

Effectuation versus Causation: A case study on effectuation in a Ghanaian context

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Abstract

This study explores entrepreneurial decision-making processes in Ghana and is focused on the transferability and generalizability of effectuation theory in an emerging economy context. All elements of effectuation theory are tested and investigated to what extent they translate to this new environment. This is done through online semi-structured interviews, analyzing the decision-making processes of 11 entrepreneurs in 2 different industries: Consumer products and recycling. The findings indicate that causation practices are dominant in an uncertain Ghanaian environment, due to both environmental-specific and industry factors. As the venture grows, they widen their scope and start incorporating elements of effectuation.

Key words: Effectuation, Causation, Decision-making, Emerging economy, Ghana

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Chapter 1 Introduction

1.1 Background

Entrepreneurial research is some of the most widely cited in management literature, with leading journals dedicated to its study (Bruton, 2008). The field contains elements from business, economics, sociology, and psychology and researches the processes that take place to identify opportunities and create value. Entrepreneurship is often seen as the center of economic development, and multiple studies support the theory of a positive and significant relationship between entrepreneurship and economic growth (Chen, 2014; Carree & Thurik, 2010).

Entrepreneurial development is seen by many government and community leaders as a gateway to economic vitality, leading to a growing tax revenue base, enhancing prospects for self-generating innovation, future growth and yielding qualitative improvements to an area socially and economically (Acs, 1996; Birch, 1979; Kirchoff & Phillips, 1991; Romer, 1990). Entrepreneurial research can guide individuals and firms in achieving these goals.

Here, strategy is understood as the long-term direction of an organization, which consists of planned and emergent elements. Strategies created by planned elements are defined by Ansoff (1987) as decisions made through an organization-wide process (Ansoff, 1987). It operates as a well-structured process where goals are derived from company visions followed by forming strategies throughout the whole organization to reach these goals (Neugebauer, Figge & Hahn, 2016). Decision-making is done by management, which implements strategies from a top-down perspective (Hart, 1992). Contrarily, emergent strategies imply that the decision-making process is an ongoing process and continuously modified based on context developments such as changing market conditions (Jarzabkowski, 2004). These strategies emerge within an organization in a bottom-up manner (Neugebauer, Figge & Hahn, 2016).

Within these two approaches of the decision-making process, effectuation, developed by Sarasvathy (2001) reflects an emergent-based theory, challenging the plan-based view, which she calls causation that has been the status quo in entrepreneurial literature for decades, as described by Ansoff (1987). Effectuation has gained significant attention and shown relevance within the emergent decision-making literature in the last two decades, by extending from entrepreneurship into other domains such as marketing (Grégoire & Cherchem, 2020).

Sarasvathy (2001) defines causation as a strategy where a predetermined goal is taken, and an entrepreneur selects means to reach that goal (Sarasvathy, 2001). To gain a competitive advantage entrepreneurs recombine their resources in such an optimal way their goal can be reached. Therefore, causation theory is centered around its applicability under conditions of predictability (Sarasvathy, 2001). It is assumed that markets and opportunities preexist (Casson, 1982; Shane & Venkataraman, 2000) creating a strategy for the entrepreneur to focus on the process of identification and deliberate exploitation of those opportunities (Shane & Venkataraman, 2000). This theory can be useful for entrepreneurs when they know exactly what type of firm they want to create, and a lot is known about the context, such as competitors and market-specific factors (Sarasvathy, 2001).

Read et al. (2016) argue that opportunities and markets can be created (Read, Sarasvathy, Dew, & Wiltbank, 2016). To create a firm in a market that doesn't exist yet involves understanding how to make decisions when preexistent goals are absent (Sarasvathy, 2001). In this case, a causation model based on predictability through market research doesn't seem to fit due to the uncertainties new markets bring.

In these cases, research suggests effectuation theory to be applicable. This theory, contrasting causation, operates by taking a set of means (resources) as given, followed by selecting potential outcomes, such as the creation of new products, ventures, or markets that can be created from those means (Sarasvathy, 2001). This theory thrives in an uncertain and dynamic environment. It can accordingly be used individually or simultaneously by an entrepreneur when starting a firm.

Criticism states that empirical studies on effectuation are mostly done in specific industries, namely technology-heavy industries and internet start-ups (Fisher, 2012). Therefore, it is unclear whether theory is consistent across industry settings, meaning that effectuation may characterize only a small part of entrepreneurial behavior, with limited relevance within emerging economies as most entrepreneurs in emerging economies operate on small scales and may not launch multiple businesses (Lingelbach et al, 2015).

1.2 Context

Placed in a worldwide context, effectuation and causation are becoming increasingly relevant due to the nature of technical developments such as those on the internet, which have created new and uncertain markets (Fisher, 2012). Over the past 15 years, the African continent has seen an average growth rate of 5% of GDP (World Economic Forum, 2015). Out of its 54 countries, 26 have achieved middle-income status, and the percentage of people living in extreme poverty has decreased from 51% in 2005 to 42% in 2014 (African Development Bank, 2014). The main drivers of this growth have been the emergence of consumer markets, regional economic integration, investment in infrastructure, adoption of innovative technologies, and the opening of new markets, particularly in the services industry. The expansion of information and communication networks, especially mobile technology, has provided significant opportunities. By 2025, about half of the continent's population will have access to the Internet, connecting them to services in healthcare, education, finance and retail (McKinsey Global Institute, 2010).

More specifically, economies in Sub-Saharan African countries such as South Africa, Ghana and Kenya are developing quickly with new markets and opportunities emerging (World Bank, 2015). In practice, this is demonstrated by entrepreneurship and Innovation plans, initiatives by governments as in Ghana, actively supporting startup growth, complemented by private-sector engagement from banks and corporate entities. Over the last four years, Ghanaian start-ups have gained nearly 100 early-stage investment deals together worth over \$542 million (The Innovation Spark, 2023). The leading industries within this ecosystem include Fintech, Healthtech and Agritech. Integrated into the start-up ecosystem are innovation hubs and accelerators to nurture the entrepreneurial capabilities of beginner entrepreneurs by providing mentorships, resources and networking opportunities (The Innovation Spark, 2023).

However, challenges persist, including limited access to finance, a challenging business environment driven by uncertainties and low consumer purchasing power (Innovation Spark Research, 2023; MEST Africa, 2022). The most recent challenges this year in Ghana are marked by currency depreciation, rising inflation, and low investor confidence. The pre-existing vulnerabilities were deepened by difficult global economic conditions (World Bank, 2024).

