	2.3	0	0	0	0.0	5	7	18.15	1.2
Entrepreneur's passion	0	0	0	-	4	16	20.27	2.4	0	0	0	0.0	1	5	5.62	1.5
Supplier's role in opportunity identification	1	2	3.96	2.3	7	10	25.52	2.1	0	0	0	0.0	2	2	6.82	1.4
Why OI - Customer factors	2	5	8.11	1.0	13	26	49.58	2.0	0	0	0	-	6	11	22.41	3.0
Increasing customer choice	2	5	8.11	1.1	11	21	41.48	2.1	0	0	0	-	4	8	15.26	3.1
Solving customer pain points	0	0	0	-	4	6	14.3	2.2	0	0	0	-	2	3	7.15	3.2
Why OI - Financial factors	1	2	3.81	2.0	5	8	18.11	3.0	0	0	0	-	7	30	34.35	2.0
Ability to set price	0	0	0	-	1	1	3.34	3.3	0	0	0	-	2	7	9.06	2.3
Higher profit	0	0	0	-	4	5	13.82	3.1	0	0	0	-	3	3	10.01	2.2

Opportunity identification of entrepreneurs playing different roles in a VCH	FILE	REF	Score	Rank	FILE	REF	Score.	Rank	FILE	REF	Score	Rank	FILE	REF	Score	Rank
	A	A	A	A	B	B	B	B	C	C	C	C	D	D	D	D
Higher value added	1	2	3.81	2.1	2	2	6.67	3.2	0	0	0	-	7	23	31	2.1
Why OI - Operational factors	2	4	7.63	3.0	13	56	63.94	1.0	0	0	0	-	9	67	57.77	1.0
Business differentiation	0	0	0	-	8	20	32.43	1.1	0	0	0	-	7	19	29.09	1.1
Developing new market(s)	1	1	3.34	3.2	6	12	22.88	1.2	0	0	0	-	6	7	20.49	1.2
Extending shelf life	0	0	0	-	3	4	10.49	1.5	0	0	0	-	3	12	14.31	1.4
Further development opportunity	0	0	0	-	3	9	12.88	1.3	0	0	0	-	0	0	0	-
Improving efficiency of production process(es)	1	2	3.81	3.1	3	6	11.44	1.4	0	0	0	-	3	8	12.4	1.5
Internationalisation	0	0	0	-	2	8	9.54	1.6	0	0	0	-	2	11	10.98	1.6
Social responsibility	1	1	3.34	3.2	1	1	3.34	1.7	0	0	0	-	4	12	17.17	13.0
To change from an OEM to own brand	0	0	0	-	1	1	3.34	1.7	0	0	0	-	0	0	0	-

Appendix 7 Quantizing tables for Chapter 6 (Opportunity Exploitation)

Appendix 7-1 : Opportunity exploitation - source of knowledge

How do innovative entrepreneurs exploit opportunities?	Files (number of interviewees identifying a code)	References (number of times a code is mentioned in transcripts)	Total score	Rank
How - Source of knowledge	27	96	122.00	1
External sources	21	60	88.04	1.1
1) Technical expert	12	26	46.44	
2) Entrepreneur's network	10	19	37.45	
3) Customer feedback	9	16	33.19	
Internal sources	14	37	57.29	1.2
1) In-house R&D	10	22	38.85	
2) Staff	7	12	25.61	
3) Entrepreneur's knowledge	5	7	17.56	

Appendix 7-2 : Opportunity exploitation - business activities

How do innovative entrepreneurs exploit opportunities?	Files (number of interviewees identifying a code)	References (number of times a code is mentioned in transcripts)	Total score	Rank
How - Business activities	23	60	93.75	2.0
1) Brand ownership	16	30	59.73	2.1
a) Both OEM and own brand	14	22	50.28	
b) Acting as middlemen and having own brand	3	8	12.31	
c) OEM only	1	1	3.32	
2) Business expansion	12	23	45.03	2.2
3) Outsourcing	5	9	18.49	2.3
4) International market focus	1	2	3.79	2.4

Appendix 7-3 : Opportunity exploitation – organisational design

How do innovative entrepreneurs exploit opportunities?	Files (number of interviewees identifying a code)	References (number of times a code is mentioned in transcripts)	Total score	Rank
How - Organisational design	17	40	67.26	3.00
1) Diversification of business formation	6	20	26.49	3.10
a) Running different activities in different types of organisation	5	9	18.49	
b) Changing from a community enterprise to a company	3	11	13.71	
2) Leveraging resources within an existing firm	6	12	22.75	3.20
3) Establishing a new firm	6	9	21.35	3.30

Appendix 7-4 : Opportunity exploitation – other external relationships

How do innovative entrepreneurs exploit opportunities?	Files (number of interviewees identifying a code)	References (number of times a code is mentioned in transcripts)	Total score	Rank
How – Other external relationships	7	18	28.41	4.00
Social relations	6	15	24.15	4.10
Social responsibility	3	9	12.78	
Being supported by large firms	2	3	7.12	
Supporting smaller enterprises	1	3	4.26	
Supplier development	2	4	7.58	4.20

Appendix 7-5 : Reasons for entrepreneurs to exploit opportunities - evaluation

Why do innovative entrepreneurs exploit opportunities?	Files (number of interviewees identifying a code)	References (number of times a code is mentioned in transcripts)	Total score	Rank
Why – Evaluation	18	41	117.56	1.0

Why do innovative entrepreneurs exploit opportunities?	Files (number of interviewees identifying a code)	References (number of times a code is mentioned in transcripts)	Total score	Rank
Customer focused	14	25	80.32	1.1
Operational focused	9	14	48.29	1.2
a) Pilot testing ideas	5	10	30.41	
b) Internal working group	3	3	13.41	
c) Observing other businesses	1	1	4.47	
Finance focused	4	4	17.88	1.3

Appendix 7-6 : Reasons for entrepreneurs exploiting opportunities - goal setting

Why do innovative entrepreneurs exploit opportunities?	Files (number of interviewees identifying a code)	References (number of times a code is mentioned in transcripts)	Total score	Rank
Why - Goal setting	10	21	62.44	2.00
Targeting a niche market	7	12	39.35	2.10
Targeting a bigger market	4	6	21.11	2.20
Being the market leader	2	5	13.78	2.30

Appendix 8 Scoring details for opportunity exploitation of entrepreneurs owning small, medium and large businesses

Opportunity exploitation of entrepreneurs owning firms of different sizes	FILE S	REF S	Score S	Rank S	FILE M	REF M	Score M	Rank M	FILE L	REF L	Score L	Rank L
How - Business activities	18	46	72.92	2.0	2	2	6.65	1.0	3	12	14.18	4.0
Brand ownership	12	25	45.97	2.1	2	2	6.65	1.1	2	3	7.12	4.2
<ul style="list-style-type: none"> Acting as middlemen and having own brand 	3	8	12.31	2.1.2	0	0	0	-	0	0	0	-
<ul style="list-style-type: none"> Both OEM and own brand 	10	17	36.52	2.1.1	2	2	6.65	1.1.1	2	3	7.12	4.2.1
<ul style="list-style-type: none"> OEM only 	1	1	3.32	2.1.3	0	0	0	-	0	0	0	-
Business expansion	10	17	36.52	2.2	0	0	0	-	2	6	8.52	4.1
International market focus	0	0	0	-	0	0	0	-	1	2	3.79	4.3
Outsourcing	4	8	15.17	2.3	0	0	0	-	1	1	3.32	4.4
How - Organisational structure	11	28	44.51	3.0	0	0	0	-	6	12	22.75	2.0
Business formation diversity	6	20	26.49	3.1	0	0	0	-	0	0	0	-
<ul style="list-style-type: none"> Changing from a community enterprise to a company 	3	11	13.71	3.1.2	0	0	0	-	0	0	0	-
<ul style="list-style-type: none"> Running different activities under different types of organisation 	5	9	18.49	3.1.1	0	0	0	-	0	0	0	-

