

**Master thesis on the effects of entrepreneurial
decision-making on ventures' performance**

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"I might as well be hanged for poaching a sheep as for poaching a lamb". - Entrepreneur 11

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ABSTRACT

Contemporary research shows that the decision making of entrepreneurs influences the performance of the venture. These decision-making processes can be divided into planning or not, causation or effectuation. Connecting these to performance can determine which decision lead to the success or failure of a venture. Twenty semi-structured interviews were conducted to examine, firstly, the use of causation and effectuation and their relationship with performance. Secondly, longitudinal research was conducted examining the effects of changes in causation and effectuation on performance. The most important results are that the entrepreneurs from the best-performing ventures have an increase from 8% to 25% in leverage contingencies and the lowest scoring ventures went from 8% to 15%. Concluding, it can be stated that means oriented, leverage contingencies and expected return are beneficial for the performance over time. In addition, the right combination of leverage contingencies (effectuation) and expected return (causation) or competitive analysis (causation) seems to ensure a beneficial performance. Future research can focus on the extent to which an entrepreneur can shift within the dimensions and whether this is beneficial for performance.

Keywords: Effectuation, causation, entrepreneurial decision-making, performance

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1 INTRODUCTION

Over the past decades, increasingly more research has been conducted into the decision-making process of entrepreneurs and especially on the issue of planning or not. After an entrepreneur has detected an opportunity, he can decide to exploit it; yet every entrepreneur decides on different grounds (Shane & Venkataraman, 2000). Such differing grounds are the organisational context, the availability of funding, the degree to which a fit is expected between the outcome and the degree of planning (Shepherd, Williams, & Patzelt, 2015). The extent of planning is particularly interesting; it is often split into entrepreneurs who do or do not plan.

In addition, the influence of entrepreneurial decision-making on the firm's performance is increasingly being examined (e.g. Lumpkin & Dess, 2001; Baum & Wally, 2003). By measuring performance, one can understand what the success or failure indicators of a venture are (Murphy, Trailer, & Hill, 1996), and by linking this to the entrepreneur's decision-making, one can determine which decisions have a beneficial or detrimental influence. Therefore, it is potentially interesting to examine the extent to which decision-making related to planning or not affects performance.

The planning school often taught at universities (Dew et al., 2009), is composed of researchers who claim that planning has advantages for the venture (Brews & Hunt, 1999; Shane & Venkataraman, 2000), such as an improved performance (Brews & Hunt, 1999). In this light, Sarasvathy (2001; 2009) distinguishes planning possibilities within the decision-making process involving a high degree of planning ('causation') or a low degree of planning ('effectuation'). The theory of causation and effectuation is considered opposing historically made assumptions about establishing and performing a business (Perry et al., 2012).

However, there is also critique on effectuation, as Arend et al. (2015) argue that this theory is limited in its scope and does not address similar decision-making theories. Still, Arend et al. (2015) do not completely discard the theory and indicate that further research is required. On the other side are researchers who believe that not planning deliberately has advantages like remaining strategically flexible, for instance, decision-making processes as bricolage (Baker & Nelson, 2005), non-predictive strategies (Wiltbank et al., 2006) and improvisation (Hmielseski & Corbett, 2006).

1.1 CAUSATION AND EFFECTUATION

Even though Sarasvathy (2001) emphasizes that she does not consider effectuation to be better than causation and vice versa, an increasing number of studies nowadays claim this. Whereas in the beginning there was little empirical research into causation and effectuation, nowadays there are increasingly more studies into these concepts (Perry et al., 2012; Grégoire & Cherchem, 2020). However, the link between effectuation and performance is still insufficiently elucidated in these

studies. Some studies establish a relationship between the two (e.g. Brinckman et al., 2008; Read, Song, & Smit, 2009; Deligianni, Voudouris, & Lioukas, 2017; Welter & Kim, 2018). However, these studies have a quantitative approach and do not analyse which underlying aspects of effectuation or causation improve a venture's performance. Besides, these studies are measured at one moment in time and do not examine how shifting from effectuation to causation, or vice versa affects the venture's performance over time. Arend, Sarooghi and Burkemper (2015) suggest that more research should be carried out in the various steps and sequences in the decision-making processes in order to obtain a more comprehensive analysis. As a result, it may be interesting to conduct a qualitative, in-depth, and longitudinal study into this.

1.2 RESEARCH INTO PERFORMANCE AND CAUSATION & EFFECTUATION

Contemporary research has tended to examine the question of whether effectuation leads to enhanced performance, or what is traditionally taught, causation. For example, Deligianni et al. (2017) state that effectuation provides more product diversification and hence improved performances. Cai et al. (2017) likewise state that effectuation leads to better performance and indicate that exploratory learning is of key importance. Fütterer, Schmidt and Heidenreich (2018) consider causation to be beneficial as long as the market in which a venture operates grows slowly. Roach, Ryman and Makani (2015) claim that effectuation leads to better product innovation and therefore better performance. On the other hand, Brinckman et al. (2008) argue that planning does improve performance, although this depends on the age of the venture and the cultural context. In view of these opposing assertions, it is important to conduct further research into this matter. Given the above-mentioned studies are of a quantitative nature, and therefore cannot establish causal links, this research will be of a qualitative nature to discover underlying causes. In addition, performance is measured in a differing manner in each study, therefore the aim of this study is to create more unity in this respect.

1.3 THEORETICAL RELEVANCE

This research contributes to the literature in two fundamental respects. First, in this study, the differences of causation and effectuation concerning 'the contexts, content, and process of change together with their interconnections through time' (Pettigrew, 1990, p. 268) are examined and therefore establish a connection with the ventures' performance by employing longitudinal research. Sarasvathy (2001) implied in her initial research, regarding causation/effectuation, that conducting longitudinal research is the most effective way to investigate success and failure factors. However, this type of research, to our knowledge, has not yet been performed in this context. Researchers who do investigate the link between effectuation/causation and performance indicate that there is still a lot of progress to be made in this regard (Brinckman et al, 2008; Cai et al., 2019; Deligianni et al., 2017; Fütterer et al., 2018; Roach et al., 2016). Furthermore, a longitudinal design makes it possible to discover causal relationships in the decision-making process and performance development over time

(Brinckman et al., 2008; Deligianni et al., 2017; Futterer et al., 2018; Cai et al., 2019; Laksovaia, Shirokova, & Morris, 2017). So where other studies keep a defined variable in the light of causation and effectuation, this research will be more exploratory, creating potentially new research directions along the way. Further clarification of how the longitudinal study was conducted is explained in 3. Methodology.

Secondly, this research aims to contribute to the development of a standard method to measure performance in the light of causation and effectuation. Cai et al. (2019), Deligianni, et al. (2017), Futterer et al. (2018) and Roach et al. (2016) all use different methods of measurement. Brinckman et al. (2008) even combine different modes of measurement within the same research, therefore, it is complicated to cross-reference the different performance results. Read et al. (2008) implied that different ways of measuring should be mixed to make studies and outcomes more comparable. Therefore, this research will focus on combining existing methods of measuring performance, compare them with existing literature, and establish a single model that can measure performance in the context of causation and effectuation.

1.4 PRACTICAL RELEVANCE

Since this research is concerned with the performance of a venture, it has a high degree of practical relevance. By determining whether effectuation or causation has a better impact on a venture's performance, ventures can accommodate accordingly. In addition, this research not only identifies which decision-making process works better but also which aspects within these processes have an impact on the performance of the venture in a low-uncertainty market. Finally, this is a longitudinal study that provides insight into developments over time. As a result, it is more insightful and clarifying for entrepreneurs and ventures to see how the decision-making process and the venture's performance evolve, in order to derive lessons from.

1.5 RESEARCH QUESTION

The aim is to conduct longitudinal research in order to examine the relationship between decision-making and performance over time. The craft beer market is chosen because of the assumed low-uncertainty characteristic (see chapter 3.2). Hence, it is expected that entrepreneurs utilize a causation approach at the start of the venture. Yet, it is not studied to what extent the effectual or causal approach over time affects the ventures' performance. Therefore the following research question is formulated:

How does the degree of causation/effectuation of an entrepreneur's decision-making process over time determine the venture's performance?

1.6 OUTLINE OF THESIS

To illustrate this research in a structured approach, it has been outlined as follows: first, the theoretical framework is highlighted, this section discusses more thoroughly the literature on causation and effectuation, followed by performance, and then addresses existing literature that makes a connection between causation/effectuation and performance. This is followed by a clarification of the methodology, addressing the longitudinal approach and the operationalisation of the theoretical framework. Subsequently, the interviews are presented in the result section, this is succeeded by an analysis of the most important outcomes. This is finalised by a discussion and conclusion. The appendices contain all supporting interviews, documents and additional information.

2 THEORETICAL FRAMEWORK

In this section, the supporting theoretical concepts are discussed to create a theoretical frame that guides answering the research question. First, the decision-making theory concerning causation and effectuation is highlighted, followed by an elaboration of the differences between these two types of decision-making processes. Second, the concept of performance is introduced, starting with a definition that is followed by an overview of the current state of research that connects performance with either causation or effectuation.

2.1 CAUSATION AND EFFECTUATION

The theories of causation and effectuation were established by Sarasvathy. Sarasvathy (2001) presents the decision-making processes causation as a rationale based on prediction and effectuation as a rationale based on control. Sarasvathy (2001) refers to traditional forecasting as causation and defines it as follows: '*Causation processes take a particular effect as given and focus on selecting between means to create that effect*' (p. 245). On the other hand, some entrepreneurs do not plan; they are distinguished by Sarasvathy as the decision-making process: effectuation. Sarasvathy (2001) defines it as: '*Effectuation processes take a set of means as given and focus on selecting with between possible effects that can be created with that set of means*' (p. 245).

An important notion in this theory is that causation usually occurs in environments that are more certain whereas effectuation more likely occurs in environments with more uncertainty (Sarasvathy, 2009; Chandler et al., 2011; Fisher, 2012; Cai et al., 2019). Uncertainty refers to an unspecified and unpredictable context (Reymen et al., 2015). Another important notion is that the processes of causation and effectuation may occur concurrently (Sarasvathy, 2009; Perry et al., 2012). Furthermore, Dew et al. (2009) state that expert entrepreneurs more often use an effectual approach regarding decision-making than novice entrepreneurs. In the following section, the differences between causation and effectuation are highlighted, based on the five principles proposed by Sarasvathy (2009) (see Table 1).

2.2 DIMENSIONS OF CAUSATION AND EFFECTUATION

Although Sarasvathy (2001; 2009) and Werhahn et al. (2015) present five dimensions, yet this research will focus on only four, as control logic, concerned with controlling or predicting the future, is reflected in all other dimensions (Chandler et al. 2011; Reymen et al. 2015). Therefore, the following dimensions are presented: (1) basis for taking action, (2) attitude towards others, (3) contingencies and (4) risk and resources. In addition, most of the research that measures the relation between causation/effectuation and performance also distinguishes these four dimensions (e.g. Cai et al., 2019; Roach et al., 2015; Laskovaia et al., 2017).

2.2.1 The basis for taking action

Sarasvathy (2009) points out that causation is characterised by a single predefined goal (goal oriented, hereafter GO), upon which various solutions are sought to achieve this goal. In this process, a goal is set and analysis is made concerning competitors and market developments (Reymen et al., 2015). When means oriented (hereafter MO) is used, it is examined how a single mean can be put to use in order to pursue alternative goals. Starting with a single mean can be seen as ‘the bird in the hand’ principle. An entrepreneur takes stock of his identity, knowledge and network, determining who he is, what he knows and whom he knows (Sarasvathy, 2009). This inventory is followed by exploring business opportunities employing short-term experiments (Chandler et al, 2011).

Table 1 *Dimensions of the causation/effectuation construct (Sarsasvathy, 2001; 2009; Read & Sarasvathy, 2005; Dew et al., 2009).*

Dimension	Effectuation	Causation
The basis for taking action	<i>Means oriented</i> - Starting with means, the direction the entrepreneur will head is depending on the resources available.	<i>Goal oriented</i> - Starting with ends, in other words, a predetermined goal. This goal is independent of the resources available.
Attitude towards others	<i>Pre-commitment</i> - An open-minded approach is taken to competitors and, where possible, cooperation is entered into, as a result of which the direction of the entrepreneur depends on the stakeholders.	<i>Competitive analysis</i> - This includes a competitive attitude towards outsiders with associated competitive analyses. The aim is to create as little dilution, reduction of ownership as possible.
Contingencies	<i>Leverage contingencies</i> - Forecasting and planning are avoided to seize contingencies as an opportunity to create new ideas, thus the contingencies are levered.	<i>Avoid contingencies</i> - Planning as accurately as possible must ensure that contingencies are avoided because they are seen as barriers.
Risk and resources	<i>Affordable loss</i> - Reasoning from affordable loss principle, the aim is not to risk more than decided in advance. Focus on downside potential.	<i>Expected return</i> - Analysing expected returns, the aim is to pursue the highest possible pre-determined profit. Focus on upside potential.

2.2.2 Attitude towards others

Competitive analysis (hereafter CA), the causation approach, involves entering into and analysing the competition. Additionally, a pre-commitment (hereafter PC) focuses on entering into alliances with competitors and PC with stakeholders and regards the effectual approach (Sarasvathy, 2009). In the case of causation, entrepreneurs want to protect their knowledge from outsiders in order to gain a competitive advantage, while under effectuation, collaboration is initiated to have more resources at one’s disposal (Reymen et al., 2015). Furthermore, Sarasvathy and Dew (2005) state that possible, pre-existing goals do not determine who is engaged about entering into a partnership within effectuation.

Chandler et al. (2011) for example, connect this dimension with affordable loss since the engagement with multiple stakeholders can reduce the risk and thus the potential loss.

2.2.3 Contingencies

Where causation aims to avoid contingencies (hereafter AC) and focus on what is known, effectuation aims to exploit these contingencies (leveraging contingencies, hereafter LC) (Sarasvathy, 2009). This includes, for example, economic, regulatory or technological changes or the loss of an important individual in the network. However, this is not seen as a constraint, but as an opportunity to grow differently (Sarasvathy & Dew, 2005). As a result, an effectuation approach ensures the possibility to remain flexible (Chandler et al., 2011). Within causation, contingencies are seen as obstacles, hence by creating accurate predictions they are avoided as best as possible (Dew et al., 2009).