Entrepreneurs in this specific context also deal with more challenges than solely the uncertainties of new markets. Often, these environments also deal with resource constraints. Therefore, opportunity creation is done through processes of recombining and transforming existing resources (human capital, materials, finances and social capital) (Venkataraman, 1997; Garud, Kumaraswamy and Nayyar, 1998) by means of adaptation and improvisation. This includes the usage of resources in ways in which they weren't originally designed to be used (Baker & Nelson, 2005).

1.3 Research Gap

With the economic development in African, South American and Asian countries arising, it is critiqued that entrepreneurship research is almost exclusively focused on North American and European research sites (West et al., 2008). The exploration of domains outside of these two developed economic regions, so-called emerging economies, remains extremely limited. For instance, Bruton (2008) reviewed 16 years' worth of literature in top management journals and found that only 43 articles were dedicated to emerging economies, constituting less than 0.5% of the total articles during that period, despite the role of these in the future of the global economy. Among these articles, not a single paper was written on sub-Saharan Africa, Latin America, and the Middle East.

On top of that, even when a special edition of *Entrepreneurship Theory and Practice* (2008) solely focused on emerging economies pointed this out, not a single article was dedicated to emerging economies in Africa. Since then, some articles on entrepreneurship in African countries have been published, applying established theory from developed economies with little regard to their respective emerging economy context and their unique characteristics neither looking at the viability and usefulness of this theory in the new context (Bruton, 2008). This shows the lack of theory development regarding entrepreneurship in emerging economies in Africa.

Bridging this theoretical gap is important as it has been shown in other domains such as strategy that researchers should not assume that findings in a developed economy will be equally applicable in an emerging economy (Peng, 2000). Moreover, it has to be stated that although emerging economies may have similarities, they also have their own set of characteristics regarding a country's history, size and dynamics of their economy (A. Anderson, S. Ronteau, 2017).

More specifically, empirical evidence indicates that traditional entrepreneurial theories, like profit maximization, may not universally apply to all emerging economies. In certain cases, the values and motivations within these economies prioritize the welfare of others and nurturing networks and relationships (Rivera-Santos et al., 2015). Therefore, it becomes essential to conduct more research to understand how theoretical assumptions derived from evidence in mature economies must be modified or even discarded when studying new contexts, in this case emerging economies.

1.4 Research question

This paper will then answer the research question: To what extent are effectuation or causation approaches used as a strategy for venture creation in emerging economies in Africa?

1.5 Next chapters

Chapter 2 briefly explains the fundamentals of effectuation theory, and under which circumstances it thrives by elaborating on the principles that lay the foundation of theory, in contrast to causation. After the basics of effectuation and causation, we research if the elements change over time and if the type of industry an entrepreneur operates in influences the use of effectuation next to merely perceived uncertainties. This will then be coupled to empirical evidence in African countries where we will explain used strategies and find out if they are consistent with traditional effectuation literature, regarding uncertainties or if other specific context factors can influence decision-making strategies. Based on our findings we set up propositions to test effectuation in a Ghanaian context, regarding the fundamental elements and changes over time.

Chapter 3: In this methodology chapter, the research context, Ghana is explained to be suitable for this research due to its unique characteristics as an emerging economy. Participants from two

different industries are the subject of interviews, being the main method of data collection. Then an explanation is given of how the data from interviews is collected, coded and analyzed.

Chapter 4: The fourth chapter will present the results in a table with all identified elements of effectuation and causation in a Ghanaian environment. Then the propositions are tested by analyzing the data to see which propositions are met and which ones likely aren't. W

Chapter 5: In the discussion, we explain why certain dimensions are identified or not, as predicted, in combination with the environment and the way the research has been conducted. Lastly, we state what the results may mean for future research on entrepreneurship in an African setting.

Chapter 2 Literature Review

2.1 Effectuation and Causation

Effectuation and causation theory point out two contradicting logics in decision-making processes of entrepreneurs. Firstly, the literature states that the environment decides which strategy is more likely to manifest. Regarding effectuation, when an entrepreneur is confronted with an uncertain, dynamic, and non-linear external environment, while causation processes, when encountered with more predictable settings (Fisher, 2012).

Effectuation operates by taking a set of means as given, followed by selecting potential outcomes, such as the creation of new products, ventures or markets that can be created from those means (Berends et al, 2014). Here, the set of means for entrepreneurs can be categorized by who they are themselves, their traits, what they know, and whom they know, their social networks (Sarasvathy, 2001). These means interact with aspirations which create a set of possible effects to be imagined by the effectuator. The effectuator chooses to pursue the most promising effect. Means and aspirations constantly change over time through interactions with others and engaging with stakeholders, creating divergent effects (Sarasvathy, 2001). Central to effectuation theory is the notion that this approach is more prevalent in human action, dependent on the qualities of the actors and the context in which these actions take place (Arend et al. 2015; Gregoire, 2020)

Effectuation as described by Chandler et al. (2011), Sarasvathy (2001) and Smolka et al. (2018) contains the following principles: Affordable loss, cooperation, exploitation of contingencies and experimentation.

Firstly, *affordable loss* rather than expected returns can be achieved by experimenting with numerous strategies that can be achieved with the limited available resources rather than solely focusing on the immediate maximization of returns (Sarasvathy, 2001). By estimating how many quantifiable resources the entrepreneur is willing to lose, there won't be a necessity for predicting the future anymore. This is an advantage as predicting doesn't suit uncertain and dynamic environments. The result is the entrepreneurs' ability to iterate quickly on other opportunities that arise with low failure costs (Sarasvathy, 2001).

Cooperating with other individuals and organizations is preferred rather than competitive analyses. This, as from an effectuation-oriented view, new markets are created, making it unclear who the competitors are, resulting in competitive analyses having little value. Instead, by involving stakeholders in the process and obtaining pre-commitments, uncertainties are mitigated, and entry barriers are built (Sarasvathy, 2001). The next principle proposes the exploitation of contingencies rather than the exploitation of preexisting knowledge by embracing unforeseen occurrences and transforming them into lucrative opportunities, instead of reaching predetermined objectives. Here, as well, pre-determined objectives are not likely to succeed in an uncertain environment.

Experimentation as introduced by Chandler et al. (2011) explains the perception of the entrepreneur recognizing their personal means and validates their deliberate choice for the optimization of recombining resources, engaging in effectuation decision making. Engaging in this process of experimentation shows there is not enough historical information on which to base good decisions (Chandler et al, 2007). This element is not part of Sarasvathy's (2001) original study on effectuation but will be included in this research, as we prefer taking on a broader scope of literature than setting strict boundaries in this explorative study due to the limited existing research in an African context.