Opportunity exploitation of entrepreneurs owning firms of different sizes	FILE S	REF S	Score S	Rank S	FILE M	REF M	Score M	Rank M	FILE L	REF L	Score L	Rank L
Establishing a new firm	6	9	21.35	3.2	0	0	0	-	0	0	0	-
Leveraging resources within an existing firm	0	0	0	-	0	0	0	-	6	12	22.75	2.1
How - Other relationships	3	6	11.38	4.0	0	0	0	-	4	12	17.04	3.0
Social relations	3	6	11.38	4.1	0	0	0	-	3	9	12.78	3.1
Supplier development	0	0	0	-	0	0	0	-	2	4	7.58	3.2
How – Source of knowledge	19	68	86.06	1.0	1	2	3.79	2.0	7	26	32.15	1.0
External sources	17	56	74.74	1.1	1	1	3.32	2.1	3	3	9.97	1.2
• <i>Customer feedback</i>	8	15	29.87	1.1.3	1	1	3.32	2.1.1	0	0	0	-
• <i>Entrepreneur's network</i>	10	19	37.45	1.1.1	0	0	0	-	0	0	0	-
• <i>Technical expert</i>	9	23	36.46	1.1.2	0	0	0	-	3	3	9.97	1.2.1
Internal sources	6	13	23.22	1.2	1	1	3.32	2.1	7	23	30.75	1.1
• <i>Entrepreneur's knowledge</i>	4	4	13.3	1.2.1	0	0	0	-	1	3	4.26	1.1.3
• <i>In-house R&D</i>	2	5	8.05	1.2.2	1	1	3.32	2.1.1	7	16	27.48	1.1.1
• <i>Staff</i>	1	4	4.73	1.2.3	1	1	3.32	2.1.1	5	7	17.56	1.1.2
Why – Evaluation	12	29	81.06	1.0	0	0	0	-	6	12	36.5	1.0
Customer focused	8	15	47.05	1.1	0	0	0	-	6	10	33.27	1.1

Opportunity exploitation of entrepreneurs owning firms of different sizes	FILE S	REF S	Score S	Rank S	FILE M	REF M	Score M	Rank M	FILE L	REF L	Score L	Rank L
Finance focused	4	4	17.88	1.3	0	0	0	-	0	0	0	-
Operational focused	5	10	30.41	1.2	0	0	0	-	4	4	17.88	1.2
• <i>Experimenting with ideas</i>	4	9	25.94	1.2.1	0	0	0	-	1	1	4.47	1.2.2
• <i>Internal working group</i>	0	0	0	-	0	0	0	-	3	3	13.41	1.2.1
• <i>Observing other businesses</i>	1	1	4.47	1.2.2	0	0	0	-	0	0	0	-
Why - Goal setting	6	15	41.34	2.0	1	2	6.08	1.0	3	4	15.02	2.0
Firm reputation	2	5	13.78	2.2	0	0	0	-	0	0	0	-
Targeting a bigger market	0	0	0	-	1	2	6.08	1.1	3	4	15.02	2.1
Targeting a niche market	5	10	30.41	2.1	0	0	0	-	2	2	8.94	2.2

Appendix 9 Scoring details for opportunity exploitation between entrepreneurs in different sub-VCHs in a food VCH

Opportunity exploitation of entrepreneurs operating in different VCHs	FILE Rice	REF Rice	Score Rice	Rank Rice	FILE Fruit	REF Fruit	Score Fruit	Rank Fruit	FILE Other variety of food	REF Other variety of food	Score Other variety of food	Rank Other variety of food
How - Business activities	7	17	27.94	2.0	14	39	58.22	1.0	2	4	7.58	4.0
Brand ownership	3	5	10.91	2.2	12	24	45.5	1.1	1	1	3.32	4.2
<ul style="list-style-type: none"> Acting as middleman and having own brand 	0	0	0	-	3	8	12.31	1.1.2	0	0	0	-
<ul style="list-style-type: none"> Both OEM and own brand 	3	5	10.91	2.2.1	10	16	36.05	1.1.1	1	1	3.32	4.2.1
<ul style="list-style-type: none"> OEM only 	0	0	0	-	1	1	3.32	1.1.3	0	0	0	-
Business expansion	5	11	19.43	2.1	6	9	21.35	1.2	1	3	4.26	4.1
International market focus	0	0	0	-	1	2	3.79	1.4	0	0	0	-
Outsourcing	1	1	3.32	2.3	4	8	15.17	1.3	0	0	0	-
How - Organisational structure	6	21	26.96	3.0	6	12	22.75	3.0	5	7	17.56	2.0
Business formation diversification	3	16	16.05	3.1	3	4	10.44	3.1	0	0	0	-
<ul style="list-style-type: none"> Changing from a community enterprise to a company 	2	10	10.39	3.1.2	1	1	3.32	3.1.2	0	0	0	-
<ul style="list-style-type: none"> Running different activities under different types of organisation 	3	6	11.38	3.1.1	2	3	7.12	3.1.1	0	0	0	-
Establishing a new firm	4	6	14.23	3.2	2	3	7.12	3.2	0	0	0	-

Opportunity exploitation of entrepreneurs operating in different VCHs	FILE Rice	REF Rice	Score Rice	Rank Rice	FILE Fruit	REF Fruit	Score Fruit	Rank Fruit	FILE Other variety of food	REF Other variety of food	Score Other variety of food	Rank Other variety of food
Leveraging resources within an existing firm	0	0	0	-	1	5	5.19	3.3	5	7	17.56	2.1
How - Other relationships	1	1	3.32	4.0	3	6	11.38	4.0	3	11	13.71	3.0
Social relations	1	1	3.32	4.1	2	5	8.05	4.1	3	9	12.78	3.1
Supplier development	0	0	0	-	1	1	3.32	4.2	1	3	4.26	3.2
How - Source of knowledge	10	44	49.13	1.0	12	36	51.11	2.0	5	16	21.76	1.0
External sources	9	33	41.13	1.1	10	25	40.25	2.1	2	2	6.65	1.2
• <i>Customer feedback</i>	6	12	22.75	1.1.1	3	4	10.44	2.1.3	0	0	0	-
• <i>Entrepreneur's network</i>	5	10	18.96	1.1.2	5	9	18.49	2.1.2	0	0	0	-
• <i>Technical experts</i>	3	12	14.18	1.1.3	7	12	25.61	2.1.1	2	2	6.65	1.2.1
Internal sources	4	11	16.57	1.2	5	12	19.89	2.2	5	14	20.83	1.1
• <i>Entrepreneur's knowledge</i>	2	2	6.65	1.2.2	3	5	10.91	2.2.2	0	0	0	-
• <i>In-house R&D</i>	2	5	8.05	1.2.1	3	8	12.31	2.2.1	5	9	18.49	1.1.1
• <i>Staff</i>	1	4	4.73	1.2.3	2	2	6.65	2.2.3	4	6	14.23	1.1.2
Why – Evaluation	3	9	23.09	2.0	11	24	70.14	1.0	4	8	24.33	1.0
Customer focused	2	6	15.39	2.1	8	13	43.82	1.1	4	6	21.11	1.1
Finance focused	0	0	0	-	4	4	17.88	1.3	0	0	0	-

Opportunity exploitation of entrepreneurs operating in different VCHs	FILE Rice	REF Rice	Score Rice	Rank Rice	FILE Fruit	REF Fruit	Score Fruit	Rank Fruit	FILE Other variety of food	REF Other variety of food	Score Other variety of food	Rank Other variety of food
Operational focused	2	3	10.55	2.2	4	8	24.33	1.2	3	3	13.41	1.2
• <i>Experimenting with ideas</i>	1	2	6.08	2.2.1	3	7	19.86	1.2.1	1	1	4.47	1.2.2
• <i>Internal working group</i>	0	0	0	-	1	1	4.47	1.2.2	2	2	8.94	1.2.1
• <i>Observing other businesses</i>	1	1	4.47	2.2.2	0	0	0	-	0	0	0	-
Why - Goal setting	5	11	32.03	1.0	3	8	21.47	2.0	2	2	8.94	2.0
Firm reputation	2	5	13.78	1.2	0	0	0	-	0	0	0	-
Targeting a bigger market	0	0	0	-	2	4	12.17	2.2	2	2	8.94	2.1
Targeting a niche market	4	6	21.11	1.1	2	5	13.78	2.1	1	1	4.47	2.2