2.2.4 Risk and resources

In the case of effectuation, the entrepreneur determines solely in advance how much he is willing to risk losing (affordable loss, hereafter AL), whereas in the causal approach the entrepreneur aims to maximise earnings by formulating specific strategies (ER, hereafter), (Sarasvathy, 2009). This determination does not necessarily have to be calculated; it can also be based on data that is already available, such as, for example, current net worth and possible future income (Sarasvathy & Dew, 2005). Within the AL principle, opportunities are considered for downside potential, as opposed to taking into account the upside risk potential when considering the ER (Read & Sarasvathy, 2005).

2.2.5 Coherence and overlap of dimensions

There is debate as to whether it is causation versus effectuation or causation and effectuation. Accordingly, Brettel et al. (2012) state that it is causation versus effectuation, and on the other hand Wiltbank et al. (2006), Chandler et al. (2011) and Werhahn et al. (2015) argue that it is causation and effectuation. In addition, Smolka et al. (2018) claim that the interaction between causation and effectuation has the most significant impact on performance. Firstly, this is important to consider in the method of research (McKelvie et al., 2020), a further explanation follows in 3.1. Secondly, this is essential in the process of drawing up conclusions.

2.3 PERFORMANCE

In this research, the decision-making process of an entrepreneur is linked to a ventures' performance, as this is an indicator used to illustrate how well a venture operates on a financial basis. Besides, it is essential to link different theories to performance in order to test their success or failure and thus create better practices for entrepreneurs (Murphy et al., 1996). However, scientists do not always conduct research from the same perspective. Hence, different dimensions of performance can be measured and different ways of measuring performance can be used. Santos and Brito (2012) define performance as an element of effectiveness within the framework of operationalisation and financial

output. It is important to take into account that it is argued that ventures performance can almost always be aligned with that of the entrepreneur (Sarasvathy, 2009). The performance can further be subdivided into profitability, growth, market value (Santos & Brito, 2012; Murphy et al., 1996) customer satisfaction, employee satisfaction (Santos & Brito, 2012) size, liquidity and efficiency (Murphy et al., 1996).

According to Chandler and Hanks (1993), performance can be measured in the three following ways: (1) an objective way that examines ventures actual financial figures; (2) a subjective manner in which the entrepreneur represents the figures in relative terms and indicates how satisfied he or she is with them; (3) a subjective way in which the entrepreneur reflects his relative position concerning that of the competition. The objective way is the most reliable, but the subjective way of measuring performance is the most likely to elicit responses from respondents, firstly because entrepreneurs do not always want to provide open information and secondly because they do not always have all the figures at hand. In addition to objective and subjective performance can be distinguished between short-term and long-term performance (Haber & Reichel, 2007). This puts more focus on growth, and what is particularly interesting is that it highlights the importance of success in achieving profits at the time of a geopolitical crisis. Considering the current COVID-19 pandemic, this is an important indicator that is also taken into account in this study.

2.4 CAUSATION AND EFFECTUATION LINKED TO PERFORMANCE

Even though Sarasvathy (2001; 2009) does not present causation and effectuation as one being superior to the other, she does imply that, in certain scenarios, one may turn out more successful than the other. As such, Sarasvathy (2009) hypothesize that during a firms' foundational stage the performance is positively correlated with a causal logic and the predictability of the market is positively correlated with an effectuation logic. Furthermore, Sarasvathy states that the effectual logic is positively correlated with the number and quality of strategic alliances. Over the years, this statement has led to several studies focussing on the outcome of causation and effectuation, such as performance. In the next section, we will further cover research that establishes a connection between causation and effectuation, an important notion in this regard is that all studies into this matter are quantitative (an overview of this research is given in Table 2). This overview shows that the following aspects occur more often: sales or revenue (5), profit (4), employees (2), growth (6) and comparisons (4). In addition, most researchers use subjective measurement methods.

Table 2 *Performance indicators in existing research into causation/effectuation and performance*

Authors	Performance indicators	Subjective/ objective
<i>Roach, Ryman & Makani (2015)</i>	<ul style="list-style-type: none"> ▪ sales ▪ profit ▪ employment 	Subjective

	<ul style="list-style-type: none"> ▪ performance 	
<i>Futterer, Schmidt & Heidenrech (2018)</i>	<p>Financial:</p> <ul style="list-style-type: none"> ▪ return on investment ▪ revenue ▪ cash flow ▪ adherence to budget 	<p>Non-financial:</p> <ul style="list-style-type: none"> ▪ extension of competencies ▪ knowledge ▪ network ▪ reputation ▪ signalling effect ▪ industry growth ▪ perceived career success
<i>Deligianni, Voudouris & Lioukas (2015)</i>	<ul style="list-style-type: none"> ▪ degree of perceived performance over the last 3 years compared with that of their main competitors. 	Subjective
	<ul style="list-style-type: none"> ▪ return on equity 	Objective
<i>Cai, Guo, Fei & Liu (2019)</i>	<ul style="list-style-type: none"> ▪ net profit rate ▪ investment return rate ▪ market share rate ▪ sales growth speed ▪ new employees growth speed ▪ market shares growth speed 	Objective
<i>Smolka, Verheul, Burmeister-Lamp & Heugens (2016)</i>	<ul style="list-style-type: none"> ▪ sales ▪ market share ▪ profit 	Subjective
<i>Brettel, Mauer, Engelen & Küpper (2012)</i>	Measurement of internal R&D performance	Subjective
<i>Yu, Tao, Tao, Xia, Li (2018)</i>	<p>Performance compared to:</p> <ul style="list-style-type: none"> ▪ same city ▪ same market niche ▪ same industry 	Subjective
<i>Laskovaia, Shirokova & Morris (2017)</i>	<ul style="list-style-type: none"> ▪ sales growth ▪ market share growth ▪ profit growth 	Subjective

2.4.1 The basis for taking action and performance

Read et al. (2009) found that MO significantly improves the performance of ventures. Similarly, Roach et al. (2015) argue that MO has a significant effect on the product-innovation/performance relation. In addition, Deligianni et al. (2017), stated that there is a significant effect between MO and the diversification-performance relationship. Similarly, Cai et al. (2019), stated that there is a significant effect between MO and a ventures' performance. However, Smolka et al. (2018) did not find a significant effect between MO and a ventures' performance. Since there is no consensus on the extent of a relational effect between the basis for taking action and performance the following propositions are formulated:

Proposition 1a: The effectual approach 'MO' have a positive influence on the ventures' performance.

Proposition 1b: The causation approach 'GO' have a positive influence on the ventures' performance.

2.4.2 Risk and resources and performance

Read et al. (2009) showed that AL has no significant impact on the ventures' performance. In line with this, Deligianni et al. (2017), argued that there is no significant causal effect between the AL and the diversification-performance relationship. Furthermore, Smolka et al. (2018) showed a negative effect,

indicating that AL has a negative impact on a ventures' performance. Roach et al. (2015) however, found that AL has a significant impact on the ventures' performance, although they found no significant effect on the product-innovation/performance relation. Besides, Cai et al. (2019) similarly found a significant effect, arguing that AL allows ventures to create a better opportunity assessment. Based on recent studies it can be argued that there is no consensus on the strength of the relation between the risk and resources dimension and the ventures' performance', hence the following propositions are drafted:

Proposition 2a: The effectual approach 'AL' have a positive influence on the ventures' performance.

Proposition 2b: The causation approach 'ER' have a positive influence on the ventures' performance.

2.4.3 Attitudes towards others and performance

It is argued that PC has a significant effect on the ventures' performance because entrepreneurs who act accordingly have highly developed social skills (Smolka et al., 2018). Likewise, Cai et al. (2019), showed a significant effect, stating that PC gives access to valuable resources. Read et al. (2009) also have found that partnerships significantly improve the performance of ventures. Deligianni et al. (2017) also found a significant, yet marginally, effect from PC on the ventures' performance. However, Roach et al. (2015), did not find a significant effect between PC and a ventures' performance. As it is yet unclear whether this dimension influences the ventures' performance, the following propositions are formulated:

Proposition 3a: The effectual approach 'PC' have a positive influence on the ventures' performance.

Proposition 3b: The causation approach 'CA' have a positive influence on the ventures' performance.

2.4.4 Contingencies and performance

Read et al. (2009) have found that LC has a significant effect on the ventures' performance. Similarly, Roach et al. (2015), found that LC has a significant effect on the product-innovation/performance relation. Besides, Deligianni et al. (2017) argue that there is a significant effect between LC and performance. Furthermore, Smolka et al. (2018) state that there is a strong significant effect from LC on a ventures' performance. To this extent, Cai et al. (2019), show a significant effect between LC and a ventures' performance. As there is a consensus on the relation, between LC and a ventures' performance, the following propositions are formulated:

Proposition 4a: The effectual approach 'LC' have a positive influence on the ventures' performance.

Proposition 4b: The causation approach 'AC' have a positive influence on the ventures' performance.

Finally, it is also stated that an alternation between causation and effectuation creates a better performance (Laskovaia et al., 2017; Smolka et al., 2018). In this way, an entrepreneur can plan ahead but still at the same time respond flexibly to sudden and unpredictable changes in the market and customer demand. This element of alternation is important with regard to assessing the scope of all propositions that have been formulated above.

2.4.5 Contextual factors

There is also research that states that it depends on the situation whether effectuation or causation works better. According to Brettel et al. (2012), it depends on the level of innovation, with a high degree of innovation, effectuation is appropriate and vice versa. To this extend, Fetterer et al. (2018) observed that causation has a stronger influence on performance in a market with limited growth, whereas effectuation has a stronger influence on performance in a market with high growth. It is also argued that effectuation is positively related to performance with a high degree of uncertainty in the market and causation with a low degree of uncertainty in the market (Yu et al., 2018). This research will not focus on contextual factors. It will concentrate on a single market, a detailed description of this market follows in 3. Methodology.

It can be concluded that there is still much disagreement regarding the relationship between causation/effectuation and performance. This is not unexpected, as each study has its research direction. In addition, all existing research is of a quantitative nature, which means that no causal links can be uncovered. As a result, it is interesting to dig deeper and examine why certain characteristics of processes within causation/effectuation affect performance. Furthermore, exploring why and how the four dimensions evolve can give insightful information regarding the influence on performance. In addition, as shown in Table 2, each study uses a different measuring construct to measure performance. Therefore, a single performance measurement method has been created. In the methodology chapter, it will be clarified how more methodical unity can be achieved in this respect.

3 METHODOLOGY

This chapter outlines the research design. First, it specifies the research design, addressing longitudinal research and semi-structured interviews. Second, the data collection and the characteristics of the samples are highlighted. Third, the measurement constructs of causation/effectuation and performance are being discussed. The chapter concludes with an elaboration on the coding scheme and the way of coding.

3.1 RESEARCH DESIGN

As aforementioned, there is a lack of longitudinal research concerning the effects of causation and effectuation on venture performance. We conduct longitudinal research to analyse the process of change (Pettigrew, 1990) and to make stronger causal interpretations (Menard, 2002). This study is longitudinal because we will analyse data collected three years ago by Gardien (2018), a former University of Twente MsC-BA student, and cross-reference it with our data, collected in February and March 2021. We use in-depth interviews which are suitable for longitudinal research as long as the interviewees themselves have been affected by the change or are the initiators (Pettigrew, 1990). It is therefore important to ensure that only entrepreneurs who make the most important decisions, i.e. the 'key informants' (Pettigrew, 1990, p. 277), are interviewed because these informants will most likely recall the required information needed to answer the questions (Menard, 2002). In addition, causation and effectuation are measured contextually. This entails that the two-way relationship between decision-making and the context is analysed at two points in time (Pettigrew, 1990). This is subsequently compared with the performance which is measured in a processual manner meaning that the structure over time is analysed (Pettigrew, 1990). Therefore, performance is analysed as a growth from 2018 to 2021, which is important because performance is not considered a moment in time but is based on a course of time.

The in-depth interviews are semi-structured to reveal the interviewee's thoughts (Newcomer et al., 2015) and better understand why certain approaches to decision-making have been chosen (in accordance with Arend et al., 2015). The interview questions regarding causation and effectuation (see Appendix I) will be based on the scale by Chandler et al. (2011), and a selection of items from the scale of McKelvie et al. (2020) in which an explanation of tensions is given with regard to the measurement of causation and effectuation. In addition, the same phrasing of questions is used as Gardien (2018), who similarly based the question to Chandler et al. (2011), to increase the reliability of longitudinal research (Menard, 2002). The interview question regarding performance will be based on existing research on causation/effectuation and performance indicators of Santos and Brito (2012) and Haber and Reichel (2007).

3.2 DATA COLLECTION

The data collection is largely based on the selection made by Gardien (2018). In Gardien (2018) eleven entrepreneurs were interviewed and all ventures had been founded between 2011 and 2016. In order to minimize contextual variables, Gardien (2018) selected a market with an assumed low-uncertainty degree within a single nation. Besides, all the entrepreneurs' primary source of income in the Gardien (2018) sample had to come from the venture itself. Moreover, this research involves interviewing additional entrepreneurs, for whom Gardien (2018) selection criteria will likewise apply. Moreover, purposeful sampling is used in this research for the additional entrepreneurs, with which an attempt is made to reach information-rich respondents (Coyne, 1997). In this regard, location, size and year of the establishment were considered, and hobby brewers were explicitly excluded. Subsequently, the entrepreneurs were invited by e-mail for a (follow-up) interview, which can be found in Appendix II. Due to COVID-19 restrictions and with a view to the protection and welfare of all, the interviews were conducted online via video call application. Furthermore, it has been explicitly emphasised that all interviewees remain anonymous, which means that some information cannot be reflected in the study.

3.2.1 Dutch craft beer breweries

The Dutch craft beer market can be considered a market with a low degree of uncertainty. Miliken (1987) defines uncertainty 'as an individual's perceived inability to predict something accurately' (p. 136). Miliken (1987) distinguishes three forms of uncertainty, namely: state uncertainty, effect uncertainty and response uncertainty. The first relates to the environment, the second to the cognitive functions of the entrepreneur concerning making correlations and the third relates to the entrepreneur's awareness of the various options he has at his disposal. As within the scope of this study solely the market is concerned, only the first category is addressed. The extent to which the entrepreneur feels (un)certainity in light of social-cultural trends, demographic changes and significant new technological developments is central when we consider the market (Milliken, 1987).