2.2 Causation theory

Causation theory is a contrasting theory, which is centered around its applicability under conditions of predictability (Sarasvathy, 2001; Chandler et al, 2007). An entrepreneur applying causation logic, takes on a predetermined goal and selects means to reach that goal (Sarasvathy, 2001). It is assumed that markets and opportunities preexist (Casson, 1982; Shane & Venkataraman, 2000). The involved strategy for the entrepreneur focuses on the process of identifying and deliberate exploitation of those opportunities (Shane & Venkataraman, 2000). To obtain this, the approach is stated as a linear process in which an entrepreneur's intentions lead to planning and development to achieve the pre-established goals. The option with the highest expected return is selected and implemented (Baker, Miner, & Eesley, 2003).

This way of thinking is based on the rational decision-making models employed by neoclassical economics, which has been the main body of entrepreneurial research (Perry et al, 2011). Competitive advantage for emerging firms is realized by competencies and resources controlled by the firm (Drucker, 1998; Perry et al, 2011).

Therefore, it is argued that causation models are preferable when preexisting knowledge forms the source of competitive advantage (Sarasvathy, 2001). To illustrate, expertise in a new technology allows an entrepreneur to plan how to exploit this knowledge, rather than waiting for unexpected contingencies that arise over time that may influence how the expertise can be used.

A limitation in causation theory is the need to gather information regarding the identification of opportunities, analyses and setting goals. However, this may not be available for early entrants, or young markets. Therefore, it is stated that causation is more relevant for later entrants into established industries, with lower levels of uncertainty (Sarasvathy, 2001).

Despite the contradicting nature of these two theoretical lenses, it must be emphasized that one is not better by definition than the other, but environmental-specific factors, such as the level of perceived uncertainty, decide under what circumstances which types of processes provide advantages and disadvantages (Sarasvathy, 2001).

2.3 Hybrid decision making

It has been shown that both logics are often used simultaneously (Dew et al., 2011; Reymen et al., 2015) and are subject to change over time (Berends et al, 2014; Lingenbach et al, 2015). Reymen et al., (2015) found that decision-making mostly follows a hybrid logic, both containing elements of effectuation and causation. Moreover, they suggest that adaptive decision-making, or effectuation, is more prevalent in the initial phases of venture creation. Over time, as both the new enterprise and its market develop, a shift occurs towards more structured and planning-oriented decision-making (Alvarez and Barney, 2005; Sarasvathy, 2001). Next to the change of perceived uncertainty explaining the shifts in the dominance of one over the other, they argue that the change can also be explained by the focus of the entrepreneurs themselves wanting to chase a single concept or pursuing multiple options at the same time.

On the same note, experience levels of entrepreneurs also seem to influence decision-making logic over time. Dew et al. (2009) found expert entrepreneurs to have shown to express effectuation logic over causation, regarding affordable loss and cooperation, in contrast to novice entrepreneurs.

To test the consistency in a change of decision-making logic in an African context, we test the following proposition:

Proposition 1: As the perceived uncertainty decreases, firms that have adopted effectuation logic will transition towards causation logic.

2.4 Effectuation in an African context.

In an African context, a limited amount of research has been conducted on effectuation. The most prominent research has been done by Lingenbach (2015) and Eijdenberg (2017) which will be used as a foundation to understand effectuation in this relatively new context. Additionally, extra challenges are exposed as there has not been a widespread agreement on a universally accepted comprehensive scale measuring causation and effectuation, despite attempts from Chandler et al. (2011) and Brettel et al. (2012).

The foundation of effectuation theory rests on the principle of uncertainty, creating a theoretical rationale for entrepreneurs to be more effectuation-oriented than causation-oriented in African environments, which are often uncertain. In reality, both rationales can independently be observed, as Eijdenberg, et al., (2017) observed risk-seeking behavior according to the affordable loss principle in Burundi as well as causation being identified in multiple instances as Frese et al. (2007), showed that elaborate and proactive planning was related to business success across South Africa, Zimbabwe and Namibia following causation-oriented decision making, despite uncertainties in the environment.

Lingenbach's (2015) study within emerging economies reveals that all innovators in the study were utilizing a combination of causal and effectual mechanisms. Notably, only two principles associated with effectuation were consistently present for all cases: affordable loss and pre-commitment. Within the context of exploiting contingencies, another element that involves the adaptation of available resources was observed among cases. This may indicate that other effectuation principles exist in an African context that are outside the scope of the four principles proposed by Sarasvathy (2001).

This would add new insights to effectuation theory and has been mentioned before in research as Fisher (2012) stated that improvisation is a necessity for firm growth when external resources are relatively scarce. Moreover, Lingenbach (2015) found that innovators shifted towards causation strategies more often as the economy-wide resource constraints they faced were lessened, confirming the theory that the type and degree of resource constraints influence the dynamics between effectuation and causation. In the process, entrepreneurs that perceive more uncertainty stay more effectuation-oriented (Lingenbach et al, 2015; Eijdenberg, et al., 2017).

On small businesses growth of Burundi mini markets, Eijdenberg, et al. (2017) found a combination of effectuation and causation mechanisms being used with all dimensions present. However, when being put against each other, they found the entrepreneurs slightly more causation-oriented, except for means versus goals. This can be explained with the assumption that most small market owners are firstly not primarily focused on growth, but rather the sustainability of the existing business for survival. Secondly, the motivation of the entrepreneurs in this context may not be focused on opportunity recognition regarding innovation and the creation of new businesses, markets or economies.

On another note, the difference in the presence and even the absence of effectuation elements in empirical research creates a gap in effectuation literature. It could mean one of the following two things: entrepreneurs in emerging economies are not utterly efficient and have a higher chance of reaching their goals when engaged with all dimensions, or that effectuation simply offers a set of dimensions, of which entrepreneurs themselves choose which combination offers them the best outcomes depending on context and personal aspirations.

To illustrate, Fisher (2012) identified all elements in their empirical study of internet start-ups. This includes experimentation and flexibility that were absent in Lingenbach's (2015) study. One key distinguishing factor between these studies lies in the industry context, namely the contrast between product innovation within a non-existent market and financial service innovation within an established market. For a regulated established market, such as financial services, it makes less sense for an entrepreneur to engage in cooperation and experimentation compared to the many possibilities a market offers that still has to be created.

What this indicates despite the little evidence, is that the applicability of effectuation theory can vary significantly across industries and economies, highlighting the relevance of the industry context in determining to which extent effectuation versus causation is used, and more precisely which elements of the theory prove most suitable within a given context. This is in line with Chen et al., (2021) stating that the combination of effectual and causal mechanisms in entrepreneurial processes depend partly on the institutional and industry contexts. However, in-depth research on effectuation across different industries remains limited, creating a lack of contextualization in effectuation studies (Arend et al., 2015; Welter and Kim, 2018). Therefore, in this research, we select two different industries to discuss possible differences in results. Furthermore, we test all elements of effectuation in an African context to see if the theory is consistent and applicable, creating the following propositions:

Proposition 2: In an uncertain environment, Ghanaian entrepreneurs will engage in the affordable loss principle rather than expected returns.