Appendix 10 Scoring details for opportunity exploitation of entrepreneurs playing different roles in a food VCH

Opportunity exploitation of entrepreneurs playing different roles in a VCH	FILE A	REF A	Score A	Rank A	FILE B	REF B	Score B	Rank B	FILE C	REF C	Score C	Rank C	FILE D	REF D	Score D	Rank D
How - Business activities	2	2	6.65	2	12	30	48.30	2	2	6	8.52	1	7	22	30.28	2
Brand ownership	1	1	3.32	2.1	9	15	32.72	2.1	2	6	8.52	1.1	4	8	15.17	2.2
<ul style="list-style-type: none"> Acting as middleman and having own brand 	0	0	0.00	-	1	3	4.26	2.1.2	2	5	8.05	1.1.1	0	0	0.00	-
<ul style="list-style-type: none"> Both OEM and own brand 	0	0	0.00	-	9	13	31.79	2.1.1	1	1	3.32	1.1.2	4	8	15.17	2.2.1
<ul style="list-style-type: none"> OEM only 	1	1	3.32	2.1.1	0	0	0.00	-	0	0	0.00	-	0	0	0.00	-
Business expansion	1	1	3.32	2.1	3	8	12.31	2.3	1	1	3.32	1.2	7	13	26.08	2.1
International market focus	0	0	0.00	-	1	2	3.79	2.4	0	0	0.00	-	0	0	0.00	-
Outsourcing	0	0	0.00	-	4	8	15.17	2.2	0	0	0.00	-	1	1	3.32	2.3
How - Organisational structure	1	1	3.32	3	10	20	37.92	3	0	0	0.00	-	6	19	26.02	3
Business formation diversity	0	0	0.00	-	1	2	3.79	3.3	0	0	0.00	-	5	18	22.70	3.1
<ul style="list-style-type: none"> Changing from a community enterprise to a company 	0	0	0.00	-	0	0	0.00	-	0	0	0.00	-	3	11	13.71	3.1.2
<ul style="list-style-type: none"> Running different activities under different types of organisation 	0	0	0.00	-	1	2	3.79	3.3.1	0	0	0.00	-	4	7	14.70	3.1.1
Establishing a new firm	1	1	3.32	3.1	3	6	11.38	3.2	0	0	0.00	-	2	2	6.65	3.2

Opportunity exploitation of entrepreneurs playing different roles in a VCH	FILE A	REF A	Score A	Rank A	FILE B	REF B	Score B	Rank B	FILE C	REF C	Score C	Rank C	FILE D	REF D	Score D	Rank D
Leveraging resources within an existing firm	0	0	0.00	-	6	12	22.75	3.1	0	0	0.00	-	0	0	0.00	-
How - Other relationships	0	0	0.00	-	5	15	21.30	4	0	0	0.00	-	2	3	7.12	4
Social relations	0	0	0.00	-	4	12	17.04	4.1	0	0	0.00	-	2	3	7.12	4.1
Supplier development	0	0	0.00	-	2	4	7.58	4.2	0	0	0.00	-	0	0	0.00	-
How - Sources of knowledge	3	5	10.91	1	15	61	71.36	1	1	1	3.32	2	8	29	36.41	1
External sources	3	5	10.91	1.1	10	28	41.66	1.2	0	0	0.00	-	8	27	35.47	1.1
Internal sources	0	0	0.00	-	11	33	46.85	1.1	1	1	3.32	2.1	2	3	7.12	1.2
Why - Evaluation	1	1	4.47	1	10	24	67.28	1	1	1	4.47	1	6	15	41.34	1
Customer focused	0	0	0.00	-	9	16	51.52	1.1	0	0	0.00	-	5	9	28.80	1.1
Finance focused	0	0	0.00	-	2	2	8.94	1.3	1	1	4.47	1.1	1	1	4.47	1.3
Operational focused	1	1	4.47	1.1	6	8	30.05	1.2	0	0	0.00	-	2	5	13.78	1.2
Why - Goal setting	0	0	0.00	-	8	17	50.28	2	0	0	0.00	-	2	4	12.17	2
Firm reputation	0	0	0.00	-	1	3	7.70	2.3	0	0	0.00	-	1	2	6.08	2.1
Targeting a bigger market	0	0	0.00	-	4	6	21.11	2.2	0	0	0.00	-	0	0	0.00	-
Targeting a niche market	0	0	0.00	-	6	10	33.27	2.1	0	0	0.00	-	1	2	6.08	2.1

Appendix 11 Sample of interview transcription (translated into English)

Interview with Entrepreneur T.W.

Date: 27 October 2016 Duration: 1 hour

The conversation started by introduction about the researcher and the research.

Interviewer: Would you please tell me about the background of your business? I have read from the newspaper that you inherit this business from your family. So, is this Thai dessert business topped up from your family business? Would you walk me through these businesses?

Interviewee: Yaa, This Thai dessert business is topped up from my family business, rice business.

Interviewer: I see.

Interviewee: At the beginning, my father run rice business for many years. He started from a very small shop, which was not registered as a company. It was just a small shop to sell rice. Our warehouse was small. His customers were in only 3 districts; Muang district, Sri Racha district and Panutnikom district. He did business for more than 30 years without any registration. He didn't have a registered company name, nor logo. It was like he only sold his rice to his loyal customers. His business kept running like this for many years. When I was young, as a student, I didn't interest in my family business. But after graduation, I thought that I was getting older. I thought that I should be more mature. I wanted to have money. I desired for success. Some of my friends got jobs after graduation. They earned money. For me, I got bad performance in school. My grade was quite low. How did I get a job? What I should do to earn money? So, I turned to think about my family business. I saw my parents selling rice for many years. I questioned to myself why I have never interested in it. I never helped my parents run this business. The business was still like when I was a child. It had never been grown up. It had no expansion. I then stepped into this family business. I had an idea to expand our rice business. I wanted to extend our targets. I wanted my rice to be sold across the country. I wanted to export my rice. I wanted to see my rice to be sold everywhere. But why did our business keep static? It had no development. That's why I come back and help my parents run this business. At first, I was worried. I was worried that my parents might consider me as a loser who has no place to go, but return home. I was really worried about my parents' perception toward myself. I told them I would make our business more systematic. My parents run business traditionally. They were like old-fashion entrepreneurs. They did everything by themselves. They collected money. They checked stocks. They operated the shop. They sold the products. They run the shop. They had only 2 staff working with them in the shop. There were only 10 workers in the warehouse. When I stepped in, I aimed to sell our rice everywhere. I started running marketing campaigns. I renewed our brand image. The company had been registered 7 years ago. I have helped my parents for about 12 years.

Interviewer: You mean (the name of his core family business) has been registered as a company 7 years ago?

Interviewee: Yes.

Interviewer: The business was actually started more than 30 years ago but was registered 7-8 years ago.

Interviewee: Yes. About 7 years ago as we have expanded our business. Once we registered the company, we expanded our factory. We built a new factory as we started to have some development. I did it for two years. Our business was grown up. I started doing marketing. Now, our rice is sold everywhere in Thailand. Every sub-district, every village has our rice. We have been in rice business for many years. We know how to select good rice. We know how to develop the brand. We know how to do marketing. But selling our core product is like selling construction materials. It is OK. We might be a bit better that we have our own brand. However, at the end of the day, people will perceive rice is just rice. There is no value added to the rice. That's would be find, if it's can be proved that eating rice can make men more handsome. But in reality, it's impossible. Rice is delicious. It's fine. What about the value. I had the aim to extend our product line. So, I thought about adding value to our core product. I wanted to initiate something new. No one has done it before. It must be something that is not easy to copy. The other or Chinese people must not be able to imitate it in one day. If it is too easy to copy, it's not sustainable. That's

what my idea. When I was young, I grew up outside Bangkok, Panat Nikom district. I loved to eat some confectionery or snacks. My parents don't want me to have them much. They were afraid of monosodium glutamate and preservatives. They wanted me to have Thai dessert instead. Sometimes they made it themselves, sometimes they bought from the market. At least, we knew that Thai dessert made from natural ingredients. So, they were more confident in Thai desserts. Therefore, I grew up with Thai dessert. I carefully thought about this. At that time, I realised that no one has seriously created the brand of Thai dessert. No one has created innovation for Thai dessert. It's possible that someone might do it before, it was not well known in the market. On the other hand, we have marketing knowledge. We have been working in marketing field for years. We have built the strong brand of "(the brand of his core family business)" making it famous. I'm quite confident that I can do it again. I can create its reputation. I thought if I do it, I could be the first entrepreneur who did it. I would draw a lot of interest from the public. So, I have started (the brand of his product). It's also from my personal preference that I grew up with Thai dessert. These are the reason why I built this business.