According to Van Dijk, Kroezen and Slob (2018), there is a major trend in which craft beers are becoming increasingly popular with the Dutch public, hence it can be safely asserted that there is little uncertainty in the area of socio-cultural trends. From a demographic point of view, one can also speak of little insecurity, given that in 2019 65% of men and 27% of women indicate that they drink beer at least once a month and 46% of them drink at least one craft beer a month.¹ Technological developments mainly concern the brewing technique and are easily adapted by others in the market, due to the existing co-opetition (Mathias et al., 2018) in the Dutch craft beer market.

Although it can be assumed that the Dutch craft beer market shows a state of low uncertainty, this does not necessarily mean that every entrepreneur shares this perception. In order to confirm this

¹ Nederlandse Brouwers, National beer research conducted by Ruigrok NetPanel, 2019

assumption, the interview contains the question of whether the entrepreneur considers the market as showing a state of low uncertainty. Moreover, this presumption has been acknowledged by the craft beer brewers during the interviews.

3.3 METHOD OF ANALYSIS

3.3.1 Causation/effectuation

Over the years, many different ways of measuring causation and effectuation have been developed and used. There is even tension between cognitive decision-making logic -reasoning- and behavioural logic -acting- (McKelvie et al., 2020) signifying the presumed incompatibility of structural and processual analysis of change (Pettigrew, 1990). In this research, the purpose is to better understand what steps have been taken by entrepreneurs and what consequences are, allowing a focus on behavioural aspects of the entrepreneur. Also, it is important to examine whether causation *versus* effectuation is measured or causation *and* effectuation (McKelvie et al., 2020). This research will examine causation *and* effectuation because various studies have shown that these concepts do not have to be dichotomous or mutually exclusive (Fisher, 2012; Reymen et al., 2015; Smolka et al., 2016; Yu et al., 2018). Based on the findings of McKelvie et al. (2020), it can be concluded that the units of measurement can best be based on Chandler et al. (2011).

Furthermore, McKelvie et al. (2020) address the difference between a process-based or a variance-based theory. A variance-based theory explains possible outcomes such as performance, however, research into this is limited. In this regard, it is important to note that performance is seen as an outcome of the independent variable causation/effectuation. Also, in existing research into causation/effectuation, the unit of analysis is either a decision or a series of decisions and the level is whether the venture or the entrepreneur itself is being investigated (McKelvie et al., 2020). Therefore, it should be specified what the unit and level of analysis are. In this report, the unit of analysis is the entrepreneur himself, thus the decision making (process) of the individual. The level of analysis is how causation and effectuation develop over time, thus implying a series of decisions.

3.3.2 Performance

To establish a measurement for performance all relevant research connecting causation and effectuation is compared (see Table 1). Although objective units of measurement better reflect the reality and thus indicating causal relations more effectively (Brinckman et al., 2008; Laksovaia et al., 2017; Reymen et al., 2015), we assume not all performance indicators are available to entrepreneurs. This does however not create a problem, since subjective measurements are as reliable as objective ones when a study only concerns ventures within a single market (Dess & Robinson, 1984). Hence, the aim is to measure objective units following Haber and Reichel (2007), in combination with subjective units which will be measured by following the research set-up as discussed by Santos and Brito (2012)

(Table 2) and combined with existing research regarding causation and effectuation and performance (Table 3). The resulting questions are listed in Appendix I. To establish a strong connection between causation/effectuation and performance, the interview questions regarding causation/effectuation are directly followed by a question concerning how decisions successively affected the performance of the venture (Appendix II, questions P1, P2, P3 and P4)

Table 3 Key performance indicators for this research

Item	Question	Measures	Objective /subjective
1	What is the number of employees?	Employees (Haber & Reichel, 2007)	Objective
2	Could you give an indication of the sales in hectolitres in 2018 till 2020?	Revenue (Haber & Reichel, 2007)	Objective
3	What is the percentage of growth in revenue in the last 3 years?	The average growth rate in revenue (Haber & Reichel, 2007)	Objective
4	How would you compare your growth relative to competitors? (e.g. net revenue, employees).	Growth (Santos & Brito, 2012; Murphy et al., 1996)	Subjective
5	How would you compare your profitability relative to competitors? (e.g. return on investment, net income)	Profitability (Santos & Brito, 2012; Murphy et al., 1996)	Subjective

For longitudinal research, all variables must be measured at least at two points in time (Menard, 2002). When considering the Gardien study (2018) we conclude the researcher did acquire information about the performance because of the questions concerning the ‘number of employees’ and ‘the number of hectolitres that were sold’ were asked. We argue that these questions do address variables that stand for performance measures. Therefore, these questions from the Gardien study are also questioned in this study (Appendix II, Intro 6 and P6). Furthermore, questions P7 and P8 cover the trends of the past 3 years to provide more insight into possible changes. In addition, question P9 measures the current situation and P9a, with retrospective effect, the situation of 3 years ago. According to Menard (2002), it is allowed to ask questions retrospectively if it is within the expectation that the interviewee still knows the answer. In conclusion, the conditions of longitudinal research are met and there is enough ground to claim that performance has been adequately measured at both moments in time.

3.3.3 Performance rating

Based on the qualitative approach, this research will look at the underlying reasons and arguments of the entrepreneurs and compare them to various performance indicators. However, also a rating of performance will be made to increase comparability between the different ventures. Appendix III illustrates how the rating was made. For this assessment, it is critical to include control variables. These

are based on Laskovaia et al. (2017) and Murphy et al. (1996). However, a selection of these is made because this study focuses on one industry, within one country, with ventures that are not older than 10 years. Hence, the following control variables are derived: age of the entrepreneur, education, experience as an entrepreneur, age of the venture. Subsequently, education is excluded because no entrepreneur has completed any education related to setting up a venture or brewery. Additionally, it is presumably difficult to determine, within the scope of this research, which education has or has not had a significant positive effect on performance. Furthermore, it is added whether a brewery has its own brewing kettle or not, since this may have a significant impact on the operational activities of the venture. Additionally, the rating also includes a benchmark category that indicates the market share, consisting of the hectolitres sold ranking and the number of Untappd check-ins. The first is based on the number of hectolitres sold by all 20 interviewed ventures, whereupon the position in this ranking provides the number of points. The second is based on Untappd, a prominent social application where consumers can check in a variety of beers to provide an indication of the popularity of the beer.

3.3.4 Coding of the data

The coding scheme (Appendix IV) is based on Reymen et al. (2015) and is additionally the same source on which Gardien (2018) based his coding scheme. This was selected because Reymen et al. (2015) has developed a coding scheme for causation and effectuation in qualitative research. Furthermore, by aligning the coding scheme with Gardien (2018) it creates the possibility of comparing both studies and the performed analysis and thus carrying out longitudinal research (Menard, 2002). The coding scheme of performance is based on the matching questions extracted from Santos and Brito (2012) and Haber and Reichel (2007) (Appendix V). Once the data have been transcribed and (re)read several times, they will be coded in order to describe how often and why causation and effectuation are used and what the relationship with the performance is.

Coding of the data was based substantially on Burnard's (1991) 14 steps, as this is a structured way of coding where it is unlikely that elements will be missed. To further enhance the validity, one transcript was first coded by two master's students and a causation and effectuation expert, this was subsequently cross-referenced to find consensus on the way of coding. Thereafter, the remaining 19 transcripts were first coded individually and then cross-referenced with the other Master student to increase validity. Since the developed framework allows it, causation effectuation is deductively coded. For performance, a deductive way of coding is applied, because some characteristics, such as the number of hectolitres sold, cannot predetermine how performance is achieved. However, the link between performance and causation and effectuation can only be coded afterwards since it is not identified in advance, therefore, an inductive method of coding is also employed. Subsequently, a connection with the data from Gardien (2018) will be established. In this manner, it will be possible to create an overview of the use of causation and effectuation and the outcome, performance.

4 RESULTS

This chapter presents the most striking results, derived from the coded transcripts. A total of 20 entrepreneurs were interviewed from ventures founded between 2011 and 2018. These ventures are established in 7 different provinces in the Netherlands (out of 12). The interview on average lasted about 45 minutes resulting in 9 pages on average of transcript and over 115.000 words of transcript. Among the 20 entrepreneurs, 9 are available for longitudinal research since they were formerly interviewed in Gardien (2018). The results chapter is divided into two parts. First, the results of this research are outlined, addressing the interviews with the 20 entrepreneurs. This is sub-divided into the results regarding causation and effectuation, followed by performance and concluded with a connection between causation and effectuation and performance. Secondly, the results over time are elucidated, this is sub-divided into causation and effectuation over time, performance over time and concluded with the connection of causation and effectuation and performance over time. Table 4 reiterates the most pivotal abbreviations used in this chapter.

Table 4 Abbreviations of the effectuation and causation dimensions

Dimension	Effectuation	Causation
<i>The basis for taking action</i>	<i>Means oriented - MO</i>	<i>Goal oriented - GO</i>
<i>Attitude towards others</i>	<i>Pre-commitment - PC</i>	<i>Competitive analysis - CA</i>
<i>Contingencies</i>	<i>Leverage contingencies - LC</i>	<i>Avoid contingencies - AC</i>
<i>Risk and resources</i>	<i>Affordable loss - AL</i>	<i>Expected return - ER</i>

4.1 RESULTS 2021

4.1.1 Causation and effectuation

Table 5 illustrates the distribution of the various dimensions for each entrepreneur and the total amount of codes regarding causation and effectuation. A total of 526 codes were established indicating either causation or effectuation. Out of these coded, 310 are related to effectuation and 216 to causation. Furthermore, within effectuation, MO was coded the most frequently with 107 times and AL the least with 57 times. Within causation, GO is coded the most frequent with 74 times and AC the least with 32 times. Furthermore, entrepreneur 1 has the most codes in total (45) and entrepreneurs 6 and 17 have the least (17). Also, entrepreneur 1 has the most effectuation codes (30) and entrepreneur 12 the least (5). Moreover, entrepreneur 19 has the most causation codes (19) and entrepreneurs 5 and 20 the least (3). To clarify the proportions, in figure 1 everything has been converted to percentage ratio's to enhance the possibility to compare.

Next, Figure 1 shows the percentual distribution causation and effectuation by entrepreneur, the percentage is the ratio of causation and effectuation in light of the total number of codes

considering that entrepreneur. Figure 1 is sorted by the entrepreneur who uses the most causation on the left to the entrepreneur who uses the most effectuation on the right. Furthermore, it can be derived from figure 1 that 5 entrepreneurs indicate that they use more causation, 14 entrepreneurs use more effectuation, and one uses a balance between causation and effectuation (15). Furthermore, entrepreneur 12 used causation the most of all entrepreneurs, 76% of his decision-making was considered causation. On the other hand, entrepreneur 20 used effectuation the most, 84% of his actions were perceived as effectuation.

Table 5 Amount of codes of the different causation and effectuation dimensions among entrepreneurs

No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total:
MO	9	3	6	10	7	4	3	5	8	6	4	1	9	7	5	8	3	2	2	5	107
LC	8	7	3	4	2	3	1	3	4	1	3	4	5	5	4	10	5	8	3	4	87
PC	8	4	0	1	3	3	4	1	2	4	6	0	5	3	1	5	0	3	3	3	59
AL	5	0	0	7	3	3	4	2	4	3	2	0	3	3	4	4	5	1	0	4	57
Total E:	30	14	9	22	15	13	12	11	18	14	15	5	22	18	14	27	13	14	8	16	310
GO	3	1	2	4	1	2	4	6	3	1	4	5	6	3	6	4	0	7	10	2	74
AC	4	0	1	1	1	1	3	1	2	5	1	2	2	0	0	1	2	2	2	1	32
CA	3	3	8	1	1	1	2	2	3	2	5	4	1	1	6	3	2	8	2	0	58
ER	5	7	4	2	0	0	1	1	1	1	8	5	2	1	2	3	0	4	5	0	52
Total C:	15	11	15	8	3	4	10	10	9	9	18	16	11	5	14	11	4	21	19	3	216
Total:	45	25	24	30	18	17	22	21	27	23	33	21	33	23	28	38	17	35	27	19	526

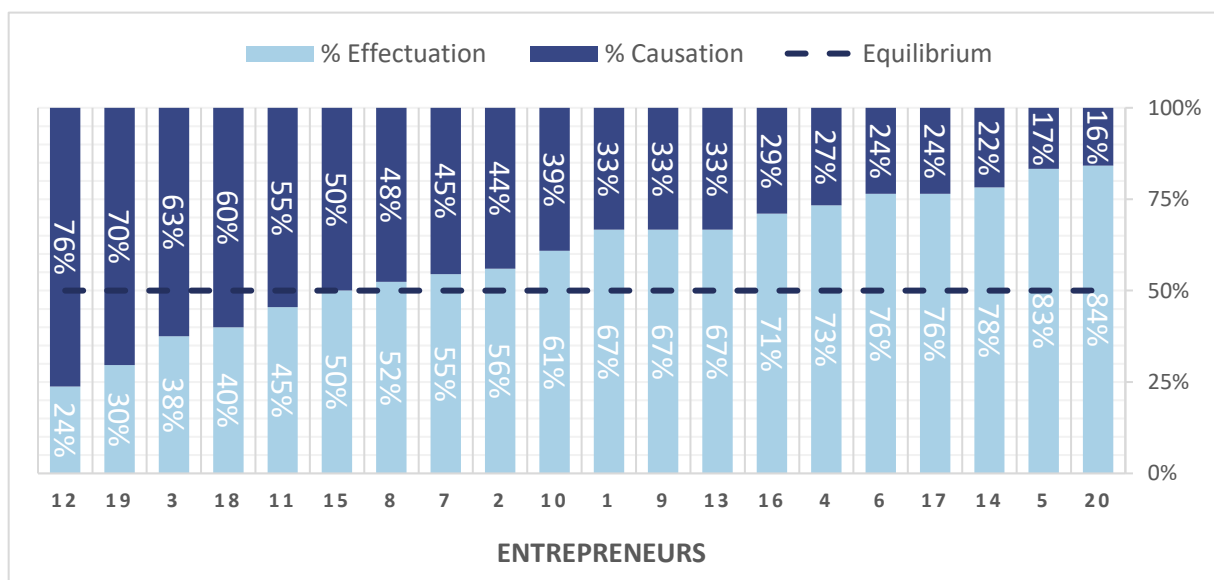


Figure 1 Degree of causation and effectuation among entrepreneurs

4.1.2 Performance and exceptional situations

To address exceptional situations, as discussed by Pettigrew (1990), these ventures will be further analysed. This involves determining the performance category in which the venture scores highly and then the relationship between causation and effectuation of this entrepreneur and the answers he gives in the interview. ‘High customer satisfaction’ and ‘low growth’ are excluded as they only have two codes and is therefore not considered as an exceptional situation.