Proposition 3: In an uncertain environment, Ghanaian entrepreneurs will engage in the cooperation principle rather than competitive advantage.

Proposition 4: In an uncertain environment, Ghanaian entrepreneurs will exploit contingencies rather than avoid contingencies

Proposition 5: In an uncertain environment, Ghanaian entrepreneurs will be more means-driven rather than goal-driven

Chapter 3 Methodology

3.1 Research setting

In Sub-Saharan Africa, Ghana is one of the sub-Saharan countries with entrepreneurial opportunities in agriculture, minerals, and manufacturing as a result of economic development: the per capita income (PCI) growth, agricultural output, achieving middle-income status, poverty reduction, and the maintenance of social stability (Fosu, 2009; McKay et al., 2016; Aryeetey and Baah-Boateng, 2016; Aryeetey and Kanbur, 2017). Ghana has undergone rapid urbanization, with over half of its population residing in urban areas (Mensah, Fobih, & Adom, 2017). This urban shift has coincided with a substantial increase in institutional support for entrepreneurship and Small and Medium Enterprises (SMEs) development over the past three decades, with support from governments, international organizations and private financial institutions (Mensah, Fobih, & Adom, 2017). Ghana's entrepreneurial landscape is dynamically shaped by a collaboration between the government and private sector initiatives, creating a fast-growing startup ecosystem. This makes Ghana a suitable context to conduct this research. More precisely, the research was conducted in the regions of Ashanti and Bono East.

3.2 Sampling, data collection and sources

Data collection analysis

We conducted a qualitative study in Ghana, as we are trying to understand if the concept of traditional effectuation decision-making, as it has been researched in literature, is also applicable in this context. By conducting a qualitative study, we investigate exploratively if the theory could be translated to this environment, challenging current literature and possibly contributing to effectuation literature.

We conducted semi-structured interviews with a sample of 11 entrepreneurs. The 11 respondents were the subject of an online 20-minute interview via a phone call. Nine of eleven entrepreneurs were male, with experience varying from 3 to 14 years. Interviewees were selected in collaboration with two innovation hubs. As both innovation hubs engage with entrepreneurs in different industries, we can test the hypothesis that effectuation theory differs between industries. The eligible entrepreneurs for the interviews were provided and selected by the incubators. This was not done randomly, but rather after a selection process by the incubators, who assessed their usefulness, according to them, of the entrepreneurs for this research.

The first incubator engages with entrepreneurs in the farming and waste reduction sector such as the transformation of plastic waste into backpacks.

The second incubator connected us with entrepreneurs in the manufacturing of consumer products, such as the production of shower gel and mosquito repellent (Table 1).

The 11 respondents included:

- 6 representatives from the waste management industry
- 5 representatives from manufacturers of consumer products

| | 1 | 2 | 3 | 4 | 5 | 6 |
|-------------------------|----------------------------------------|----------------------------------|--------------------------|-----------------|--------------------------------|----------------------------------|
| Gender | Male | Male | Male | Male | Male | Male |
| Experience | 6 | 3 | 5 | 3 | 8 | 3 |
| Industry | A | A | A | A | A | A |
| Type of business | Transform plastic waste into backpacks | Agricultural waste into charcoal | Producing bio fertilizer | Recycle plastic | Ginger and Turmeric production | Production of mosquito repellent |

Table 1a: Industry A “recycling”

| | 7 | 8 | 9 | 10 | 11 |
|-------------------------|------------------------------------|------------------------|--------------------|-------------------------------------|-----------------------------------|
| Gender | Female | Female | Male | Male | Male |
| Experience | 14 | 5 | 2 | 11 | 8 |
| Industry | B | B | B | B | B |
| Type of business | Production of uniforms for schools | Peanut butter business | Financial services | Shower gel production & IT services | Fashion production and food court |

Table 1b: Industry B “consumer products”

For the interview a semi-structured interview template was used, which consisted of open-ended questions about the individuals' motivations and background to start a business to create an overall concept of the entrepreneurial environment. Then, leading questions were asked on how they perceive their environment and how they managed to start a business in Ghana. Questions were asked with respect to all effectuation and causation elements as described by Sarasvathy (2001) and Chandler (2011) next to other indicators of (non-)predictive behavior such as their opinion on business plans or having a long-term vision. Examples of questions that were asked regarding effectuation are: “What is the relationship with competitors in your industry?” and “What resources were necessary for you to start the business?”

The choice for framing the question with regard to their opinion about business plans rather than the action of making one stems from the fact that all businesses involved in this research were required in some form to make a business plan, for the incubator, or other involved programs, which resulted in all entrepreneurs to technically have made a business plan, and therefore engage in causation behavior. However, this does not assess causation behavior objectively, as some entrepreneurs would not have done it otherwise or don't find it useful. This phenomenon where incubators may implicitly or explicitly recruit firms taking this causation approach has been demonstrated by Høvig et al. (2017)

Therefore, rather than “made a business plan” we asked the entrepreneurs if they found their business plan to add value to growing their business and to what extent they followed their business plan to assess their presumed worth to this causation element. Based on this opinion, we determined the extent of causation behavior regarding business plans.

Another question was the perceived uncertainty over time. This, to investigate if decision-making strategies are subject to change as a business matures in this context. As a follow-up, we asked how exactly the decision-making process was influenced as a result. Then we coupled their answers to effectuation theory to precisely conclude which elements change the most over time when the uncertainty had decreased in this Ghanaian environment.

The last part that will be tested is to observe if decision-making strategies differ between the two chosen industries. Due to this qualitative research, it will be hard to make definitive conclusions. However, the purpose of this research is to exploratively investigate this new area of effectuation research. Therefore, we will try to see if there are obvious differences in the results, which may be worth investigating in future research. The complete interview template can be found in Appendix A

After each interview had been conducted, we developed a codebook based on the foundation of effectuation theory developed by Sarasvathy (2001). The templates consist of six factors for effectuation and six for causation (Appendix B).

| Effectuation | Causation |
|------------------------------|----------------------------|
| M- Means driven actions | G- Goals driven action |
| AF- Affordable Loss | ER- Expected returns |
| CO- Cooperation | CA- Competitive Advantage |
| EC- Exploiting contingencies | AC- Avoiding contingencies |
| NP- non-predictive control | PR- Predictive control |
| R- Effectuation rest | C- Causation rest |

Table 2: Coding scheme

By using a deductive method and the codebook as a guide, we identified the extent to which each case displayed attributes of effectuation, causation, or both. In cases where contrasting elements were both present, a discussion between the researchers found place identifying the core elements of a certain decision and determining together upon a more effectuation or causation approach.