- Interviewer: Is the brand (the brand of his product) subsidiary of ...
- Interviewee: Yes. (the name of his family business). Here is my business card. I'm also the president of YEC (Young Entrepreneur Chamber: YEC) (the name of a province) province.
- Interviewer: Young Entrepreneur club?
- Interviewee: Yes. That's the story of doing this business.
- Interviewer: How many employees you have?
- Interviewee: You mean ...
- Interviewer: I mean the employees of your rice and (the brand of his product)
- Interviewee: At the beginning, I had around 10 employees. I have more than 600 employees now.
- Interviewer: More than 600 employees. Are they for (the name of his family business) only? Is it included the employees of (the name of his dessert company)?
- Interviewee: More than 600 staff are for both rice and Thai dessert companies. Actually, I have ... we have other ... we have more companies for property business. We also run the service apartment.
- Interviewer: So, these 600 employees are the staff you have in total.
- Interviewee: Yes. About 600 employees for all of our family businesses.
- Interviewee: So, now you have run food businesses and property businesses.
- Interviewee: Yes yes.
- Interviewer: Do you have other business in other sectors?
- Interviewee: Yes. I have rice and dessert as what I told you. To be more specific, we have rice business, specifically the grain. We have Thai dessert business, which is the processed food operating under (the name of his family business). We have (the name of his property company) to run the hotel, apartment and service apartment business. And we have (the name of his supply chain management company) to operate logistics for rice and Thai dessert business.
- Interviewer: So, you have a company to look after another company.
- Interviewee: Yes. To take care of our own companies. Apart from that, we also have jewellery business taking care by my younger sister. These are our core businesses. About 5-6 businesses.
- Interviewer: Have you got any company operating oversea?
- Interviewee: For international related business, we do export.
- Interviewer: You are the exporter.
- Interviewee: Yes
- Interviewer: You don't sell you products to other exporters, but you are the exporter by yourself.
- Interviewee: We do both. We sell our products to the exporters. And we export our products to the distributor abroad directly, such as France and UK. We do both. If anyone wants our products, we are willing to sell. For example, in China, we directly contact our customers in China about 4 -5 companies.
- Interviewer: Ya. I used to try our products when I'm in the UK.
- Interviewee: Yes. Our distributor in UK, they distribute our products across UK.
- Interviewer: The city I live in is quite far from London. We have to find Thai food from the Chinese shop. There's always the promotion for some Thai food, Thai students love it.
- Interviewee: Apart from Kaw Tom Mud (sticky rice with coconut cream), we also produce some snacks such as banana chips, taro chips. We have variety of products. We have more products. We continue developing our products. From this one, we develop to ... actually this should be kept in the fridge. The others does not need to be kept in fridge.
- Interviewer: This one?

Interviewee: Yes. But this one must be kept in the fridge. For this one, its shelf life is one year. This is our innovation, we develop it. For this one (he pointed at another product), its shelf life is about one or two months. It has been in the fridge. Consumers have to microwave before eating. They are different.

Interviewer: Which one do you export?

Interviewee: That one. This one, its shelf life is too short. It is put in the fridge in the modern trade such as Tesco Lotus. Then we develop another one.

Interviewer: I used to try this one in England.

Interviewee: We always develop. Actually, we have deep fried peanut as well. We keep expanding our product lines. We always increase our SKU (stock keeping unit:SKU). We will not stop at the Thai dessert or snacks. We will top up our idea, expand our products to some ready-to-eat food i.e. ready-to-eat rice and sticky rice and so on.

Interviewer: Is the ready-to-eat rice your future plan? Or you have started it already?

Interviewee: We've started it.

Interviewer: Which brand ?

Interviewee: (the brand of his product) as well. Actually, we also have produced for our own brand and OEM. Recently, Makro and some foreign companies have asked us to be their OEM. Currently, majority of our products, around 90% of the production are for our own brand, (the brand of his product).

Interviewer: Which product is your core product in terms of sale volume?

Interviewee: In term of sale volume, it is our snacks. The snacks can be sold more. Most of this products (sticky rice with coconut cream) are exported. This one (chilled sticky rice with coconut cream) is mainly for domestic market. They are about 40/60, because the snacks have more variety of products. I've compared just the deep fried snacks and sticky rice with coconut cream. About 40/60 or 50/50.

Interviewer: Your steam sticky rice with coconut cream has many filling?

Interviewee: Yes. We thought if we produce only the traditional filling - banana filling, it would be too common. So, we started doing durian, mango, longan, peanut and taro filling. There are six filling in total.

Interviewer: Between the sticky rice and snacks, which one come first?

Interviewee: Literally, I started the steam sticky rice earlier. But the snacks can be launched first.

Interviewer: Is it because the snack is easier to produce?

Interviewee: It is easier. We even started working on this product before company registration. I started from my initial idea that I wanted to sell this Thai dessert in the convenience store. I wished Kaw Tom mud to be accessed by people easily. I wished the consumers will find Kaw Tom mud easily. I wish they will buy Thai dessert easily. I spent about 2 years in R&D until we meet our satisfaction. Then we started the production and launched it in the market.

Interviewer: Did you have any research institutes or agencies to help you develop this product?

Interviewee: Since we used to sell only the grain rice, we have never done any processed food. We really had no idea about where to start. I went to consult with some universities. At that time we had nothing, so we went to ask for their help. They could not give us any help because we did not have anything. We only had the ambition to do. Also, they had been asked for help from many entrepreneurs, so we could not get their help at that time. I could not wait. I then started by myself, doing it on our own.

Interviewer: You mean you trialled the process or create your own recipes or what?

Interviewer: At the beginning, I made the sticky rice with coconut cream packed in the banana leaf, but it was failed as its shelf life was too short. We set our requirement that its shelf life should be about 6 months to one year. We then recruited someone with R&D experience to help us. We could not find anyone at the first time.

Interviewer: You tried to hire someone to be your employee?

Interviewee: I would hire he/she to be our employee. We had problem in recruiting experienced R&D people. No one wanted to join us. Because our family company is famous for selling grain rice. They might question what they could do in the rice trader company. The son of this company just wanted to do something new, what about their job security? They might not confidence in our business. They would prefer work with the company which is already well established, so they would have more valuable jobs. But here with me, I have nothing. They might not want to start working from bottom with me. We did not have a clear direction for this business yet. Therefore, high experienced specialist did not want to work with us. Luckily, I was able to recruit a freshly graduate. He has no working experience, but has high energy to work. I was OK with him. At least, he graduated in food science. He might be able to guide me. He has connection with his professor who

can give us some guidance. His professor also advised us about the machine to be used for extending the shelf life of our products. We started to learn and had clearer direction on what we should do. We started from that point.

Interviewer: Who are your main customers?

Interviewee: Customers?

Interviewer: Yes

Interviewee: You mean the steam sticky rice?

Interviewer: Yes, the steam sticky rice with coconut cream.

Interviewee: For this sticky rice, the main customers are foreign customers, I mean the people who live abroad, in Asian countries, or maybe Thai people who want to have Thai dessert, but it is not convenience to go to the local market. Our products can serve their needs. It can be kept very easy. You can bring it everywhere you go.

Interviewer: So, they are Thai people who live abroad.

Interviewee: Asian people

Interviewer: They are Asian people. Do they have the same dessert as ours?