How performance was coded deductively is included in Appendix V. Within this framework, 98 codes are given for high performance and 53 codes for low performance. Table 6 indicates how many codes were given to high performance and low performance per venture. Furthermore, 5 brewers are considered to be low-performing and 15 brewers are considered to be high-performing. Venture 2 has the highest score and, when subtracting low-performance codes from high performance, he achieves 9 points. Ventures 6 and 17 scores the lowest, both achieving -3 points.

Table 6 Amount of performance codes among entrepreneurs

Venture	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Total low performance	2	1	5	1	2	5	1	7	1	4	3	1	1	2	0	1	5	1	1	1
Total high performance	8	10	5	4	1	2	2	5	3	2	4	6	5	4	7	10	2	7	6	5
High-low	6	9	0	3	-1	-3	1	-2	2	-2	1	5	4	2	7	9	-3	6	5	4

Following this, Appendix VI specifies the topics in which the various ventures are coded, indicating that the following ventures score highest on these categories:

- High customer satisfaction (2)– venture 16 and 18
- High growth (5) – venture 2
- High market value (4) – venture 1
- High profitability (5) – venture 15
- Low growth (2) – Venture 3
- Low market value (3) – Venture 11
- Low profitability (7) – Venture 8

Venture 2 is considered first, Table 7 shows the causation and effectuation proportions. Entrepreneur 2 makes the most use of LC and ER (both 28%). Furthermore, this entrepreneur is experiencing growth in both categories. Moreover, this entrepreneur is experiencing growth in both categories. This entrepreneur makes the least use of AL and AC (both 0%), and these categories have likewise declined. Further analysis of Entrepreneur 2 is discussed in 4.2.5 and 4.2.7.

Table 7 Causation and effectuation of venture 2

Venture 2								
Dimension	MO	LC	PC	AL	GO	AC	CA	ER
2018	16,7%	4,2%	12,5%	12,5%	12,5%	12,5%	16,7%	12,5%
2021	12,0%	28,0%	16,0%	0,0%	4,0%	0,0%	12,0%	28,0%
In/Decrease	-4,7%	23,8%	3,5%	-12,5%	-8,5%	-12,5%	-4,7%	15,5%

Regarding venture 1, Table 8 presents the causation and effectuation proportions. Entrepreneur 1 makes the most use of MO (20,0%) and LC and PC (17,8%) and makes the least use of GO and CA with 6,7%. The entrepreneur indicates that the high market value is primarily realised by having several own brewpubs, which allows them to create higher margins and consequently to generate more profit and turnover than competitors. This strategy emerged mainly after he had tried other options, according to the entrepreneur: "We wanted to try external sales and also marketing, which we did seriously. Before we concluded that it actually makes much more sense to open more hospitality establishments." This falls under the category of MO because internal results were considered and thereafter under LC because initial plans were adjusted.

Table 8 Causation and effectuation of venture 1

Venture 1								
Dimension	MO	LC	PC	AL	GO	AC	CA	ER
2021	20,0%	17,8%	17,8%	11,1%	6,7%	8,9%	6,7%	11,1%

Table 9 presents the causation and effectuation proportions of venture 15, which achieves 5 codes on high profitability. Entrepreneur 15 makes use of all the dimensions in relative terms, as he has no outliers to the bottom or top, this entrepreneur has a 50/50 balance in causation and effectuation. MO and GO are used most (17,9), PC and CA are used least (3,6). The combination of causation and effectuation is evident when the entrepreneur states that they are not taking out any loans, "everything is equity", but on the other hand, they are investing in order to make operations more efficient, for example.

Table 9 Causation and effectuation of venture 15

Venture 15								
Dimension	MO	LC	PC	AL	GO	AC	CA	ER
2021	17,9%	14,3%	3,6%	14,3%	17,9%	14,3%	3,6%	14,3%

In Table 10 the causation and effectuation proportions of venture 11 are displayed, this venture achieves 3 codes on low market value. Entrepreneur 11 uses ER the most (24,2%), followed by PC (18,2%). Moreover, he makes the least use of AC (3%) and followed by AL (6,1%). Entrepreneur 11 scores high on low market value because he has a lower turnover and profit growth than competitors,

which is expressed in the fact that he wants to remain independent on the one hand and that he works with a wholesaler who costs him a lot of margin on the other hand. As a result, CA and PC are also relatively large. The entrepreneur takes these for granted because his ER philosophy prevails, as he says: "I might as well be hanged for poaching a sheep as for poaching a lamb".

Table 10 Causation and effectuation of venture 11

Venture 11								
Dimension	MO	LC	PC	AL	GO	AC	CA	ER
2021	12,1%	9,1%	18,2%	6,1%	12,1%	3,0%	15,2%	24,2%

In Table 11 the causation and effectuation proportions of venture 8 are displayed, this venture achieves 7 codes on low profitability. Entrepreneur 8 uses MO (23,8) and GO (28,6) the most, for both he is also experiencing growth from 2018 to 2021. He made the least use of PC, AC and ER (4,8%), and all experienced a decline for these categories as well. As further elucidated in 4.1.3, entrepreneur 8 considers profitability low due to a strong entrepreneurial belief, this arises under the dimension 'basis for taking action. This category, together with MO and GO, also accounts for 52.4 of the decision-making.

Table 11 Causation and effectuation of venture 8

Venture 8								
Dimension	MO	LC	PC	AL	GO	AC	CA	ER
2018	19,0%	4,8%	19,0%	4,8%	19,0%	9,5%	9,5%	14,3%
2021	23,8%	14,3%	4,8%	9,5%	28,6%	4,8%	9,5%	4,8%
In/Decrease	4,8%	9,5%	-14,3%	4,8%	9,5%	-4,8%	0,0%	-9,5%

4.1.3 Causation and effectuation connected to performance

In this paragraph, a connection is established between the various dimensions and the performance of the ventures. On the one hand, this is based on the dimension that has the most codes. Thus, if an entrepreneur is assigned 6 codes for MO and 4 codes for GO, his decision making is seen as effectual. Besides, the decision-making is seen as causation and effectuation (C/E) when the number of codes is the same or differs by only one. On the other hand, the column 'beneficial for performance' is based on the question to the entrepreneur whether his actions have been beneficial for performance. The list of concise answers as to why this has been beneficial to the performance is listed in Appendix VII.

Table 12 displays the dimension of the basis for taking action and whether entrepreneurs consider it beneficial for performance. The respondent who thought effectuation was beneficial for performance replied as follows: "Yes, it is a part of it, yes, that is where we get some of our inspiration and innovation from" (entrepreneur 9). Entrepreneur 4, who uses effectuation, explains that it has been beneficial for their performance to do activities that they like, and that this transfers to the

consumer, although they have been exploring this a bit. In contrast, entrepreneur 3, in explaining why effectuation was not beneficial for performance asserts that it caused a lack of focus to create a Unique Selling Point. Regarding causation, entrepreneur 12 indicates that their approach (mostly causation) with writing a comprehensive plan has enabled them to achieve their goals. Furthermore, within causation, there is no assumption this was detrimental for the performance. Entrepreneur 8, using both causation and effectuation, state that their overly strong entrepreneurial belief meant that they could not reach consumers properly. On the other hand, entrepreneur 15, also using both causation and effectuation, says that the fact that they try new things from time to time has been beneficial for performance.

Table 12 Caustion and effectuation dimensions connected to performance

Beneficial for performance	The basis for taking action			Attitude towards others			Contingencies			Risk and resources		
	C/E	MO	GO	C/E	PC	CA	C/E	LC	AC	C/E	AL	ER
Neutral	0	1	0	0	0	2	0	1	0	1	1	0
No	1	2	0	0	1	0	1	2	1	0	3	1
Yes	3	10	3	6	8	3	1	13	1	3	6	5

Table 12 also indicates the dimension attitude towards others and whether entrepreneurs consider their approach beneficial for performance. Entrepreneur 18 (causation) states that it has been beneficial for the performance because: "Yes, because at a certain point we have, you actually go with the best parties, the ones you have the best relationship with, you go with them, you build on them." Entrepreneur 13, who has an effectual approach, says that this has been beneficial for performance as customers like this personal touch. On the other hand, entrepreneur 6 says that his effectual approach is not beneficial for performance because he can only make short-term commitments. Entrepreneur 11 uses both causation and effectuation and this is well reflected in his answer whether he thinks this is beneficial for performance, he says: He says the following: "... I'm not going to sign for a term, I don't want to do that I want to be able to stop at any time. Then they say yes, you won't get the discount. Then I say I'm not going to do business with you, bye. You can assume that as long as you provide beneficial service, I'll stay with you, so that's very nice. And I can recommend it to everyone."

The dimension contingencies and whether entrepreneurs consider their approach to be beneficial for performance is similarly illustrated in table 12. Entrepreneur 10 says his approach, predominantly causation, has not been beneficial to performance because: "I think some cases that we had spent too much time on things that we should have just said a hard no to right away." Entrepreneur 7 says that his approach, predominantly causation, has been beneficial for performance and says the following: "Yes, I think we are still quite risk-averse so we have grown quite quietly and

we have also said no to a lot of things." Entrepreneur 16 says that his approach, effectuation, has enabled him to generate a substantial sales volume despite the pandemic. In contrast to this entrepreneur 2 says their approach has not always been beneficial to performance and says he would rather brew less beer for a higher margin than more beer for a lower margin. Entrepreneur 5 (C/E) says his approach has not been beneficial to performance because he is not agile enough to adapt to new plans. On the other hand, entrepreneur 19 (C/E) says that his approach has been beneficial to the performance because it allows him to create ambassadors for his brand.

Table 12 similarly presents whether entrepreneurs consider their decision-making process concerning risk and resources to be beneficial for performance. Entrepreneur 2, who uses a strong causal approach and considers it as beneficial, indicates that the approach has not always resulted in immediate profitability but stronger long-term growth. Entrepreneur 3 indicates that his causal approach has been detrimental to performance and comments the following: "You become more creative with a small amount of money in the bank than with a lot of money in the bank." Entrepreneur 4, with an effectual approach, knows that sometimes it can be more beneficial to do it differently and invest more, but have determined that their strategy is to grow slowly. On the other hand, entrepreneur 6, with an effectual approach, says the following: "It would be unfavourable if how you run your business is dictated mainly by the finances. Then there is a limitation in what you do or what you would like to do." Entrepreneur 16 (C/E) explains why his approach has been beneficial for performance as follows: "I think we took a fair amount of risk, it's a calculated risk that we took. And yes we are maybe a little bit above that, but also just because we are doing it from our gut feeling."

4.2 RESULTS 2018 AND 2021 – COMBINING CAUSATION AND EFFECTUATION WITH PERFORMANCE

4.2.1 Causation and effectuation over time

Table 13 shows how frequently decision making was seen as causation and effectuation for both the 2018 survey and the 2021 survey. A total of 180 codes were applied to the transcripts in Gardien (2018) and 232 codes were applied in the 2021 study. Therefore, it is important in the analysis of the comparison to put this perspective relative to each other. This can be achieved by analysing the percentage of causation/effectuation per time frame

Table 13 Change of effectuation and causation per entrepreneur from 2018 to 2021

Entrepreneur	2		8		10		12		14		16		18		19		20		Total	
Research	'18	'21	'18	'21	'18	'21	'18	'21	'18	'21	'18	'21	'18	'21	'18	'21	'18	'21	'18	'21
Effectuation	11	14	10	11	10	14	0	5	8	18	11	27	10	14	10	8	10	16	80	127
Causation	13	11	11	10	8	9	16	16	5	5	11	11	13	21	18	19	5	3	100	105

Table 14 shows the comparison between Gardien's (2018) study and the 2021 study. From this, it can be observed that out of the 9 brewers, 7 have increased use of effectuation and 2 have a slight increase in the use of causation. The 'change (in/decrease in effectuation)' column indicates a change in percentage points, this is not a relative change from the previous amount of effectuation. Entrepreneur 12 has the largest increase in effectuation, going from 0 to 5 codings (table 15) and this resulted from 0% usage to 24% usage of effectuation (table 16).

Table 14 Increase and decrease of causation and effectuation per entrepreneur from 2018 to 2021 in percentage

No.	Effect./ caus.	Percentage E/C before 2018	Upper decision-making style	Change (in/decrease in effectuation)	Percentage E/C 2018 till 2021	Upper decision-making style
2	E	46%	Causation	10%	56%	Effectuation
	C	54%			44%	
8	E	48%	Causation	5%	52%	Effectuation
	C	52%			48%	
10	E	56%	Effectuation	5%	61%	Effectuation
	C	44%			39%	
12	E	0%	Causation	24%	24%	Causation
	C	100%			76%	
14	E	62%	Effectuation	17%	78%	Effectuation
	C	38%			22%	
16	E	50%	Effectuation	21%	71%	Effectuation
	C	50%			29%	
18	E	43%	Causation	-3%	40%	Causation
	C	57%			60%	
19	E	36%	Causation	-6%	30%	Causation
	C	64%			70%	
20	E	67%	Effectuation	18%	84%	Effectuation
	C	33%			16%	

Figure 2 exhibits how the dimensions within causation and effectuation have evolved between 2018 and 2021. This is calculated based on the relative percentage of the dimension per entrepreneur. So each entrepreneur utilises a total of 100 per cent within 8 different dimensions. These relative percentages are added up per dimension to determine which are the most used. What is striking about this is that the effectual dimension LC have increased the most with 101% points and PC has decreased the most, with 39% points. Within causation, no dimension has increased and CA has decreased the most with 55% percentage points. Appendix VIII shows an overview of the increases and decreases by dimension for each entrepreneur.