Questions and answers regarding other indicators of effectuation and causation that aren't part of Sarasvathy's (2001) principles, such as opinion on business plans, long-term vision, and experimentation among others are combined and labeled under their respective codes: means-driven actions, goals driven actions and rest codes. In this way we can count how many times an entrepreneur has been involved in certain decision-making, allowing us to give the extent of effectuation and causation behavior rather than simply clarifying if an entrepreneur is more effectuation or causation-oriented.

Another researcher of the project also independently coded the interviews to test intercoder reliability (ICR) regarding the systematicity, communicability, and transparency of the coding process (O'Connor, 2020). The purpose of conducting an ICR assessment is to evaluate the transparency of the coding framework and its application to the data (Hruschka et al., 2004; Joffe & Yardley, 2003; MacPhail et al., 2016; Mays & Pope, 1995). The most common method is reporting the percentage of data units on which coders agree (Feng, 2014; Kolbe & Burnett,). The percentage of agreement was found to be 87%. However, percentage-based approaches are inflated to some degree occurring by chance (Cohen, 1960; Hallgren, 2012; Lombard et al., 2002). Therefore, we also measure ICR by using Cohen's kappa (Appendix C), of which its value of 0.88 is substantial (Mchugh, 2012).

Chapter 4 Results

The result for all entrepreneurs (11), is visualized in Figure 1 for all elements of effectuation and causation. With the exception of one entrepreneur, all entrepreneurs have used both elements of effectuation and causation when starting their businesses.

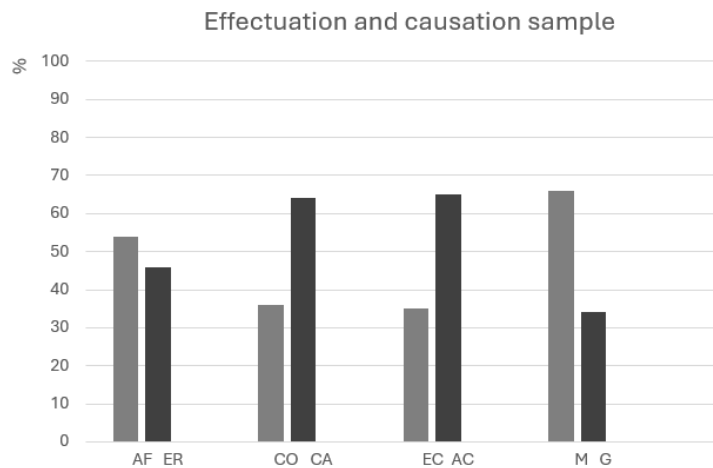


Figure 1: effectuation and causation use of the complete sample in %

4.1 uncertain environment

7 out of the total sample of 11 entrepreneurs perceived the environment as uncertain. In the following part, we continue only with those entrepreneurs, as we can compare what they did to what is expected from them, from an effectuation-oriented view.

In Figure 2 the percentages of effectuation and causation elements are shown for these entrepreneurs in an uncertain environment. The most common reasons for uncertainties were a lack of start-up capital, a challenging time acquiring necessary machinery and a lack of funding trying to scale up the business. This is because of a rapidly changing economy creating unstable prices and wages. Multiple entrepreneurs mentioned that the effects of the COVID-19 pandemic, high inflation, and increased price of production caused these uncertainties.

“Even when you take business decisions, they cannot last because the situation in the country keeps changing. Because even within a year, within a few months, things can change drastically, and you have to change your strategy”.

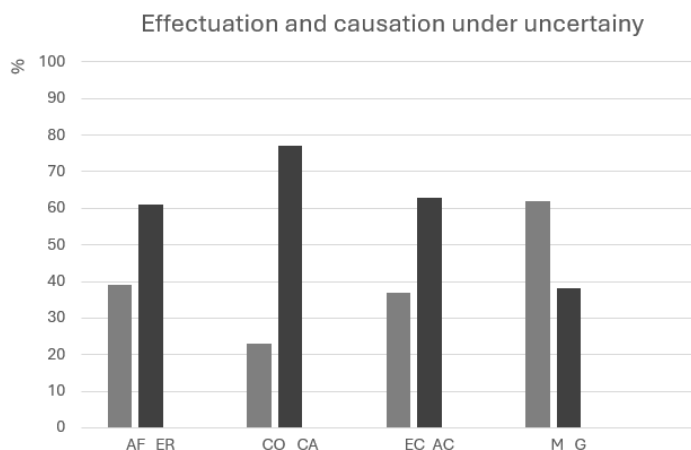


Figure 2: The extent of effectuation and causation in an uncertain environment

4.2 Affordable loss versus expected returns

Of the 7 entrepreneurs identified in 4.1, 3 started their business with the affordable loss element, starting the business small, with their own savings or family support. Moreover, it was stated by these entrepreneurs that in Ghana starting very small was the only way to start a business as gaining access to capital or funding was hard, despite government initiatives. One entrepreneur expressed that if she had the option, she would have wanted an investment to plan for a longer term, thus did she not deliberately choose an affordable loss strategy:

"So, sometimes I wish I can buy more raw materials now, but financially I'm unable to buy the quantity that I want... there are also some things I need in my workplace that would help ease my stress a little bit".

The other entrepreneurs engaged in calculating expected returns had actively been looking for a loan or outside investments and were successful. Long-term planning and calculating returns seem to be preferable in this context despite the uncertain environment, contradicting the proposition that states that entrepreneurs in an uncertain environment prefer affordable loss over calculating returns.

4.3 Cooperation versus competitive advantage

2 out of 7 entrepreneurs who perceived the environment as uncertain had some form of cooperation with competitors. The 2 entrepreneurs that did cooperate both reasoned to have set this up, to diminish risks when inventory got low and reach a broader market, also using cooperation as a marketing tool:

"Yes, they are one of our competitors. We've partnered up with them so we can get more support in case someone asks for products that we don't have. We then contact them and help each other sell our products."

On the contrary, some entrepreneurs have expressed feelings of low trust levels between businesses and investors in Ghana, interfering with possible cooperation. One entrepreneur involved in an innovative process and creating a new market in an uncertain environment deliberately chose to avoid cooperation to keep intellectual property within the organization next to concerns of competition wanting to take over the industry.

Regarding this element of effectuation, it is not likely that the proposition is true that states that entrepreneurs who identify the environment as uncertain prefer cooperation over competition.