Interviewee: People with other nationalities also eat our desserts. Especially, people from AEC region- Thailand, Laos, Myanmar and Vietnam. They are familiar with this steam sticky rice with coconut cream. We all eat sticky rice with coconut cream. Even the Chinese people, their food is quite close to ours. So, they know Thai food quite well. Besides, some foreigners who are familiar with Thai products, Thai food, or foreigners who used to travel to Thailand. In the first place, we will focus on ASEAN market. For domestic market, I will focus on sportspersons, marathon runner, cycling athletes etc. My products have been consumed by the Thai sailing national team. They have to eat on the boat out of the shore. They have to spend about 6-7 hours on the sailing boat. They used to bring some sandwiches, but sandwiches are not good when they are wet. So, these sportspersons really love our products. These cycling athletes, trekkers, golfers are our target markets we want to focus. Additionally, people who want to donate food for charity, they are our focus as well. The foreigners in Thailand, who don't know where to find Kaw Tommud. The supermarket shopper whom local market is not their lifestyle, but they want to eat Kaw Tommud. These people are also our targets.

Interviewer: Your target markets are Asian people who live abroad. In which country?

Interviewee: Asian people are my starting point. Some of my consumers are the local people in each country as well, for example white people and African people. In Israel, there are Thai and Asian people there. Even the local people of Israel and the British as well.

Interviewer: Why do you firstly focus on Asian people?

Interviewee: I think they've known these desserts. They are more familiar with this food than the European people or other foreigners. For people in some countries, they have never tried the sticky rice. They don't even know it. Once they try Thai sticky rice, maybe sticky rice with Mango and coconut milk, they will like it. It is just because they didn't know what the sticky rice is. So, focusing on the market that people have already known the sticky rice is an easier way to reach the consumers. Less explanation is needed. Therefore, I focus on that.

Interviewer: What are the strong points of the domestic market compare to international market? I mean for your Kaw Tommud market. What are advantage of each market?

Interviewee: Pardon

Interviewer: What make this market distinctive? Why are you interested in Asian people who live abroad?

Interviewee: In fact, Kaw Tommud has already been sold in Asian market. It is put in the fridge. It's the frozen food. In foreign markets, it is a kind of frozen food. What make my products different is For the frozen food, sometimes it is frozen in the ice, its appearance is not good. You won't wanna touch it. You have to microwave for 3-4 minutes before eating. The most importance is that after buying it, you have to keep it in the fridge. You cannot bring it with you. You have to eat it right after microwave. If you touch it, it dirtys your hands. To eat it, you have to tear the banana leaf dirtying your hand nails. The foreigners may find it difficult to eat it. They have to eat at home. Especially, women who have long fashioned nails will not want to have it because they are worried about their hands. My products have been designed to be convenience to eat everywhere. You just tear and press its pack, you can eat it easily without dirtying your hands. Just throw its plastic pack once finish. It can be microwaved if you like. Only tear its pack and put it in the microwave. Then it will be ready for you to eat. These are our selling points differentiate our products

from the others who sell Thai dessert in the traditional package. My products can be kept for one year outside the fridge. Assuming you are abroad, you like camping, you can bring our products with you. If you go camping, there will be no electricity, so you cannot freeze it. The frozen food will be rotten. It will melt. The ice will become liquid. My products are consumer friendly. Suitable for new generation people. You can bring it without, in your pocket or female purse without dirty.

Interviewer: It is so convenience for your outdoor lifestyle, people who love travelling.

Interviewee: Yes yes. It is what make my products different from the traditional Kaw Tommud selling in the local markets.

Interviewer: Ok. Do you think you have any competitors?

Interviewee: Competitors? Umm.. I don't think I have any. Even the traditional Kaw Tommud wrapping in the banana leaf is not my competitors. Because my price is a lot higher. I want to focus on what the traditional product cannot offer to the consumers. I will emphasise on that point – its benefits or advantages. So, I don't see any direct competitor. Maybe the Thai dessert from other producers. Some consumers may want sticky rice with egg custard. Some people may want sticky rice with coconut milk etc. Literally for the Kaw Tommud, I don't think I have any direct competitors. It could be other types of Thai dessert currently launching on the shelf in supermarkets.

Interviewer: It means that there is no other producer using the same technology as yours?

Interviewee: I haven't seen anyone. It's possible that there might be someone producing the same things. But their marketing campaign might not be famous as we do. We seriously invest in production and marketing. We continuously promote our product. We are growing continuously. Our business is truly growing.

Interviewer: How long have this product been launched in the market?

Interviewee: About 2 years. I keep developing my products indeed. Some Thai people may wonder about this product (Kaw Tommud) whether it can be kept at the room temperature for one year without being rotten. Is there any preservative? They may doubt resulting in less confidence in our product. I therefore produce this chilled product. The modern Thai people are familiar with frozen food which is easily found in the 7-11 shops (convenience stores). I then developed this (Kaw tommud) to be the chilled dessert. This chilled Kaw Tommud is more popular than this one. This is for Thai market. Because Thai consumers feel that it is fresh. They are more confident and familiar with the chilled product. It is like you buy the traditional Kaw Tommud and keep it in the fridge. Just microwave it when you want to eat. We only put it in the modern package make it more convenience to eat.

Interviewer: Do you set any strategies for your business?

Interviewee: In fact, my slogan is that I will promote Thai dessert to be the world dessert. I want to make (the brand of his product) to be on the top of people's minds when thinking about Thai dessert or Thai food culture. I mean both Thai people and foreigners. You get it right? Imagine that people around the world talking about Thai dessert. (the brand of his product) will be the first top brand they are thinking of. It is like when we talk about chocolate, people know M&M, or Ferrero Rocher. I aim to be like that. People should be wowed with Thai dessert. Think of Thai food, think of (the brand of his product).

Interviewer: The foreign travellers should go back home with (the brand of his product).

Interviewee: They must come and buy (the brand of his product) home. At least, they have to know that (the brand of his product) is the top brand for Thai dessert. I emphasize on the Thainess, especially Thai eating culture.

Interviewer: In order to promote (the brand of this product) to be the world dessert, have you got any plans or projects to serve this goal?

Interviewee: (He left the conversation to answer a phone call) Your question again, please.

Interviewer: Have you got any plan to reach your goal of being the world dessert?

Interviewee: Absolutely, if we wish to be the world dessert, we have to take our products to the world market. I have brought my products to attend trade fair in many countries. For example, I've just come back from France. We have plan to attend some international trade fairs every year. Currently, we exported our product to more than 20 countries around the world. We start establishing our markets. We keep finding new customers. We try to attend many trade fairs as much as we can. Additionally, the standard of our products is able to meet the requirement of many countries around the world.

Interviewer: You've just told that you have exported to about 20 countries. Which country is main market?

Interviewee: Umm China. Probably, they are at the average. China, USA, UK and EU. All of them. The figures are quite high. Israel and Australia as well.

Interviewer: But China is the highest one?

Interviewee: China is the main proportion of our sales. Also, Singapore, Malaysia and so on. Many countries. More than 20 countries.

Interviewer: Why are Chinese people significantly interested in your products?

Interviewee: I think... because the lifestyle of Chinese and Thai people is quite similar, like food, or our national relation. Chinese tourists are very welcome to come to Thailand. They are familiar with Thai and ASEAN products. Their food is quite similar to ours. China is an enormous market. Very large number of populations. Number of populations in one province is higher than the overall number of Thailand. Therefore, I see an opportunity for us to play in this market. Now I have around 4-5 agencies there. We have carefully started doing international marketing for about a year. And they are now growing, i.e. our US market growth is very satisfied.

Interviewer: What are your advantages in this dessert business?

Interviewee: I think ... I'm the first company which take it seriously. I do marketing. I think what I've done is hard to imitate by the others. It is hard to copy. I'm confident in my products that ... they are interesting. They are wanted by customers in the market. It might not be 100% of the whole market. I mean there are some people in the markets who want our products.

Interviewer: It is the trend that modern people love to eat conveniently. They also want good quality food with standards.

Interviewee: Yes. Today, I want to do business which is able to meet consumers' need in the future. As I told you, we are distinctive because we can serve the need of the future. It's not easy to copy our products. This makes us distinctive. It helps us to grow.

Interviewer: It is difficult to copy.

Interviewee: Yes. Moreover, our marketing, I think our marketing plan is strong and continual. As a result, (the brand of his product) is a well-known brand now.