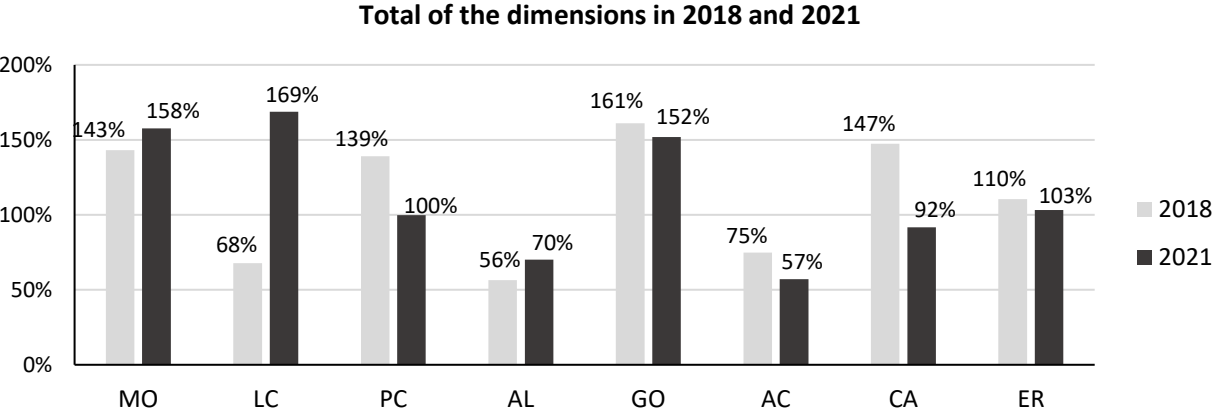


Figure 2 The total increase and decrease of the different dimensions within causation and effectuation from 2018 to 2021

4.2.2 Performance over time

Furthermore, the percentage growth in sales of entrepreneurs with their breweries between 2017 and 2019 annually and the growth of 2019 and 2020, as shown in appendix IX. This is taken separately due to the impact of COVID-19 which is considered as an important indicator of performance (Haber & Reichel, 2007). Ventures 10 and 19 have a sales decline from 2017 to 2019 (before COVID-19). Besides, ventures 2 and 20 have a sales decline from 2019 to 2020. Additionally, the percentage growth the different ventures had with regard to the annual revenue between 2018 and 2021, and the percentual increase of employees from 2018 till 2021, similarly illustrated in appendix IX. Venture 16 had the highest revenue growth of 100% annually and brewer 10 has no growth. And Brewer 19 has the lowest annual revenue growth as it achieved a growth of 5% between 2018 and 2021. Additionally, it can be observed that venture 2 has the strongest growth in employees, 650 per cent. On the other hand, brewery 10 has the strongest decrease. Next, brewery 20 has the strongest decrease in employees.

4.2.3 Assessment of performance

To further compare the entrepreneurs, an assessment of various performance indicators was made, within this, good performance indicators result in a higher score, whereas the control variable results in a lower score. This is because these are considered to have had a positive effect a priori and so can

be rectified with ventures that do not meet these criteria. Table 15 presents all the indicators of the different ventures in terms of performance. The overtime category shows the growth in sales (hectolitres sold), within this column the (1) growth in sales considers 2017 till 2019 and (2) growth in sales considers 2019 till 2020 due to the impact of COVID-19. In addition to the previously illustrated insights, Table 15 includes the sales region and the number of markets, which consists of Hospitality, supermarkets, liquor stores, events, own brewpubs and webshops.

Table 16 provides the control variables for evaluating the performance. The control variables age of the entrepreneur, entrepreneurial experience and age of the venture result in negative ratings regarding the performance. The variable 'own brewery' does not affect the rating, but is important to include in the conclusion of the findings. This is based on the fact that entrepreneurs with their own brewery have more fixed costs, especially during COVID-19, as opposed to entrepreneurs who do not have a brewery and therefore have fewer fixed costs. Table 15 and Table 16 has been converted according to the specification in Appendix III to the different scores resulting in Table 17. Based on this overview, it is apparent that venture 2 has the highest performance over time within this survey with a score of 14.5 points. The venture with the worst performance is venture 10 with 0.8 points.

Table 15 Performance of the ventures

No	1. Growth in sales	2. Growth in sales	3. Employee growth	4. Revenu growth	5. Low	6. High	7. Zone	8. Markets	9. Sales Ranking	10. Untapped
2	97%	-26%	650%	60%	1	10	Int.	6	5	301.239
8	100%	10%	50%	20%	7	5	Int.	4	14	52.148
10	-27%	-	-33%	-	4	2	Reg.	2	20	5.850
12	67%	11%	0%	20%	1	6	Reg.	1	12	11.208
14	104%	64%	300%	10%	2	4	Nat.	4	13	32.374
16	50%	0%	200%	100%	1	10	Nat.	6	9	68.336
18	30%	23%	20%	20%	1	7	Int.	6	1	1.049.043
19	-9%	0%	57%	5%	1	6	Nat.	4	7	159.832
20	7%	-17%	-10%	20%	1	5	Reg.	1	8	83.401

Table 16 Performance control variables

No	11. Ent. age	12. Ent. Exp.	13. Firm age	Own brewery
2	38	0	5	Yes
8	31	4	6	Yes
10	40	0	7	No
12	63	9	5	Yes
14	30	0	6	Partially
16	50	0	5	Partially
18	45	4	9	Yes
19	49	6	10	Yes
20	60	4	6	Yes

Table 17 Performance rating of the different ventures

No.	1	2	3	4	5	6	7	8	9	10	11	12	13	Total
2	2	0	1,5	2	-0,5	4	1,5	1,5	1	2	0	0	-0,5	14,5
8	3	1	0,5	1	-1,5	2	1,5	1,5	-1	0	0	-0,5	-0,6	6,9
10	0	0	0	3	-1,5	1	0,5	1	-2	0	-0,5	0	-0,7	0,8
12	2	1	0,5	1	-0,5	3	0,5	0,5	0	0	-1	-1	-0,5	5,5
14	3	3	1	1	-1	2	1	1,5	-1	0	0	0	-0,6	9,9
16	1	1	1	3	-0,5	4	1	1,5	0	1	-1	0	-0,5	11,5
18	1	2	0,5	1	-0,5	3	1,5	1,5	2	3	-0,5	-0,5	-0,9	13,1
19	0	1	0,5	1	-0,5	3	1	1,5	1	1	-0,5	-0,5	-1	7,5
20	1	0	0	1	-0,5	2	0,5	0,5	1	1	-1	-0,5	-0,6	4,4

4.2.4 Combining the dimension 'basis for taking action' with performance over time

Table 18 shows how the dimension Basis for taking action has shifted between 2018 and 2021, indicating on the effectual side MO and the causal side, GO. The shift is not a percentage adjustment but a change in percentage points. It can be derived from Table 17 that venture 2, 18 and 19 have a decrease in MO, while the other ventures have an increase. Concerning goals oriented, brewers 8, 19 and 20 have an increase in GO, while the other brewers have a decrease. Furthermore, an increase in MO does not necessarily mean a decrease in GO. For example, venture 20 has an increase in both MO and goals oriented. In general, there was among more entrepreneurs an increase in effectuation (MO) rather than causation (GO).

Table 18 Increase or decrease of dimension basis for taking action (MO and GO) per entrepreneur

No.	MO '18	MO '21	+/-	GO '18	GO '21	+/-	Performance
2	16,7%	12,0%	-4,7%	12,5%	4,0%	-8,5%	14,5
8	19,0%	23,8%	4,8%	19,0%	28,6%	9,5%	6,9
10	22,2%	26,1%	3,9%	16,7%	4,3%	-12,3%	0,8
12	0,0%	4,8%	4,8%	31,3%	23,8%	-7,4%	5,5
14	23,1%	30,4%	7,4%	23,1%	13,0%	-10,0%	9,9
16	13,6%	21,1%	7,4%	18,2%	10,5%	-7,7%	11,5
18	17,4%	5,7%	-11,7%	26,1%	20,0%	-6,1%	13,1
19	17,9%	7,4%	-10,4%	14,3%	37,0%	22,8%	7,5
20	13,3%	26,3%	13,0%	0,0%	10,5%	10,5%	4,4

Figure 4 and 5 illustrate how the shift in MO and GO relates to the performance rating of the different ventures. In this chart, the ventures are sorted from the least performance on the left to the highest performance on the right. Within the MO dimension, there seems to be no indication of an effect of the increase or decrease on performance.

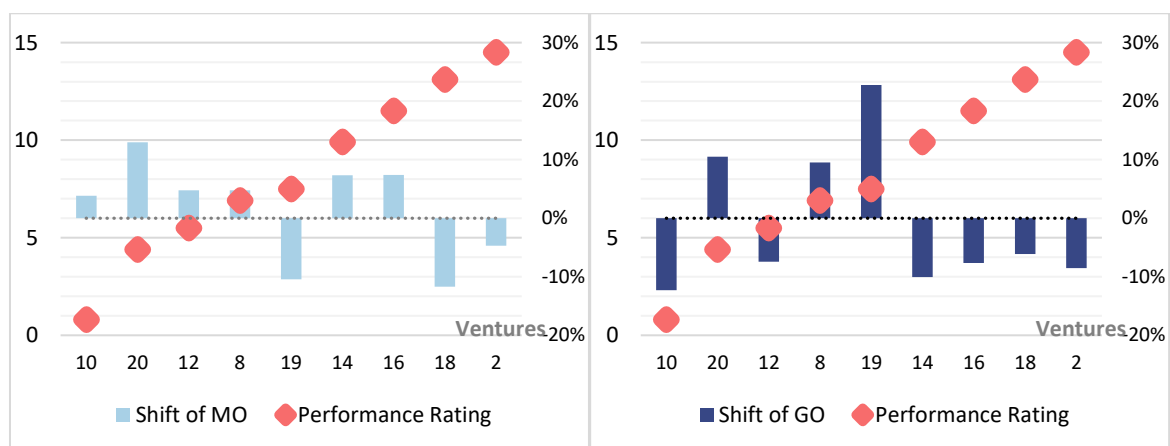


Figure 3 Change in MO related to the performance rating

Figure 4 Change in GO related to the performance rating

However, within the dimension goals oriented, it seems that entrepreneurs who have become fewer goals oriented have better performance (i.e. venture 2, 14, 16 and 18). Among these ventures 14 and 16 have an increase in MO, however, 18 and 2 also have a decrease in MO. Hence, there seems to be no coherence in the effect on MO. Appendix X contains graphs showing the situation of MO and GO in 2018 and 2021 compared to the performance.

Entrepreneur 18 has a decrease of GO and MO, in addition, that enterprise has relatively high flexibility. He commented as follows: "I think we sometimes confuse flexibility with the issues of the day. I think you should always be flexible and that is what we are, that is what we can do." Thus, he indicates that he wants flexibility, but wants to keep it efficiently. This may explain why this entrepreneur uses GO more than MO, and meanwhile, the use of LC, which is also referred to as flexibility, is growing. Concerning GO, venture 19 has an increase of 12,7 percentage points in GO. This is reflected in the fact that the entrepreneur indicates that they carried out a reorganisation 3 years ago. This has presumably led to an increase in GO. However, this seems to have resulted in more stability than in an increase in performance.

4.2.5 Combining the dimension 'attitude towards others' with performance over time

Table 19 shows the increase and decrease of the different ventures within the attitude towards others dimension and how that relates to performance. It is, therefore, possible to derive that entrepreneurs 2, 10 and 19 have a minimal increase in the PC dimension. Entrepreneurs 8, 14, 16, 18 and 20 have a decrease in the dimension PC. And entrepreneur 12, has not used the decision making principle PC in both 2018 and 2021. Within the CA dimension, only entrepreneur 18 has an increase in the CA dimension. Entrepreneur 8 has remained the same in the level of use and the other entrepreneurs all have a decrease in the use of CA.

Table 19 In-/decrease of dimension attitude towards others (PC and CA) per entrepreneur

No.	PC '18	PC '21	+/-	CA '18	CA '21	+/-	Performance
2	12,5%	16,0%	3,5%	16,7%	12,0%	-4,7%	14,5
8	19,0%	4,8%	-14,3%	9,5%	9,5%	0,0%	6,9
10	16,7%	17,4%	0,7%	27,8%	8,7%	-19,1%	0,8
12	0,0%	0,0%	0,0%	25,0%	19,0%	-6,0%	5,5
14	15,4%	13,0%	-2,3%	7,7%	4,3%	-3,3%	9,9
16	27,3%	13,2%	-14,1%	13,6%	7,9%	-5,7%	11,5
18	17,4%	8,6%	-8,8%	8,7%	22,9%	14,2%	13,1
19	10,7%	11,1%	0,4%	25,0%	7,4%	-17,6%	7,5
20	20,0%	15,8%	-4,2%	13,3%	0,0%	-13,3%	4,4

Figure 6 and 7 show the increase and decrease of the dimensions PC and CA from 2018 and 2021 and how this relates to performance. What is apparent in this respect is that the entrepreneurs with the lowest scores for performance have realized a considerable decrease in CA. Furthermore, there seems to be no coherence between the increase and decrease of the attitude towards others dimensions and the performance. Appendix X contains graphs showing the situation of PC and CA in 2018 and 2021 compared to the performance.