The other entrepreneurs who perceived the environment as certain were split following a cooperation and competitive analysis approach. It did not seem to be related to industry, but their decision was rather based on getting the most exposure possible for their products.

4.4 Exploiting contingencies versus avoiding contingencies

3 out of 7 entrepreneurs who perceived the environment as uncertain had exploited contingencies when starting their business. This was done through opportunity recognition, recognizing and fulfilling needs that arose unexpectedly:

"I used to stay at a place with a lot of students around and they always came to ask where they could buy a good ground nut paste, and I always directed them, so one day I sat down and thought why not take this opportunity and satisfy their needs myself."

Another way of exploiting opportunities was done through extensive research regarding opportunities with what is at hand, in this case, plastic waste and using it as an opportunity to transform into a business.

All other entrepreneurs started a business avoiding contingencies by making use of preexisting knowledge, namely a follow-up to their educational background, and in one case a university project turned into a business. However, it must be mentioned that there were signs of this element changing over time, as the business matured. Most entrepreneurs got into other industries exploiting contingencies that they encountered actively looking for new opportunities.

Here, the proposition that states that entrepreneurs who perceived the environment as uncertain, started their business by exploiting contingencies is not strongly supported.

4.5 Means-driven versus goals-driven

In an uncertain environment, 62% of the decisions of Ghanaian entrepreneurs were means-driven. Especially regarding whom they know, as most of their decisions were made with respect to their sense of community involvement. They were motivated to give back to the community once their business had reached a stable point by e.g., transforming the business into an institute, training other young entrepreneurs, or in another case giving free information and training to farmers on how they could farm more organically.

“There were not too many opportunities in the IT industry. So that’s when I started deliberate businesses with the intention to create jobs”

The most used networks are the incubators they partnered up with that helped with networking, getting them in contact with other big companies, and teaching entrepreneurial skills such as customer segmentation and marketing. This way of attending training programs, of which some are accommodated by international corporations, led to start-up grants. Other channels have been through family and friends, with previous entrepreneurial experience acting as a business mentor giving guidance or borrowing small amounts of money. *What they know* is mostly determined by their networks, through education, extensive research on the net, attending training programs or business mentors. *Who they are*, are entrepreneurs deliberately looking for opportunities as they state that opportunities are everywhere in Ghana if you have the willingness. This willingness is driven by internal motivations to contribute to their environment. They can be described as confident and risk seekers, as these entrepreneurs did not hesitate to apply for a loan for their business without any concerns of having to pay it back.

Regarding the means-driven sub-category experimentation, the entrepreneurs were well informed about their options of recombining their resources to both optimize their product for the market and regarding their sales channels, experimenting with different ways of getting their products to their customers. 9 out of 11 entrepreneurs were involved in product experimentation, building different prototypes of the products, and optimizing their production processes.

Goal-driven behavior such as having a long-term vision or actively using a business plan was to some extent used by all entrepreneurs. They envisioned their business in the following years, from product differentiation to expanding the business to other regions. 9 out of 11 entrepreneurs found a business plan to be useful to reach those goals. The other 2 entrepreneurs expressed that because of the changing environment, following their business plan did not make sense. However, the extent of this goal-driven behavior does not weigh up to the number of means-driven behaviors identified during the coding process (Table 3).

Therefore, the proposition that states that Ghanaian entrepreneurs will be more means-driven than goal-driven in an uncertain environment is likely to be true.

4.6 (un)certainities over time

5 of 7 entrepreneurs perceiving the environment as uncertain mentioned the decrease in uncertainties over time. They reason that because of scaling up, acquiring machinery, being able to develop the product and getting rid of manual work, decreased risks and insecurities.

As the uncertainties decreased, they actively looked for strategic alliances to grow the business and position themselves in the market. Furthermore, community-based initiatives were strongly supported and helped by those in this environment. Lastly, they were widening their scope on opportunities, trying to exploit new opportunities in other markets and industries.

Therefore, the proposition does not hold that states when the perceived uncertainty decreases, firms will transition toward causation logic.

4.7 Summary results

The following table summarizes how many times each element has been coded and the extent of effectuation compared to causation in percentages:

| | Effectuation | Causation | % Effectuation |
|-------------------------------------|--------------|-----------|----------------|
| Affordable loss/ Expected returns | 14 | 22 | 39% |
| Cooperation/ Competitive analysis | 9 | 31 | 23% |
| Exploiting / Avoiding contingencies | 20 | 34 | 37% |
| Means/ Goals | 75 | 46 | 62% |
| Total | 118 | 133 | 51% |

Table 3: The extent of effectuation identified

Here, it can also be seen that for all elements except for means, causation behavior has been coded significantly more. However, due to the great difference in the number of codes regarding means versus goals, the impression is given that the extent of effectuation versus causation is about the same. The creation of a venture by an entrepreneur that represents the sample can be described as follows:

The idea starts their means; intrinsic motivations from Ghanaian entrepreneurs to contribute to their environment. With determination, not afraid to take risks, and knowledge from previously attained education the idea of starting a business is created. When launching the business, causation elements seem to be preferable by taking loans, avoiding contingencies and opting for competitive advantage through market analysis in a consumer market. In the recycling industry, entrepreneurs prefer cooperation for the reason of working together for a greater goal.

As the venture is running and the entrepreneur has some proof of concept, they widen their scope and try to envision a long-term plan, by incorporating more effectuation elements, as they actively look for alliances and new industries to step into. This process of an entrepreneur from idea to growing the business, representing the complete sample, is illustrated in the following graph:

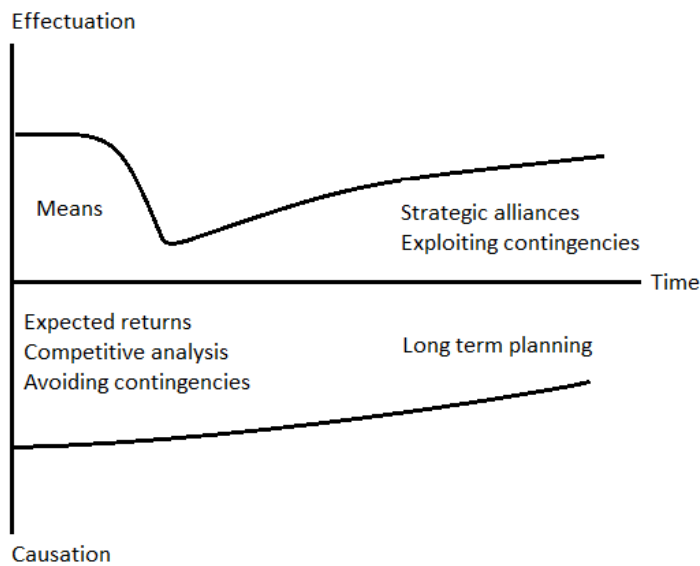


Figure 3: The extent of effectuation and causation from venture creation to venture growth of a representative entrepreneur.