Interviewer: You've just told me that you have strong continual marketing plan. Did you mean you aim to be the world dessert at the first day of running this business?

Interviewee: At the very first day that I decided to start this business, I saw a gap in the market. I saw the opportunity. No one has ever done this before. In case there might be someone has already done it, but their marketing is not strong like mine. So, I thought there is a gap. I'm able to achieve it, if I'm the first person to do it. And I'm the first one.

Interviewer: Why did you choose steam sticky rice with coconut cream? Who don't other kind of Thai dessert i.e. egg custard or something else?

Interviewee: Kaw Tommud is the dessert my mother loves to make. (the brand of his product) is the name of my mother. It is our family's favourite Thai dessert. My mother has never made it for sell. She only made it for our family members. She made small quantity, only 5-10 pieces. Sometimes she made it for giving to our relatives or our neighbours. Our family love it. But we have never sold it. Additionally, I'm currently in rice trading business. You know this, right? Kaw Kai Jae, our business. The main ingredient – sticky rice is the product we currently sell. We know it well. We specialize in rice. Our selection skill is better than the others. We have good source for good ingredients. So, I think I should start with Kaw Tommud. I have seen someone produce sticky rice with egg custard. Kaw Tommud is like ... it is about choosing the right product. If you choose the right one, if it clicks, the media will interest in you. It serves the needs. Only if you able to present it to the market. That is what we choose. Overall, there are several factors. First, it has never done by the others. When I do it, it can draw people's interest. Second, we are the specialist in the main ingredients. And the third, it is my favourite. I like to eat it. I'm happy to eat it. So, I know how the delicious Kaw Tommud should be. I would love to make it.

Interviewer: Yaa. I also realized this when I read about your information. It should be because you have the resources. I mean you have the main ingredient – rice. So, this business is the extension of the core business. As you are the specialist in rice trading, so no one can lie to you about the quality of rice. Actually, it can be the strength of your business that you are the specialist in this ingredient.

Interviewee: Yes Yes. Exactly, this point is very important. It's important for the quality control because the sticky rice is almost 50% of the product.

Interviewer: Ya. I see. Sticky rice is very important for Kaw Tommud.

Interviewee: Yes Yes. That's why we choose to produce Kaw Tommud.

Interviewer: What are the key resources for your business? Human resource or your management skill, or funding? What do you think?

Interviewee: Umm ... I think everything should go together. Only the management cannot bring business to success. We have good staff. As I told you, it is not possible to innovate without funding. There are many cases that good innovative products fail. You may built it, but it does not mean that it will be sold on the first day. It takes time. It needs funding. So I think everything altogether including interesting products. This is my point of view.

Interviewer: How about the sales volume? Is it increased continuously?
Interviewee: It keeps growing continuously, hundreds percent. This year is the second year. Our growth is about 200%. Next year we plan to expand our customer base and distribution channel. I could say we almost get 100%. We also increase the SKU to stimulate our growth.

Interviewer: How about the profit? Is it increased following the volume of sale?
Interviewee: Yes. It follows the increment of sale volume.

Interviewer: What do you think about the processed-food industry, snack and Thai dessert? Is innovation play significant roles? What are they?
Interviewee: I think innovation is important for food industry. Because people's lifestyle are changing. In the past, people cooked their own rice. They made their own food. Nowadays, this lifestyle has changed. Even the behaviour of eating dessert, it has also changed. Some people used to drive for 10 km. or 3 hours to buy good products. There might be some people still doing this. But this behaviour has been declined recently. People prefer not to put much effort to buy food. I think...innovation helps us to meet customers' needs. It facilitates people's life. Innovation can increase sales volume and makes change to our lifestyle. This is my opinions. It's so crucial. Assuming that I can sell much grain rice today, but what about the future if people will not cook anymore. In the future they may prefer to buy ready-to-eat food from the convenience stores, or maybe there will be more and more ready-to-eat food producer. Whom should I sell my grain rice to? I have to eat them by myself.

Interviewer: Because no one want to cook.
Interviewee: Yes. Because people will not cook rice. If you don't change, if you keep doing the same thing, your business will fail.

Interviewer: We have just talked about the technology for developing your products. You hire staff to help you. How many staff you employ to help in R&D?
Interviewee: In the beginning, I have one staff.
Interviewer: There were only 2, you and a staff working together.
Interviewee: Me and my wife. So, three of us working together. That was the first phase. Later, I employed another assistant. So, we have 4 people. That was how we start. I slightly add staff. I increased number of staff as we started our production line.

Interviewer: Where did you get these technology and machines? Do you have someone giving advices? Do you search for them on your own?
Interviewee: My freshly graduated staff. This thing has to be dealt by experience person.... Umm at least, my new staff he graduated from this field. He knows about this technology. He knows machines using in food preservation like this. Therefore, we got it. He just graduated from the university. He has connection with the university professor. There are machines in the institute. At an early stage, we borrowed the university's machine to do Laboratory tests for our products. Sometimes we asked the machine seller helping us to test. Sometimes we borrowed, sometimes we rent. If it is the machine we use quite often, we then buy it. We gradually add new machines.

Interviewer: Where did these technology and machines come from?
Interviewee: They are from foreign and Thailand. Everywhere. It depends. Japan, Germany or even Thailand. Sometimes we may find these machines produced in Thailand.

Interviewer: In your opinion, what size is your business now?
Interviewee: Ohh I think it should.. You mean the dessert business, right?
Interviewer: The Thai dessert one.
Interviewer: Size? What do you mean?
Interviewer: The size of your business.
Interviewee: I think mine is a small enterprise. We are SME. We have a room to grow.
Interviewer: For rice trading business, you are one of the big firms.
Interviewee: The rice trading business, we earn 2,000 million baht each year. My brand, I believe that it's in the top 3 in Thailand in terms of sales volume. But for the dessert business, we have just started. We are quite small. We believe that we have high potential to grow.

Interviewer: Yaa. It is the small firm which is closely linked to the giant in this rice industry.
Interviewee: Yes

Interviewer: What are the advantages or disadvantages of being a small firm?

Interviewee: The business size of my dessert firm, right?

Interviewer: The size of your dessert firm.

Interviewee: I think it is the challenge as it is something new for us. It is an exciting challenge that we can produce whatever we want. The rice trading is just about processing and selling the grain rice. But this new business provides a lot more opportunity for us to product variety of products. Snack has no limit. It is cumulative. We can differentiate the products continuously. So, I think this is the challenge. Probably, it has brighter future than grain rice, in my point of view.

Interviewer: You think you have more opportunity to play with it comparing to selling grain rice.

Interviewee: Yes yes. I can keep expanding the SKU. It is not necessary to stick with the Kaw Tom mud. I have unlimited opportunities.

Interviewer: It is more flexible to try new products if you are the small firm.

Interviewee: Yes Yes.

Interviewer: Is this one of the reasons why you separate the dessert firm from your rice business? Or what are the reasons?

Interviewee: Because the human resources are not related to rice business. Ok. They might have some relation at some points. But I've separate them because they are different. Moreover, it's more flexible in managing the business.

Interviewer: Are you any differences or similarities between group of employees working for your rice trading firm and dessert firm? Such as old and young people, or white collar and blue-collar workers.

Interviewee: Some of them are similar, while the other are different. I try to balance both new and old generation people. The people working in my dessert firm seem to be the younger people. The required knowledge tends to be about food science. While, for the rice trading firm, we emphasize on marketing.

Interviewer: As for your case, you've already got a rice business. You've introduced innovation to your business. You then established processed food firm. Could you tell me about how innovation help to you identify new business opportunity?

Interviewee: Many. I have new customers, new customer bases. Some customers have never bought my rice before. But after trying my dessert, they've turned to buy the rice from me. Ohh like I said, the dessert business has no limit. Its opportunities are wider than rice. Opportunity for the rice is so limited. It is so small. I mean rice seller can only sell rice. It is like the dessert provide lots of wider opportunity. People around the world eat dessert. The dessert can go through various channels. And... as I told you, I will not stop at the dessert, but I will aim for other types of Thai food. It has created lots of opportunities and value added to our products.

Interviewer: What about selling rice and selling dessert to foreign consumers? What is the difference of selling these products?