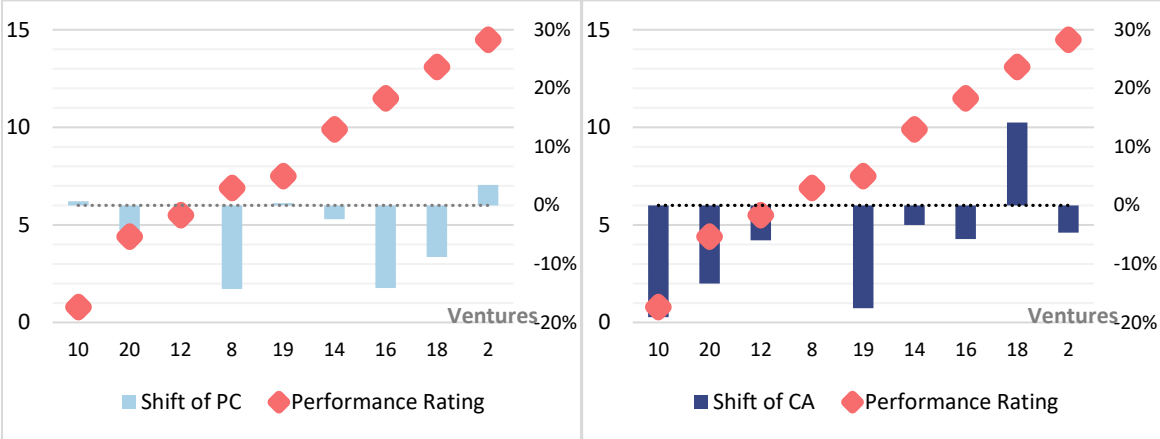


Figure 5 Change in PC related to the performance rating
 Figure 6 Change in CA related to the performance rating

Noticeable here is that venture 18 is the only one to have an increase in CA. A possible explanation for this approach towards the market is that the venture operates internationally and considers itself to be a pioneer in the market. What is further striking about this dimension is that in both 2018 and 2021, venture 12 did not use the PC dimension. A possible explanation for this is that this is a brewpub; the venture does not supply intermediaries such as liquor stores or wholesalers. Although there are plans, for example, to organise events together with neighbours, yet up to now, these have remained merely plans.

4.2.6 Combining the dimension ‘contingencies’ with performance over time

Table 20 shows the increase and decrease of the dimensions LC and AC and how this relates to performance. It is noticeable from TableX that all entrepreneurs have an increase in LC from 2018 to 2021, except for entrepreneur 20. Furthermore, entrepreneurs 10, 18 and 20 have an increase in the use of AC. On the other hand, entrepreneurs 2, 8, 12, 16 and 19 have a decrease in the use of AC. Also, entrepreneur 14 did not use avoidance contingencies in either 2018 or 2021.

Table 20 Increase or decrease of dimension contingencies (LC and AC) per entrepreneur

No.	LC '18	LC '21	+/-	AC '18	AC '21	+/-	Performance
2	4,2%	28,0%	23,8%	12,5%	0,0%	-12,5%	14,5
8	4,8%	14,3%	9,5%	9,5%	4,8%	-4,8%	6,9
10	0,0%	4,3%	4,3%	0,0%	21,7%	21,7%	0,8
12	0,0%	19,0%	19,0%	25,0%	9,5%	-15,5%	5,5
14	15,4%	21,7%	6,4%	0,0%	0,0%	0,0%	9,9
16	4,5%	26,3%	21,8%	9,1%	2,6%	-6,5%	11,5
18	8,7%	22,9%	14,2%	4,3%	5,7%	1,4%	13,1
19	3,6%	11,1%	7,5%	14,3%	7,4%	-6,9%	7,5
20	26,7%	21,1%	-5,6%	0,0%	5,3%	5,3%	4,4

Figure 8 and 9 illustrate the increase and decrease of the dimensions LC and AC and how this relates to performance. Graph X indicates that the entrepreneurs who in general have shown an increase in LC also perform well in performance. From graph Y it is clear that the entrepreneur who scored the lowest on performance also has a large increase in the use of AC. Appendix X contains graphs showing the situation of LC and AC in 2018 and 2021 compared to the performance.

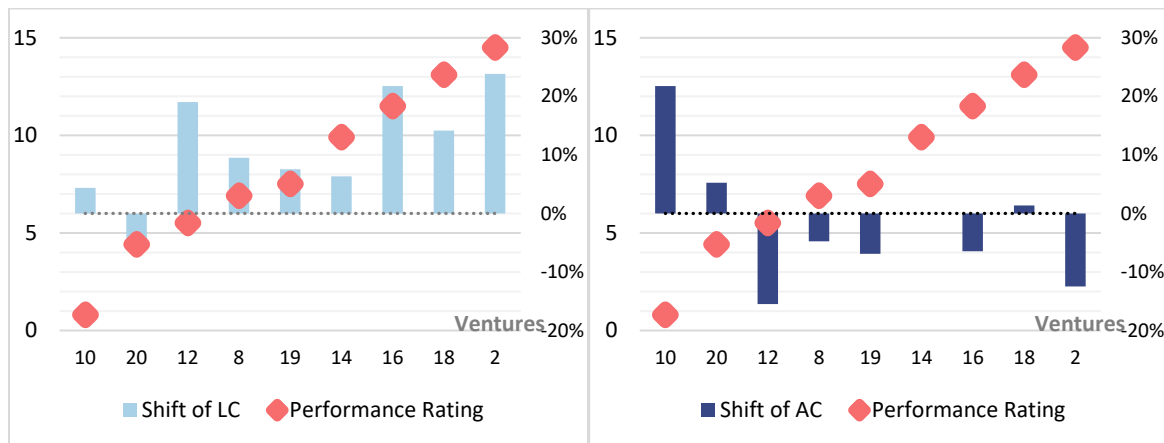


Figure 7 Change in LC related to the performance rating

Figure 8 Change in AC related to the performance rating

What is particularly interesting within this dimension is that entrepreneur 10 did not use AC in 2018 and 21,7 per cent in 2021. This is the entrepreneur of the venture that stopped. This could mean that the use of AC has led to lower performance, however, it could equally indicate that a reduced performance has led to an increase in the use of avoidance contingencies. Additionally, it may also involve an interaction of the two, which is perhaps the case here. Because the entrepreneur indicates that they wanted to avoid unexpected events and says the following: "what we believed to be very important is that in terms of stock, you never want to sell no, where you do notice that at other parties". And about the fact that they stopped doing business, the entrepreneur says that they noticed that the market became too saturated, so they stopped doing what comes under code AC4. Hence,

both during the running of the venture and towards the end, strong decision making related to AC emerged.

On the other hand, an increase in LC, and in general a high degree of this dimension, seems to have improved performance. In the case of Brewer 16, this is mainly reflected in the various projects they are trying to realise because COVID-19 has brought their normal operations to a considerable stop. In addition, this entrepreneur also did not expect to appeal to such a large number of students, but when he noticed that this was happening, he anticipated accordingly. Entrepreneur 2 comments: "We are a bit of a pleaser. So we like to respond to what the market asks of us". He further indicates that because of this, they made a strategic choice, which they had not planned on, and which has had a major positive effect on their performance. Therefore, it can be deduced that a high degree of LC is beneficial for performance and a high degree of AC is detrimental for performance.

4.2.7 Combining the dimension 'risk and resources' with performance over time

Table 21 shows the results for the risk and resources dimension. From Table 18 it can be derived that entrepreneurs 2, 10, and 19 have a decrease in AL and the other entrepreneurs have an increase. Except for venture 12, which did not use the AL decision-making principle in both 2018 and 2021. With regard to the ER principle, entrepreneurs 2, 10, 12, and 19 make greater use of the ER dimension in 2021 than in 2018. On contrary, for brewers 8, 14, 16, 18 and 20, there is a decrease in the use of the ER dimension. What is notable is that the two best-performing ventures (shaded green) generally use a relatively large amount of ER in relation to AL.

Table 21 Increase or decrease of dimension risk and resources (AL and ER) per entrepreneur

No.	AL '18	AL '21	+/-	ER '18	ER '21	+/-	Performance
2	12,5%	0,0%	-12,5%	12,5%	28,0%	15,5%	14,5
8	4,8%	9,5%	4,8%	14,3%	4,8%	-9,5%	6,9
10	16,7%	13,0%	-3,6%	0,0%	4,3%	4,3%	0,8
12	0,0%	0,0%	0,0%	18,8%	23,8%	5,1%	5,5
14	7,7%	13,0%	5,4%	7,7%	4,3%	-3,3%	9,9
16	4,5%	10,5%	6,0%	9,1%	7,9%	-1,2%	11,5
18	0,0%	2,9%	2,9%	17,4%	11,4%	-6,0%	13,1
19	3,6%	0,0%	-3,6%	10,7%	18,5%	7,8%	7,5
20	6,7%	21,1%	14,4%	20,0%	0,0%	-20,0%	4,4

Figure 6 and 7 show the extent to which the AL and ER dimension increased or decreased from 2018 to 2021 and how this relates to performance. Within these dimensions, an increase in the AL dimension appears to be correlated with a decrease in the ER dimension, and vice versa. Appendix X contains graphs showing the situation of AL and ER in 2018 and 2021 compared to the performance.

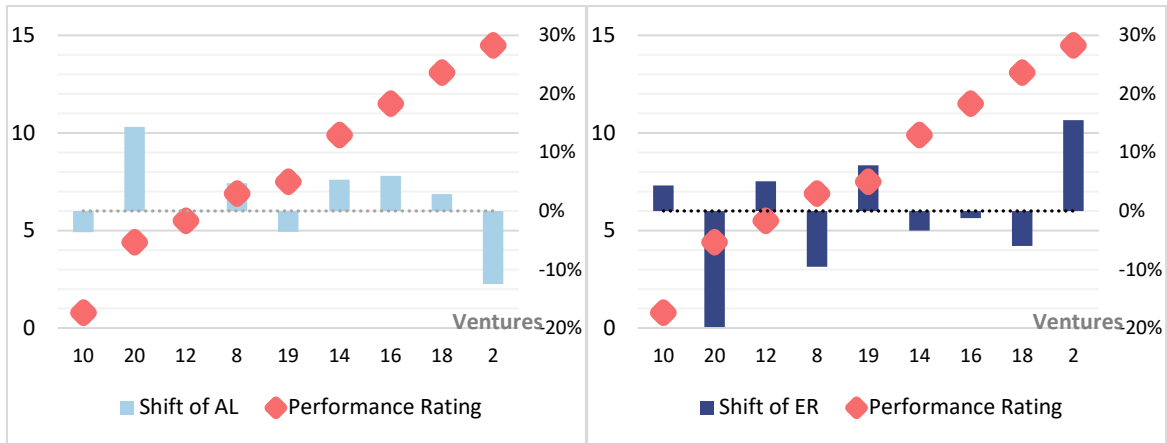


Figure 9 Change in AL related to the performance rating

Figure 10 Change in ER related to the performance rating

Venture 2 had an equal degree of AL and ER in 2018, however, this venture has a large decrease in AL and a large increase in ER towards 2021. About this, he explains: "If we only traded with our own bank account and did not take a bit more risk, we would just be a lot smaller than we are now." And he continues by pointing out that this is his strategy because he knows he operates in a growing market. Thus entrepreneur 2 says that his strategy, mainly ER, has ensured that the current performance is satisfactory. On a related note, ventures 10 and 20 have relatively low performance and make little use of ER, venture 10 only 4,3% and venture 20 went from 20% in 2018 to 0% in 2021. Besides they also make relatively frequent use of AL. Entrepreneur 10 stated that he acted in this way because he did not want to be dependent on other parties and that this might cost money.

In appendix XI, Table 28 show an overview the changes of the effectuation dimensions and Table 29 show an overview the changes of the causation dimensions, both categorised on the rating of performance. Notably, companies that score high on performance have an increase in LC and a decrease in PC, goal-oriented and avoidance contingencies. The companies that score low have an increase in means-oriented, LC and AL and a decrease in PC, CA and ER.

4.2.8 Main findings

In this paragraph, the results are analysed to accept, extend or discard the drafted propositions. For this purpose, the exceptional situations within performance are addressed first, and how they are expressed within causation and effectuation (4.1.2). Subsequently, the link between causation and effectuation and performance is discussed, and the entrepreneur's rationale when considering a certain dimension to be beneficial or detrimental to performance (4.1.3). Afterwards, the effects of causation and effectuation over time and how these affect performance are assessed (4.2).

Firstly, within the exceptional situations, the entrepreneur with a high market value scores 20% on the MO category. The entrepreneur explains that he presumes a beneficial effect on performance because he has analysed internal results to determine where to concentrate their efforts. The entrepreneur who achieved the most codes on profitability used MO in the same amount as GO approaches, both 17,9%. The entrepreneurs' corresponding strategy is that they invest a lot but work as much as possible with their own money and skills. This may indicate that a balance of MO and GO enables beneficial profitability. Entrepreneur 8 shows low profitability. What is striking here is that he uses both MO (23,8) and GO (28,6) a lot. He indicates that their excessive entrepreneurial belief has caused them not to be very profitable yet. In terms of MO, entrepreneurs say that the available means are the drivers for their inspiration and innovation and that it has been beneficial for performance to operate in a way they enjoy. On the other hand, it is said that MO has negatively influenced performance because it gives a lack of focus. Concerning GO, it is reported that this has ensured that set goals were achieved. With regard to the balance between MO and GO, referring to entrepreneur 15. Entrepreneur 15 indicates that a balanced approach has ensured that they can venture new, beneficial activities from time to time. Based on the development of causation and effectuation over time, it can be stated that the entrepreneurs with a beneficial performance have started to use GO less. However, this may be caused by the COVID-19 pandemic, in line with the observation that LC is increasing. Moreover, it is striking that entrepreneur 18, who has a beneficial performance and relatively more GO than MO, says that flexibility is beneficial, but that it should not be excessive; there must be some kind of conditional flexibility. This may indicate that a combination of GO and LC ensures a high-performance rating. In conclusion, a balance between MO and GO can be considered beneficial for performance. Yet, since the ventures with the highest performance have a decrease in GO, it seems that when the market becomes more uncertain, due to COVID-19 it becomes pivotal to operate less on a GO approach. Therefore proposition 1a and 1b are discarded and translated into the following:

Proposition 1c: A balance of the effectual approach 'MO' and the causation approach 'GO' have a positive influence on the ventures' performance.

Proposition 1d: An over-representation of the effectual approach 'MO' and the causation approach 'GO' have a negative influence on the ventures' performance.