Chapter 5 Discussion

The first things that can be noticed from the results are the contradictions regarding the observations from the sample and effectuation literature. Because also experienced entrepreneurs that perceived the environment as uncertain, preferred competition, avoiding contingencies and calculating expected returns, all related to causation.

Regarding cooperation versus competition, Sarasvathy (2001) argues that cooperation is preferred in an uncertain environment “as from an effectuation-oriented view, new markets are created making it unclear who the competitors, if any, actually are, resulting in competitive analyses having little value”. In our sample, most entrepreneurs weren’t involved in these types of activities e.g., market creation, with no innovation or other markets that needed to be discovered, comparable to Eijdenberg’s (2017) study. The Ghanaian entrepreneurs knew exactly who their competitors were, making it possible to strategize for competitive advantage. In this situation, cooperation will yield little. This preference is industry-specific and not accounted for in Sarasvathy’s (2001) framework of effectuation. This finding, where the type of industry within a country appears to be relevant is in line with previously stated criticism on effectuation by Arend (2015).

It can explain why in the waste reduction industry both cooperation and competitive analysis were used, with the ones actively looking for cooperation arguing that the cooperation would benefit the greater good, reducing local issues or benefiting the community. However, not in all industries, especially mature ones, are entrepreneurs eager to work together for a greater goal, as competitive advantage yields more. Furthermore, the absence of cooperative practices in this research can also be explained by local dynamics characterized by low trust, protecting knowledge and building the industry themselves.

Next to these differences between industries and markets on a micro-scale, cross-country and cultural comparisons as described by Hofstede (1911) can help understand and interpret the contrasting results.

Ghana is considered a collectivistic society (Minkov & Kaasa, 2022) which is expressed by a long-term commitment to family, extended relationships and the community. This explains both of the following

phenomena that stood out in this research: firstly, the great number of means-based approaches, although the entrepreneurs preferred all principles of causation. The collectivistic culture in Ghana may very well have influenced entrepreneurs to involve their surroundings in building their businesses. Among the means, “whom I know” heavily outweighed the other means, where most decisions were made with or for their social networks. It is uncertain how the three types of means stand on their own, as actions done for their environment due to collectivistic culture may contradict personal traits and other means that define “who they are”.

Secondly, collectivistic culture explains why all entrepreneurs were eager to give back to their community by providing jobs or mentorships once their businesses succeeded. This finding indicates again the importance of cross-country comparison to validate effectuation theory, as most researched Western countries such as the United States, are characterized as an individualistic country (Minkov & Kaasa, 2022). Therefore, this raises questions about the pre-requisites of effectuation theory, and whether it translates better to other individualistic countries.

Another significant cultural difference between Ghanaian and American entrepreneurs is the degree of uncertainty avoidance. Where Ghanaian culture displays a preference for avoiding uncertainties, American culture seems to not have that much influence on this element, but rather the context of an American individual (Minkov & Kaasa, 2022). The uncertainty avoidance of Ghanaian culture justifies their preference for causation behavior even when they are positioned in an uncertain environment.

Going back to the microenvironment of the sample and the observed causation behavior, avoiding contingencies was also dominant. This can be explained by the fact that with the exception of one entrepreneur, no one had any previous knowledge or access to someone close to them about starting a business. Therefore, starting a business with the knowledge that had been acquired in education offered fewer risks than starting one with a recognized opportunity, but no knowledge about the product, industry, or business side. This can explain why once the entrepreneurs got some experience in running a business, they were more open to exploiting contingencies they encountered. Thus, in this context, with little business experience, it makes sense to start a business with what the entrepreneur does know, explaining the avoidance of contingencies.

In this Ghanaian context, decision-making strategies around effectuation change as the uncertainty decreases. However, after the initial phase of venture creation, they were engaging more in effectuation decision-making, contrary to what is expected from effectuation literature. This may be caused by a minimum amount of certainty an entrepreneur aspires to require before they are comfortable enough to engage in effectuation decision-making, caused by Ghanaian cultures as described before. As uncertainty is a spectrum, one can imagine a situation where the uncertainty in an African country, such as Ghana, is way lower than any situation researched in traditional effectuation literature conducted in Western Countries. It can therefore be plausible that in these domains of uncertainty other or new elements are dominant before a certain threshold of certainty is reached where Ghanaian entrepreneurs feel confident enough applying effectuation principles. This may clarify why Ghanaian entrepreneurs initially look for certainty by engaging in causation elements, then adopt effectuation decision-making, and may as the business matures, again adopt causation decision-making.

Limitations and future research

The sample size is relatively small considering the study aim of the extent of effectuation as an action by entrepreneurs in Ghana, as Malterud et al. (2016) argue that a broader study aim requires a larger sample to offer sufficient information power as the phenomenon is more comprehensive. In our research, however, the biggest difficulty was found to be connecting with entrepreneurs who would contribute to this study.

Moreover, the way the interviews have been conducted could also have influenced the data. The research was designed to have the interviews face-to-face through an online call. However, this was not possible for the interviewees, resulting in the interviews being held with a conversation over the phone. The absence of a face-to-face interview created a distance between interviewer and interviewee making it impossible to observe genuine reactions and body language. Due to the connection between the Netherlands and Ghana, connection issues also played a role on various occasions, making it hard to ask in-depth questions and elaborations. This is also stated by Irvine (2011), who stated that telephone interviews are typically shorter than face-to-face interviews as participants tend to go less into details. Also, we created a significant survivor bias by choosing to study surviving examples of businesses that had already gotten help from incubators and had successfully gone through the implementation phase of the business.

The data from our case study will need to be supplemented with additional cases from Ghana, possibly into both the same and different industries. Next to industry differences, future research can dive deeper into (other) specific Ghanaian cultural aspects and quantify their effects on effectuation, such as how certain means of the entrepreneurs e.g. who they are, is influenced by culture and how that translate to effectuation. On a bigger scale, effectuation should also be studied in other uncertain environments in Africa to test generalizability and cross-country comparisons. For example: Kenya and South Africa are both emerging economies in which some cultural aspects such as collectivism and short-term orientation resemble Ghanaian culture. It can be researched how effectuation theory is expressed in that context, allowing a stronger relationship to be made between a country's cultural elements and effectuation.

Future research may also have to include supplementing theory to effectuation such as bricolage (Welter, Mauer & Wuebker, 2016). Bricolage is a means-based approach based which also includes resource constraints in combination with a possible uncertain environment, complementing effectuation theory. In our research in Ghana, we noticed resource constraints to have an influence on decision-making processes, making bricolage possibly useful to explain decision-making processes in depth in an African context.