Interviewee: It is a lot easier to sell dessert to the foreign consumers. As I told you that rice .. people think that it is just the rice. At the end, their most concern is about price. They will ask why I sell more expensive rice comparing to Vietnam rice? Why is my rice cheaper than another seller? Why is it more expensive than that seller? The buyer can easily change to buy rice from the others. The dessert business is different, the price is not the most important issue but the taste, preference, satisfaction. Even though the price is higher than another, but the consumers may prefer to buy mine because they love the taste of my products. They like my brand. My products are unique. On one else produces the same things. It is very easy for customers to make decisions to try new products. At least they will want to try first and then they buy it. These are the different story of selling rice and dessert. I can sell dessert a lot easier than rice. I try to.... The more I innovate, the more famous of my brand amongst the media in Thailand. .. the foreigner as well. It absolutely brings many opportunities to us.

Interviewer: Is it because teaching them to eat dessert is easier than teaching them to eat rice? Dessert is not the main course. People have it for teatime.

Interviewee: Is it easier to eat dessert? Umm yes, I think it's possible. The dessert is ready to be eaten. You can try it right away. You can easily finish it. For rice, like I said, assuming you always buy brand A, why do you have to change to buy brand B. For dessert, if you eat Brand A, you may eat brand B as well. Because A and B are different. Sometimes you may prefer other types of dessert, not Kaw Tom mud. It's your choice to choose. On the other hand, everyone eat rice. Is it correct? At home, you may always buy rice from that brand. You have no reason to change to buy (the brand of his core family business). There will be no turning point for consumer to change. For dessert, today you have other kind

of dessert. You probably want to try other taste of other dessert. It's not weird if you would like to try (the brand of his product). Consumers' mind are more open. Rice is just basic food. People tend to keep buying the same brand. For dessert, assuming today you go to a convenience store buying 20 brands. Tomorrow you may change to buy another 20 brands. You may buy the same brand every time you go if you like it. It is easier for consumers to change their mind. Particularly, if we've done something totally different from the others. This is our business opportunity.

Interviewer: How do you identify that this is a good opportunity for your business?

Interviewee: I thought about this at the early stage. I think ... I don't want to be the same as the other. I want to be different. This could be my opportunity. That was what I look for and I started doing. It has been two years that I don't give up. Because I consider it as a clear vision to make change for my business. We have to reach that point.

Interviewer: Do you think you are the leading company in processed dessert? I mean for the modern market, not the traditional way selling at local market.

Interviewee: For Kaw Tom mud, I think ... yess I might be one of the leading companies. However, the domestic market is not so big. I think I am the leader in term of innovation. I'm the leader in applying innovation to Thai traditional food. Probably I'm the leading entrepreneurs in term of business ideas. Something like this. I do not dare to say that I'm the leader in the market. But I can say I'm the leader in creative idea. It can be proved by our growth of sales volume even though we have just started this business for only one year. Our sales volume is not so high that we can claim that we are the leader in the market. I can say I'm the leader in applying innovation to business.

Interviewer: Can I say that innovation is not just a tool for more profits, but it is also a tool for building image of your business?

Interviewee: Yes

Interviewer: Image of the leading innovative entrepreneur.

Interviewee: Yes. It has affected on very perspectives including my rice business. It has become more famous. It has effects on overall of my organisations. We become an innovative organization. People are interested in us. Many people want to know us. They want to talk to us asking about our business model. That is our marketing as well. We have to present ourselves raising people awareness about us.

Interviewer: You told me that you considered whether this opportunity was right for you at the early stage. Then after launching these products, how will you assess the achievement? How will you judge if the project is successful?

Interviewee: On the very first day, it was not like ... it was not easy. We thought we have to get ... but it was not like it can be success right after launching. Every step takes times. At this point I think I'm on the right track. Even these products cannot make substantial sales volume for me now, but currently (the brand of his dessert business) has become famous. Everyone knows our brand. I've started to expand my dessert business to various kinds of dessert. It has started to build higher sales volume. The business growth has been built. That is what we get. Sometimes it doesn't return to us in monetary terms, but what we get is reputation and consumers' awareness. Consequently, the market will easily accept my company. I cannot make the highest sales volume in Kaw Tom mud business in Thailand. But people know my brand because of my Kaw Tom mud. It turns to me that the sales volume for these products are all increased. It has some effects to me in overall aspects. It helps me establish my brand in the market, creating an image of (the brand of his product) to represent Thai products that are innovative. People know us. Its growth keep increasing, affecting to the whole organization of mine. It's important that we have to select the right opportunity.

Interviewer: Have you got the level of acceptance in your mind for the failure of new product? How many percent?

Interviewer: For me.. I just keep doing. Overall, I have only one product that was failed. That was the first product I did. I did Thai crispy roll filled with crispy shredded pork. Each of them was packed separately in the plastic package. The problem is that when the consumer tears the pack the dried shredded pork immediately fell from its pack, looking like dust. It didn't look appetising. Finally, it failed. I stopped its production. I do my best to deliver the best things for consumers. In case of failure, I have never thought about percentage of the failure I can accept. I just think, if I produce 10 new products, only one of them success I will be happy.

Interviewer: So, you are happy with the success rate of 10%

Interviewee: 10% - 20% is OK. I think it should be fine. I will regard this failure as an exciting experience for confectionery market. Even though it failed, it should not be a problem as we would start searching for other new product to surprise the consumers.

Interviewer: You will keep finding new products.

Interviewee: Yes. I will play with the other products.

Interviewer: Do you know your position in the value chain of food?

Interviewee: What do you mean?

Interviewer: Do you cover the whole value chain of rice starting from farming? Have you got your own rice fields?

Interviewee: Actually, I have my own rice fields. However, they are not enough for our productions.

Interviewer: You have not brought your own rice to the production lines?

Interviewee: Yes. I think we can select and control quality of rice from outside. I think I'm in the middle ... maybe almost the early stage of the value chain. I cannot say that my business starts at the middle of value chain. For example, the banana, I do contract farming with the farmers, I go into detail. Sometimes I bought just bananas from farmers. But I haven't had my own seeds, specialised for my business. So I would say my business is starting at almost the early stage in the value chain.

Interviewer: Middle of the value chain is about processing. The later stage of value chain is about trading and export.

Interviewee: We do trading by ourselves, but we do not have our own shop.

Interviewer: You take care of the logistic as well.

Interviewee: Yes. I have lorries to deliver goods from factory to the distribution centre of the LOTUS and 7-11. In fact, we have a very small shop to sell, but it is very very small. I emphasise on distributing products to our trading partners.

Interviewer: A shop, is it like those confectionery shop over there?

Interviewee: I have only one shop located at the service area on the motorway route. The aim is to present our products.

Interviewer: You just want people to see your products.

Interviewee: Yes. Something like that.

Interviewer: How about the value added on your processed food, processing rice to be dessert?

Interviewee: Processing rice to be dessert ... umm its value added..

Interviewer: From rice which is about 20 - 40 baht a kilo.

Interviewee: Ohh That is enormous. One kilogram of rice costs around 20-40 baht. If we cook it, its weight will be double and its price would be ... For example, this one, the cost of sticky rice may be less than one baht. Assuming that I cut off the sticky rice, possibly the sticky cost lower than one baht. I sell this product 12 baht per piece. Can you see the great value added? You might see here, this piece contains just a few rice. The rice gets bigger after cooking. Its weight as grain rice is so little. So, these products give me huge value added. It can be extended to variety of goods. The value of rice here is so little. The rice is so cheap.

Interviewer: It depends on the technology adding to the production lines to extend the shelf life. How good is the marketing campaign? How you design its packages? People will prefer to pay for their convenience, not only rice.

Interviewee: Yes. Exactly.

Interviewer: How do you think the overall of this industry, especially processed food industry?

Interviewee: It's good, I think. I've never played in this industry before. Its market is quite big. I've just stepped into this industry. This is the first thing I get. The second, I have new market. I think this market will grow a lot more in the future, only if we know the trends, only if we go in the right direction of consumer behaviours. I think this market has a large room to grow. It's not just about domestic market, but also international market around the globe. Everyone in this world can be our customers.