The exceptional situations seem to indicate that a high level of ER ensures strong growth. This is also reflected in the remark of the entrepreneur who says that they would have been smaller if they had taken less risk and only traded with their own money. On the other hand, a low market value is seen to have a high degree of ER (24,2%). The explanation for not having a high market value so far is that he uses long term planning and for the short term only wants market share without directly increasing turnover or margin. In terms of risk and resource, the ER is predominantly considered by the entrepreneurs as beneficial to performance. Entrepreneur 2 says that this has not always been beneficial for the performance, because they are in it for the long term, similar to the assertion of Entrepreneur 11. Furthermore, the entrepreneurs primarily agree, whether they use AL or ER, that you have to take or run risks to grow and remain innovative. In general, considering the data over time, entrepreneurs of ventures with a beneficial performance appear to use more ER than AL. When examining the development of causation and effectuation over time and performance, it is apparent that the two entrepreneurs with the highest performance make more use of ER, while the two entrepreneurs with the lowest performance make more use of AL. Therefore, it can be concluded that, based on the exceptional situations, whether entrepreneurs find a dimension beneficial for performance and the effects over time, it is in all cases more beneficial for performance to use ER than AL. Therefore, we discard proposition 2a and propose the following:

Proposition 2b: The effectual approach 'AL' do not influence the ventures' performance

Additionally, we refine proposition 2b into the following:

Proposition 2c: The causation approach 'ER' has a positive influence on the ventures' performance over time.

Regarding the exceptional cases entrepreneur 11, who scores low on market value, achieves 18,2% on PC and 15,2 on CA. The high proportion of PC is reflected in the fact that the entrepreneur wants to remain independent of others, but in the meantime is open to non-contractual cooperation. This can lead to higher costs resulting in other competitive parties with contracts offering a reduced price. CA is reflected in the fact that this entrepreneur works with an exclusive wholesaler, which allows him to generate a lower turnover and margin than competitors, but this is part of his plan to generate as much share as possible in the long run. For the short term, this is detrimental for the performance, but PC behaviour is intended to serve his goals for the future. The entire dimension attitude towards others is generally perceived as beneficial for performance, independent of the causation or effectuation approach. Causation appears beneficial because it ensures that the most valuable parties are involved. PC, on the other hand, appears beneficial because of the personal touch. Within this category six ventures use both causation and effectuation; they are in a commercial and competitive position, therefore, they do not formulate agreements or attempt to see their competitors as partners as well. If the developments concerning PC and CA are considered, all dimensions seem to be decreasing

compared to 2018. Except for a single increase of an entrepreneur in CA what may be due to the fact that they operate on an international basis. Furthermore, entrepreneurs seem to predominantly use more PC than CA, however, there seems to be no direct connection with performance. Hence, it can be argued that it is not certain that PC is better for performance than CA. However, it does seem beneficial for the performance to use CA if you want to compete at the highest platform. Hence, propositions 3a and 3b may be discarded to draft the following propositions:

Proposition 3c: The effectual approach 'PC' has a more positive influence on the ventures' performance than the causation approach 'CA'.

Proposition 3d: The causation approach 'CA' has a positive influence on the ventures' performance while there is fierce competition in the market.

Within the exceptional cases, it appears that an increase in LC has caused an increase in growth. This is also reflected in the entrepreneur's response that they are experiencing tremendous growth by seizing an opportunity they were not planned. This effect also emerges when the dimension is compared to the performance rating (4.2.7). Furthermore, the entrepreneur who has a high market value scores 17,8% on the LC category. This entrepreneur indicates that they initially wanted to try out some activities and then decide where to focus their efforts, a characteristic of LC. This has had a beneficial effect on performance because they can now generate more turnover and margin. Within the contingencies dimension, LC is predominantly used by the entrepreneurs and also seen as beneficial. What is particularly striking here is that AC is seen as beneficial for the performance because they have ensured that there is a solid financial basis. On the other hand, LC is seen as beneficial because it has ensured that despite the COVID-19 pandemic, fair revenues have been generated. Considering the developments within contingencies, it is noticeable that almost all entrepreneurs show an increase in LC. In addition, a larger increase in this category seems to indicate better performance by the enterprise. On the other hand, the increase in AC seems to indicate that this is detrimental to the performance. It can therefore be concluded that LC is indeed more beneficial to performance than AC. The flexibility, especially in uncertain times, seems to ensure that the best possible performance can be achieved. Thus, proposition 4a may be accepted and 4b can be discarded and refined into 4c.

Proposition 4a: The effectual approach 'LC' have a positive influence on the ventures' performance.

Proposition 4c: The causation approach 'AC' have a negative influence on the ventures' performance.

5 DISCUSSION

First of all, this research indicates that in general within the dimension the basis for taking action means oriented (MO) seems to be more beneficial for performance than goal oriented (GO). This is reflected in the fact that the entrepreneur with the highest market value uses MO and the entrepreneurs with the best performance have a decline GO from 2018 to 2021 and an increase of either MO or leverage contingences (LC). This observation corroborates findings by Read et al. (2009), Roach et al. (2015), Delligianni et al. (2017) and Cai et al. (2019), who assert that there is a causal relationship between the use of MO and the performance of a venture. However, the entrepreneur who has the best profitability balances MO and GO. This may explain why Smolka et al. (2018) could not find a significant relationship between MO and performance.

Secondly, this research highlights that expected return (ER), when used, is more often seen as beneficial to performance than affordable loss (AL). The entrepreneurs who score highest on performance also use ER the most, the highest performing entrepreneur also shows a substantial increase in ER. This corroborates findings by Read et al. (2009) and Delligianni et al. (2017), who state that AL has no beneficial effect on performance. Smolka et al. (2018) even state that AL is detrimental to performance. However, there is also an entrepreneur who has a low market value and uses ER a lot. This can be explained by the fact that he does not look at short-term performance but long-term goals. This corroborates findings by Roach et al. (2015) and Cai et al. (2019), who noticed AL is beneficial for performance. However, within this study, few entrepreneurs used AL; only the two lowest-scoring entrepreneurs on performance used it relatively often, indicating that it is not beneficial for performance.

Thirdly, this study indicates that both pre-commitment (PC) and competitive analysis (CA) can be beneficial for performance. This observation neither confirms nor rejects claims by Smolka et al. (2018), Cai et al. (2019), Read et al. (2009) and Delligianni et al. (2017). It appears to corroborate Roach et al. (2015), who could not find a significant effect in this respect. Further noteworthy is the observation that one entrepreneur who experiences strong growth in the CA, is also entering the international arena. This may indicate that the growth of a venture in size and maturity positively affects the use of CA and thus causation.

Fourthly, this research demonstrates that leverage contingencies (LC) is beneficial for performance, e.g. the entrepreneur with the highest growth and the entrepreneur with the highest market value make extensive use of LC. This corroborates the assertions by Read et al. (2009), Roach et al. (2015), Delligianni et al. (2017), Smolka et al. (2018) and Cai et al. (2019). The apparent consensus concerning this effect raises the question of why LC are beneficial for performance. Within a venture, it is particularly obvious that LC has enabled them to seize an opportunity that they had not initially

planned. So LC appears to be especially beneficial for performance. Furthermore, the entrepreneurs show a large increase in LC from 2018 to 2021. Especially the companies that score high on performance seem to have a high increase in this respect. This strong overall increase may be explained by the COVID-19 pandemic. The companies that are most adaptive to the pandemic seem to have the best performance results. In other words, limited use of LC by an entrepreneur in 2018, does not imply this entrepreneur cannot deploy LC more regularly when necessary. His adaptability may ensure that he deploys the right dimensions at the right time. This adaptability corroborates the by Yu et al. who indicate that a situation determines whether causation or effectuation is more beneficial for performance. Given the fact that entrepreneurs have had to deal with major unforeseen changes in the environment due to the COVID-19 pandemic, the question is who adapts the most effectively.

What is further striking within this dimension is that one entrepreneur makes extensive use of both MO and GO and states that their overly strong entrepreneurial belief has not been beneficial for performance. In addition, the attitude towards others dimension of entrepreneur 10 was overrepresented in 2018 (44%) and this venture is now in the process of liquidation. Furthermore, the three best-scoring ventures in terms of performance in 2021 do not score higher than 32% within a single causation/effectuation dimension. This may indicate that an overrepresentation within the basis for taking action may result in low performance.

Also, opposed to overrepresentation, a proper balance between different dimensions seems to be good for performance, albeit depending on the situation. For instances, the combination of LC and ER seems to be beneficial for performance, as does the combination of LC and CA. LC seem to be beneficial for the performance because entrepreneurs are forced to do this by COVID-19, but the more adaptive they are and the higher the increase, the more beneficial it is for the performance. The combination with ER seems to be successful mainly because of the offering of a new and scalable product, as a result of which extra investments ensure better performance. The combination with CA seems especially advantageous by entering the international market, in which case a PC is not feasible and it is important to continue to distinguish yourself from the competition.

In conclusion, several pivotal and new points are reflected in this research. Firstly, a trade-off between dimensions, for example LC and GO, may cause a venture to have a high performance. Suggesting that it is not recommendable to focus on single dimensions but on the right balance. Second, overrepresentation of a dimension, for example, more than 50% to base for taking action, can have a negative effect on performance, this may be consistent with point 1. Thirdly, adaptability to predictable change can ensure a beneficial performance. Correspondingly, adaptability to unpredictable change can be beneficial for performance, especially regarding an increased use of leverage contingencies.

5.1 LIMITATIONS

A limitation regarding this study concerns the temporal effects of the COVID-19 pandemic. Entrepreneurs' use of causation and effectuation and the issues they need to focus on may have been altered as a result of the pandemic. There are entrepreneurs, for example, who are more focused on operating in pubs, which are now forced to close. While other entrepreneurs already offer a wide range of products in the supermarket, which have done rather well. This has been taken into account as much as possible in the analysis so as not to favour or disadvantage any venture. However, the fact that this study took place during a crisis makes it also relevant in the context of how the decision-making process of entrepreneurs changes during a crisis.

Finally, a limitation of this research is that its limited scope to one market within a single country. Since other markets have to deal with different contextual factors and other countries with different cultures, therefore arguably other decision-making styles, it is not evident whether the same results would be achieved. Hence, it is difficult to state that the results apply to other markets and other countries. This can be improved by researching other countries and cultures as well. However, Mathias et al. (2016) comment that they do consider the craft beer market to be generalisable to many other markets, yet they similarly encourage further research in other sectors.

5.2 IMPLICATIONS

This research has contributed to a uniform framework for measuring performance. This framework is based on Santos and Brito (2012), Haber and Reichel (2007) and literature about the effects of causation and effectuation on performance (Table 2). The framework differentiates profitability, growth and market value. Moreover, within a qualitative study, the method used to establish the performance rating can be used to compare the performance of different ventures. Hence, this framework can be used in multiple studies to create methodological uniformity and therefore make it possible to compare different studies and their outcomes. This also helps to measure performance across time, with follow-up studies after several years.

Furthermore, this research illustrates why and when certain dimensions are more beneficial for performance and in doing so corroborates earlier findings. Venture's entrepreneurs can profit from this study once the findings have been popularized concerning the process of determining a course of action, whether means or GO. Besides, the results clarify which dimensions an entrepreneur can use over time to realise better performance. For example, it is important to be able to grow in ER and LC. It is also important for an entrepreneur to achieve the right balance within and between dimensions.

5.3 FUTURE RESEARCH

This research reveals that potentially experimenting (MO) and investing (ER) are beneficial for performance. Future quantitative research can focus more on the question of whether there is a significant correlation between the two. In addition, the research can be conducted in other markets and countries to ascertain whether the same results are achieved there, thus increasing the generalizability of the research. Furthermore, within causation it appears that spending too much time on different projects (AC) is detrimental for performance; further research into this may reveal which activities, in order to AC, take up the most time with the least result.

Furthermore, this research mainly focuses on historical performance and measures performance from moment A to B in time. This is achieved as much as possible in line with existing performance measurement models (e.g. Santos & Brito, 2012; Haber & Reichel, 2007). However, it is essential to consider the perspective used to assess performance. Does current profitability for example determine beneficial performance or does the fact that one can sell a venture profitably in 10 years determine beneficial performance? Therefore, within this research, companies can qualify for a relatively low performance while in 5 years they may prove to have a much higher performance. Inconclusiveness due to the proper perspective can be prevented by repeating studies across time. This way, measuring whether performance is achieved from a long term perspective is combined with an intermediate perspective, measuring performance at intervals from moment A to B to C.

Furthermore, one of the most prominent effects on performance can be observed in LC, which emphasise that seizing unplanned opportunities is beneficial for the performance. It is recommended that future research on causation/effectuation and performance also focus on existing literature on opportunity recognition. This also requires determining the extent to which existing literature can complement each other.

Additionally, this research shows that a high degree of change in LC seems to be related to a high-performance rating. Future research can focus on the extent to which entrepreneurs can change their decision-making approach in response to demands in the environment and whether this change subsequently affects performance. It can also be studied whether exploratory learning is influential in this regard, as Cai et al. (2019) also assert.

6 CONCLUSION

The purpose of this qualitative study was to examine the relationship between decision-making, causation and effectuation, and performance over a period of time. The focus on this relation is meaningful because of a lack of consensus in the literature and a lack of studies identifying causal relations. In order to produce meaningful results, the following research question was formulated: *“How does the degree of causation/effectuation of an entrepreneur’s decision-making process over time determine the venture’s performance?”* To determine the answer to this central research question, the different factors that are related to performance were examined per dimension, to determine which factors prove to have a beneficial influence.

MO appears to be more beneficial over time for performance, although the balanced combination of MO and GO tends to ensure positive profitability. Furthermore, it was clarified that it is detrimental to performance if this factor is overrepresented. Within the dimension of risk and resources, it was clarified that ER is more beneficial to performance than AL. Within this dimension, it is argued that running risks is beneficial to performance as it encourages you to be more creative and innovative in your operations. However, if ER has only recently been initiated, this can still result in a deteriorated performance in the short term.

Concerning the dimension attitude towards others, it is not apparent whether PC or CA is more beneficial to performance. However, it seems to emphasize that as a venture gets more mature, it is increasingly beneficial for the venture's performance to use CA. The contingencies dimension highlights that LC is more beneficial to the performance. It also was clarified that it is beneficial for performance if this dimension can rise relatively high within a certain period since the highest-scoring companies on performance have a relatively high increase in LC.