Practical implementations.

This research states that uncertainty does not necessarily mean effectuation practices should always be implemented in an uncertain environment. An entrepreneur should specifically look at which elements can be useful in the set environment and type of industry. Then, entrepreneurs can engage in elements that seem suitable for the context. Next to this, the shift from effectuation to causation or the other way around must be acknowledged and researched, regarding transitioning effectively and efficiently in an African context. With this research, we can encourage incubators and business mentors to pay more attention to training entrepreneurs in dimensions that seem to have more influence on entrepreneurial success. For example, in cases where an entrepreneur is forced to engage in affordable loss, incubators can train them how to arrange their limited resources in the most efficient way, rather than going for the traditional route of making business plans and competitive analysis.

Chapter 6 Conclusion

This research has explored entrepreneurial decision-making in a broader context by expanding effectuation theory towards an emerging economy context in Ghana, which is underrepresented in entrepreneurial literature. With this research, we have contributed to a better understanding of the requirements of effectuation, for it to be transferable to other economies and parts of the world, and the complex dynamics of a context that directly influences decision-making strategies, sometimes resulting in causation behavior to be dominant in uncertain environments contradicting current effectuation literature. To answer the research question: To what extent are effectuation or causation approaches used as a strategy for new venture creation in emerging economies in Africa? The answer is straightforward; causation approaches are a significantly dominant strategy for venture creation in the researched context. All elements of effectuation were inferior to their causation counterparts with the exception of means versus goals. Also, as the business matures, strategies change which makes the decision-making process an ongoing process where the entrepreneurs in this research are more willing to broaden their horizons and engage in other business opportunities. Although this is only one of a few pieces of research in an African context, it demonstrates that effectuation theory can't blindly be applied to other settings. Therefore, it is still open to question in what way effectuation can contribute to entrepreneurial decision-making in Africa in the future.

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Appendix A: Semi-structured interview script.

Introduction

- Name, age, years of being an entrepreneur
- What is the product
- How did you start your business?
- How many people are working in the venture?
- Explain about the environment you operate in, what type of market?
- What do you know about the market size, competitors and differences between the businesses
- What are the biggest challenges of starting a business in Ghana?

Effectuation

- What personal connections allowed you to start a business (business mentors, friends, family)?
- What did you (not) know about starting a business and how did you manage to overcome knowledge gaps?
- What personal traits do you have that you think are essential to building a business?
- How do you perceive the environment, and how does the environment influence starting a business?
- As the company grew, did your view on uncertainty change and if so, what changed about the way you did business?
- Have you developed multiple variations of the product as a result of a learning process?
- which channels have you used to sell the product
- Has the product changed over time as the venue grew?
- What efforts did it take to set up the venture, time and investment-wise? And how did you manage to get the financial needs that were required?
- How did you respond to unplanned opportunities arising? Such as recognizing needs or looking into other industries?
- Who are your partners? Did you contact selected stakeholders to work together?

Causation

- How do you think the business will look like in 5 years, is there a long-term vision?
- What are long-term opportunities, or other industries you might get into?
- Have you calculated what opportunities have what returns ?

- What is your opinion on making a business plan?
- Have you done a competitive analysis to see where opportunities are for the business?

Appendix B: Codebook

| Effectuation | Causation |
|------------------------------|----------------------------|
| M- Means-driven actions | G- Goals driven actions |
| AF- Affordable Loss | ER- Expected returns |
| CO- Cooperation | CA- Competitive Advantage |
| EC- Exploiting contingencies | AC- Avoiding contingencies |
| NP- non-predictive control | PR- Predictive control |
| R- Effectuation rest | C- Causation rest |

| M- Means-driven actions | G – Goals driven actions |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Who they are/ whom they know and what they know:</p> <p>Personal traits from entrepreneurs, enabling them to start a business</p> <p>Social and business networks. Environmental-specific networks motivating entrepreneurs to give something back to their close environment.</p> <p>Knowledge gained over time, by means of self-learning, education or the help of others.</p> <p>Experimenting with the different means they possess to achieve different outcomes.</p> <p>Expresses that the entrepreneur does not know yet where the business is heading in the following years.</p> | <p>An entrepreneur's intentions lead to planning and development to achieve the pre-established goals.</p> <p>Expressing a vision on how the business evolves in the coming years, and the steps that are necessary to get there</p> |

| | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| AF - Affordable loss | ER - Expected returns |
| Estimating how many quantifiable resources the entrepreneur is willing to lose. (Sarasvathy, 2001) experimenting with numerous strategies that can be achieved with the limited available resources. | Focusing on investments or taking loans, with the assumption of expected returns on those investments (Sarasvathy, 2001). |

| | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| CO- Cooperation | CA – Competitive advantage |
| Self-chosen stakeholders and strategic alliances with other individuals and organizations, to mitigate risks and build entry barriers (Sarasvathy, 2001). | Relationships are driven by competitive analysis, where each entrepreneur tries to gain market share at the expense of competitors (Sarasvathy, 2001). |

| | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| EC- Exploiting contingencies (EC) | AC – Avoiding contingencies |
| Taking advantage of opportunities emerging and embracing unforeseen occurrences and transforming them into lucrative opportunities. (Sarasvathy and Dew, 2005) | Trying to reach predetermined objectives, by means of gained knowledge (education, networks) (Sarasvathy, 2001) |

| | |
|----------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NP- non-predictive control | PR- Predictive control |
| Environment in which the future can't be predicted due to external changing factors, such as markets and governments (Dew et al. 2009) | Environment in which the entrepreneur shows confident in predicting the future of the business, as a result of maturity in the business and external factors (Dew et al. 2009) |

| | |
|----------------------------------------------------------------------------------|-------------------------------------------------------------------------------|
| R- Effectuation rest | C- Causation rest |
| Indicators that belong to effectuation but don't fall under the other categories | Indicators that belong to causation but don't fall under the other categories |

Appendix C: ICR and Cohen's Kappa

| | Rater 2 | | |
|---------|-------------------------------------|----------------------------------|-------------------------------------|
| Rater 1 | | Effectuation (M,AF,EC,CONP,R) | Causation (G, ER, CA, AC, PR, C) |
| | Effectuation (M,AF,EC,CONP,R) | 18 | 2 |
| | Causation (G, ER, CA, AC, PR, C) | 2 | 9 |

ICR (Po): 27/31 = 87%

Cohen's Kappa:

$$\kappa = \frac{p_o - p_e}{1 - p_e}$$

Pe = 0.186

K = (0.9 - 0.186)/(1 - 0.186) = 0.88