Interviewer: Currently, it seems that many people complain about economic downturn. Some sellers keep complaining the economic slowdown which caused the lowest sales for them. On the other hand, you are confectionery seller who can raise higher sales volume during this economic situation. What do you think about this? Does it

Interviewee: As I said, some sellers keep selling the same things for ages. If I keep selling the same product for many years, it will reach its peak. Its sales will then drop. For me, I try not to be in one business. Regarding the innovation, I will not stop at this point. I will expand products, increase the SKU. Because it is the source of business development. No matter how bad economy is, people have to consume for living. It depends on how you manage to attract people's spending. It should be something to serve people's need during economic downturn. That's my point of view. For these desserts, it is something no one

has done it before. It has never launched in the market before. So, I see lots of opportunity to grow.

Interviewer: People who have enough purchasing power will be willing to pay for these confectioneries.

Interviewee: They are willing to pay, but it's their choice to buy from you or the others. That is one reason. Second, there might be more competitors in the market. Your target markets have been shared. If you go to 7-11 today, you will see tons of processed food.

Interviewer: How about the relationship between you and your suppliers?

Interviewee: It's OK. I'm trying to establish good relation between us. If I grow, they will grow. We are growing together.

Interviewer: Do they play role on your innovation?

Interviewee: Partly. We discussed. For example, if I want to develop new product, the suppliers will help us in finding new materials. They support us in seeking for new raw material/ ingredients that we want to use for testing. We have always worked together.

Interviewer: If you initiate an idea for new product, you then need to check with your supplier whether they can find new raw materials for you or not. Is it correct?

Interviewee: Yes. We have to ensure that we will have material for our production lines. For example if I want to process new snack, I have to discuss with the supplier on the feasibility to do so.

Interviewer: What about the relationship between you and your customers, including domestic customers and the exporters? Do they play role in your innovation?

Interviewee: Absolutely. They always tell us their needs. They always ask us if we have what they want.

Interviewer: What are the things that they want? Did they want you to develop new packages? Did they want you to manufacture new product or what?

Interviewee: For example, if they want some confectionery made from pumpkin. Formerly, no one manufacture pumpkin in confectionery market. They asked us if we could manufacture it. Their requests are so crucial. We always talk. They always tell us what kind of product they want. They always ask if we can produce as per their requirements. They want confectionery made from fruits, so I and my team will work on developing new products for them.

Interviewer: It means that the ideas for initiating new product are from yourself and the customers' needs.

Interviewee: Yes, yes. Even for the idea initiated by us, we will need to discuss with the customers about feasibility in the markets. Consumers in some countries may not eat bananas. We may invest, but it cannot be sold. Therefore, we have to do market studies to learn the consumers' preferences. What consumers like or don't like. There're some countries that the consumers don't eat banana. Some countries in Europe may not prefer to eat imported food as they prefer to have their own food. Something like this. These are the questions that we have to find out.

Interviewer: Do you know about the government support on innovation?

Interviewee: In fact, there are variety of government programme such as "innovation coupon" etc. There are many. Sometimes, I cannot follow the news about these supports. Many kinds of helps. It may come in the form of financial support or ... many many kinds of the supportive programmes provided by the government.

Interviewer: Have you participated in any programmes?

Interviewee: I participated the "Innovation Coupon". What else ... the campaign of provincial office. Oh, there are many. We also participate in various competition. We won the National Innovation Award. There are many awards.

Interviewee: Yes. That was for Kaw Tom mud. We got the 4th if remember correctly. We got many awards. I will try to participate in government programmes as much as I can, if it possible to do.

Interviewer: In your opinion, what kind of policy that you think it would be benefit for business?

Interviewee: I think it should be about the speed of government services. For example, the speed in applying for certification from the National Food Institute. Sometimes it takes so much times. In the past, it took many months in requesting for the certificate from FDA (Food and Drug Administration). That was very slow. Understand that the government is trying to improve the speed of these works now. I think this should have impact. Because in the world of business we cannot wait. Another example is about register for trademark. Oh my god! it took 2 years before mine was approved. That was too long for the businessman to wait. It is very hard to innovate. We still have been delayed in order to wait for my logo to be approved. It is risky to sell product without the registered logo. Because if the

proposed logo duplicate with the others, we wasted our time. If the government is able to speed up these process, reducing time from one year to one month, that will be very good. I don't know how these problem should be solved. But if they can do it, lots of entrepreneurs will benefit from this improvement.

Interviewer: It is about improving government service.

Interviewee: Yes. You have to compete with the time limit. If my customer wants new product, I can immediately process the production. But when I apply for the FDA certificate, it takes times and I have to wait. The customer order today and they want it within tomorrow. I cannot do it. So, I lose that opportunity as I have to wait about two months for the certificate. The customer will change to find the producer from other countries. Therefore, if this process can be speed up. The entrepreneurs will benefit a lot from this improvement. This is my opinion. Funding is another point. Money can accelerate the business. The speed of service is so important.

Interviewer: From you experience, have you found any policy that hinder your business?

Interviewee: I cannot think of any. If it hinders my business, I will not participate that programme. Most of the programmes offer help for business. I try to participate as much as I can. Most of the supportive programmes are to help business in different dimensions. Sometimes it might not hit the point. At least, it helps even on some small issue. It has been improved. The help from government is not key for success, but as least it helped. Sometimes it's significant, sometimes it's minor.

Interviewer: If possible, what would you ask the government to do in order to support entrepreneurs regarding innovation?

Interviewee: I think, to support entrepreneurs, it should be about finding market.

Interviewer: Finding market.

Interviewee: I mean seriously search for the market. It should not be like just providing a booth in the trade fair. The government should promote Thai products, which Thai products is really outstanding. Sometimes I saw the booths was ... If the government take it serious in promoting Thai products, this will benefit a lot to entrepreneurs. This will increase the trust of Thai products. Thai products in world market. Some people do not know of Thai products.

Interviewer: Finding market does not mean bringing entrepreneurs to join the trade fairs abroad.

Interviewee: Joining the trade fair partly help. But the government should built ...

Interviewer: Establish a strong country brand.

Interviewee: Yes. You should promote that Thai products are exceptional. The same as you trust in Japanese products because they present ...

Interviewer: When talking about Japanese products, people perceive the beautiful packages and good quality.

Interviewee: Yes. It has to be like that. What are Thai products? It is not clear yet. We think we have good products. How about the perception of foreigner towards ours? Some foreigners have never known of Thailand. What is Thailand? Where is it? I'm quite confusing. So if the government could help to build the image of Thai products, that they are good. Food or whatever produced in Thailand have been guaranteed that they are good quality. The gov. should promote this country image in international level. I don't think that Thailand can compete with the US or elsewhere in producing machines. What we are expert, what are our uniqueness, like Thai food and the culture of Thainess, should be presented to the world. Once they know Thailand, I think this will benefit to entrepreneurs in term of creditability. The same as Korea, in the past on one want to buy Samsung TV. What about now? Everyone has been impressed with Korea. Korean products can be easily sold. Our minds are more open than before. Ohh we may think Korean products look cool! I wish to get ones. We are confident in the technology from USA. We believe that it's from USA it must be good. I think we can do it as well. But the image of Thailand is not clear yet. If we can clarify the country's image, it will support Thai entrepreneurs.

Interviewer: It will be easier for the entrepreneurs to internationalise their businesses. If the world knows Thailand.

Interviewee: Thailand has only beautiful beach and sea. It's not like that. It is not true. Thai products should be promoted that they are good quality. Thailand produce quality products. Thai food is delicious. Is that correct? I think it can be done and the whole country will benefit from this.

Interviewer: Yes. I agree. I think I have completed my questions. Thank you very much for your time.
(END)

Appendix 12 Research ethic approval



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18 July 2016

Dear Ontida

Re: Creating successful value chain innovation in Thai entrepreneurs

Thank you for your research ethics application.

I am pleased to inform you that on behalf of the Business School Research Ethics Committee at the University of Hull, Dr Wen-Ling Liu has approved your application on 14 July 2016.

I wish you every success with your research.

Yours sincerely,

A handwritten signature in black ink, appearing to read "Hilary Carpenter".

Hilary Carpenter
Secretary,
Research Ethics Committee



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