Hence, it can be concluded that two dimensions tend towards effectuation (MO & LC), one towards causation (ER) and one remains fairly neutral (PC & CA) when it concerns which is the most beneficial for performance. Moreover, it is conceivable that a combination of effectuation within one dimension and causation within another dimension ensures a satisfactory performance. LC for example seem to combine well with competitive advantage and ER, yet the right combination depends on the environment of the venture.

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APPENDIX I - INTERVIEW

Introduction of the study

- The purpose of this study is two-sided. First, the aim is to investigate the relation between the intolerance of uncertainty and the decision-making process of entrepreneurs. Secondly, the aim is to explore the relationship between decision-making processes and a ventures' performance.
- These interviews will become part of our Master thesis, which is the last step before obtaining our degree in Business administration.
- This interview is recorded, as they need to be transcribed and coded to extract useful data out of them. We are the only ones who have access to these recordings which we will not share with others without your permission.
- The interview will be fully confidential, all information will only be used for research purposes and all names or recognisable will be mentioned as anonymous.
- First, we will ask you some questions regarding your decision-making behaviour, next we have some questions regarding the performance of the company, and at last, we will have a short questionnaire for you about your intolerance of uncertainty. We expect the interview to take approximately 45 to 60 minutes.

The entrepreneur and company

First, we would like to get to know you and your company a little better. Could you tell us your:

Intro 1: Age

Intro 2: Gender

Intro 3: Education

Intro 4: Work experience

Intro 5: Venture age

Intro 6: Amount of employees

Intro 7: Region of sales

Intro 8: Method of sales

Intro 9: Do you experience the craft beer market as an uncertain market or one with a lot of certainties?

Intro 10: Did this change during the covid-19 pandemic?

Effectuation/causation

B - The basis for taking action:

B1: Do you have a clear goal for the future?

B2: What role does the prediction of the future play in how you look at the future?

Explanation of resources: financial resources, knowledge, raw materials, people and other possessions that can be used by a person or organisation to function properly and effectively.

B3: Do you set a goal and then look at what resources you need? Or do you look at what resources you have at your disposal to achieve a goal? Can you explain that?

B4: How do you determine your strategies?

B5: To what extent do you analyse the market and the competitors?

P1: Do you consider analysing the long-term opportunities or defining the strategy as beneficial for the performance? Why or why not?

R - Risk and resources:

R1: Could you talk about how you determine how many resources you use?

R1a: How do you take into account the number of resources you could afford to lose?

R2: To what extent did you risk more money than you were willing to lose?

P2: Do you consider the way you manage risks and resources to be beneficial for performance? Why or why not?

A - Attitude towards others:

A1: Could you talk about how you established agreements with suppliers, stakeholders or competitors?

A1a: To what extent do you avoid uncertainty by engaging with suppliers, stakeholders or competitors?

A2: What role do other suppliers and stakeholders play in your decision-making and did this change when the venture grew older?

P3: Do you consider the way you deal with suppliers, stakeholders or competitors as beneficial for performance? Why or why not?

U - Attitude towards unexpected events/contingencies:

U1: Could you talk about the way you approach unexpected events?

U1a: Covid-19

U2: Could you talk about the way you approach opportunities as they arose?

U3: Can you tell us something about the role of flexibility in your plans for the company?

U3a: If so, how does this affect your current organisation?

P4: Do you consider the way you deal with unexpected events to be beneficial for performance? Why or why not?

Performance in general

P – Performance:

P6: Can you give an indication of sales in hectolitres in 2019 and 2020?

P7: What is the approximate percentage of sales growth in the last 3 years?

P8: How would you compare your growth with that of your competitors? (e.g. net sales, employees).

P9: How would you compare your profitability against your competitors? (e.g. return on investment, net income)

P9a: Has it grown in recent years relative to the competition?

Uncertainty avoidance

Based on the Intolerance of Uncertainty Scale-Revised (IUS-R) by Walker et al. (2010).

Prospective Anxiety (PA):

PA1: How do you feel when things happen suddenly?

PA2: How do you feel when there are things you don't know?

PA3: What is your opinion about always thinking ahead about what will happen next?

PA4: What can be the influence of one little thing on a well-planned plan?

PA5: How important is it for you to know what will happen to you in the future?

PA6: How do you react when things happen suddenly?

PA7: How important is it for you to always be prepared before things happen?

Inhibitory Anxiety (IA):

IA1: How do unsure feelings affect your actions?

IA2: How do you react when you are not sure what to do?

IA3: How do you react when you don't know what will happen?

IA4: What is the influence of small concerns on your actions?

IA5: How do you cope with things you are unsure of?

APPENDIX II – INVITATION MAIL

Subject: Master research University of Twente

Dear Mr. / Mrs. ...,

For our master's thesis, we are looking for entrepreneurs, craft-beer brewers, who would like to contribute to our thesis research. The research focuses on the decision-making processes of entrepreneurs. It is the final and most important part of obtaining our Master's degree in Business Administration at the University of Twente.

The first aim of this research is to gain more insight into the possible relationship between an entrepreneur's attitude towards uncertainty and what his/her decision-making process looks like. The second aim of this research is to understand the possible relationship between the decision-making processes used and the performance of the company. You as an entrepreneur and your brewery will remain completely anonymous.

To get the right information, we want to interview entrepreneurs who brew craft beer. Afterwards, the interviews will be transcribed and sent to you, if you prefer to have certain data deleted, that's no problem. Afterwards, we will share the results of the research with you, this can be very interesting for you, as an entrepreneur, and may contain valuable information.

That is why we would like to ask you if you are interested in participating in our research. We would be glad to get in touch with you to discuss possible participation. Should you be unable to attend after all? No problem, you can always cancel the interview. You would be a great help to us and our research. We look forward to good cooperation.

If you have any questions, don't hesitate to contact us!

With kind regards,

Kay Moekotte: k.moekotte@student.utwente.nl

Kristian Ruiter: k.j.ruiter@student.utwente.nl

Master students at the University of Twente

APPENDIX III – PERFORMANCE ASSESSMENT

Table 22 Performance assessment scheme

Indicator	Why is this indicator chosen?	Measurement indicator	Points available				
Employees growth	Based on Haber and Reichel (2007)	% growth in employees	<0%	0-199%	200-399%	>400%	
			0	0,5	1	1,5	
Growth in sales (2017/2019)	Based on Haber and Reichel (2007)	% growth between 2017 and 2019 in HL sold * firm age	<0	0-299	300-599	>600	
			0	1	2	3	
Growth in sales (2019/2020)	To measure resilience in growth at the time of COVID-19	% growth between 2019 and 2020 in HL sold	<0%	0-19%	20-39%	>40%	
			0	1	2	3	
Revenu growth	Based on Haber and Reichel (2007)	% revenu growth between 2019 and 2020	<0%	0-32%	33-65%	>66%	
			0	1	2	3	
(Coded) low performance	As illustrated in the coding scheme.	Amount of low-performance codes	0	1	2	>2	
			0	0,5	1	1,5	
(Coded) high performance	As illustrated in the coding scheme.	Amount of high-performance codes	0	1-3	4-6	7-9	>10
			0	1	2	3	4
Regions	Indicator for market share (based on Cai et al. (2019), Smolka et al. (2016) and Laskovaia et al. (2017)).	The magnitude of the sales area	Reg.	Nat.	Int.		
			0,5	1	1,5		
Markets	Indicator for market share (based on Cai et al. (2019), Smolka et al. (2016) and Laskovaia et al. (2017)).	The amount of sales channels	0	1-2	3-4	>5	
			0	0,5	1	1,5	
Hectoliters sold ranking	Ranking of all interviewed brewers. Indicator of market share.	Place in the ranking	20-17	16-13	12-9	8-5	4-1
			-2	-1	0	1	2
Untapped	To increase triangulation Untappd is used as it indicates the number of consumers.	Amount of check-ins on Untappd	<10.000	10k-30k	30k-90k	>90k	
			0	1	2	3	
Entrepreneurs age	As a control variable	The age of the entrepreneur (older is seen as advantage)	<40	40-49	>50		
			0	-0,5	-1		
Entrepreneurial experience	As a control variable	Years of entrepreneurial experience	0	1-5	>6		
			0	-0,5	-1		
Firms age	As a control variable	Firm age / -10	10	9	8	etc.	
			-1	-0,9	-0,8		

APPENDIX IV - CODING SCHEME DECISION-MAKING

Table 23 Coding scheme (retrieved from Reymen et al. (2015))

MO = Means Orientated AL = AL PC = PC LC = LC		GO = Goal Orientated ER= ERs CA = CA AC = AC	
		Effectuation	Causation
1	MO	<ol style="list-style-type: none"> 1. Building on own knowledge base and other available existing own resources (including employees and material resources). 2. Defining only rough visions while leaving the details open. (incremental steps) 3. Using the infrastructure of local environment and technological know-how available in the environment. 4. Following personal preferences. 5. Building on existing network of contacts to identify/create opportunities (includes attracting employees). 	GO <ol style="list-style-type: none"> 1. Basing actions upon expectations (market, technology, policy trends) and predictions (of founders, board members, investors). 2. Defining and pursuing project goals, product, customer needs, or market goals (more specific than 'profit,' 'a better planet'). 3. Defining and satisfying organizational needs (personnel, organization structure, infrastructure, technology, etc.) and selecting between options based on specific goals. 4. Evaluating planned progress and adapting means based upon feedback. 5. Searching and selecting contacts, clients and partners based upon predefined plans.
2	AL	<ol style="list-style-type: none"> 1. Being willing to make affordable personal sacrifices (including nonmonetary ones) for the best of the venture. 2. Finding unused resources in local environment (including subsidies). 3. Investing limited, small amounts of personal/company money, time, and effort. (shared risk) 4. Managing growth expectations and ambitions. 5. Limiting stakeholders' commitments to levels that are uncritical to them. 	ER <ol style="list-style-type: none"> 1. Maximizing personal profit. 2. Calculating and evaluating expected outcomes/returns. 3. Planning development in big steps and with large sums (including large recruitments) (large: relative for company). 4. Postponing stakeholder (including clients) contact at the expense of own funds (focus on internal development). 5. Searching for stakeholders to commit the amounts necessary for the execution of the plan.
3	PC	<ol style="list-style-type: none"> 1. Reaching trust-based flexible stakeholder agreements and commitments. 2. Cocreating business with stakeholders. 	CA <ol style="list-style-type: none"> 1. Acquiring resources through market transactions or contract-based agreements with stakeholders. 2. Creating and carrying out patent strategy.

		<ul style="list-style-type: none"> 3. Engaging in stakeholder collaborations to pursue opportunities (while commitment extends beyond what they have agreed on earlier). 4. Exposing (draft) products to potential clients early on. 		<ul style="list-style-type: none"> 3. Carrying out competitor analysis and competitive positioning. 4. Carrying out systematic market research activities.
4	LC	<ul style="list-style-type: none"> 1. Accepting, gathering, and incorporating unexpected feedback, leading to changing paths of development. 2. Changing and adapting any potential plans made to accommodate unforeseen events. 3. Actively exposing company to outside influences, while being open minded. 4. Positively reacting to and incorporating unforeseen developments. 	AC	<ul style="list-style-type: none"> 1. Carefully interacting with environment for secrecy reasons (feel threatened by unexpected events, therefore work in isolation as much as possible). 2. Carrying out plans as defined in cases of unforeseen developments. 3. In cases of unforeseen developments, focusing on activities within the firm rather than engaging in interactions with the environment. 4. Drawing back from project or quickly resolving in cases of unforeseen developments.

APPENDIX V - CODING SCHEME PERFORMANCE

Table 24 Performance coding scheme

	Low Performance		High Performance	
Profitability	Lpro	The interviewee indicates...	HPro	The interviewee indicates...
The possibility to generate returns	LPro1	... that the company has a low rate of new sales creation	HPro1	... that the company has a high rate of new sales creation
Level of profit	LPro2	... that the company is loss-making so far (and possibly no prospect of profit)	HPro2	... that the venture is profitable (not considering reinvestment).
Level of debt	LPro3	... that the venture has an high amount of debt (possibly with various stakeholders).	HPro3	... that the venture has little or no debt and invests with own profit or money
<i>Growth (will be coded separately due to the comparison factor)</i>	LGro		HGro	
Growth in employees	LGro1	... that the venture has no growth in the amount of employees (or a decrease)	HGro1	... that the venture has an increase in the amount of employees
Growth in hectolitres/revenue /profitability	LGro2	... that the venture has no growth in the amount of hectolitres sold (or a decrease)	HGro2	... that the venture has an increase in the amount of hectolitres sold
Growth in sales markets/regions	LGro3	... that the venture has not expanded in terms of new sales markets and regions (or a decrease).	HGro3	that the venture has expanded in terms of new sales markets and regions.
Market Value	LMar	A comparison with the other companies...	HMar	A comparison with the other companies...
Sales in hectolitres as of today	LMar1	... points out that this company has converted fewer hectolitres than average	HMar1	... points out that this company has converted more hectolitres than average
Growth in revenue compared to competitors	LMar2	... shows that this company has had a lower growth in revenue than competitors	HMar2	... shows that this company has had a stronger growth in revenue than competitors
Growth in profitability compared to competitors	LMar3	... shows that this company has had a s lower growth in profits than competitors	HMar3	... shows that this company has had a stronger growth in profits than competitors

APPENDIX VI – PERFORMANCE CODES

Table 25 Performance codes among ventures

No.	Low growth	Low Market Value	Low profitability	High customer satisfaction	High growth	High market value	High profitability
1	0	1	1	0	1	4	3
2	0	1	0	0	5	2	3
3	2	0	3	1	1	1	2
4	0	0	1	0	2	0	2
5	0	2	0	0	0	0	1
6	0	2	3	1	0	0	1
7	0	1	0	0	0	1	1
8	0	0	7	0	2	0	3
9	0	1	0	0	0	1	2
10	0	2	2	0	0	0	2
11	0	3	0	1	0	2	1
12	0	0	1	1	2	2	1
13	0	1	0	1	1	0	3
14	0	0	2	0	2	0	2
15	0	0	0	0	2	0	5
16	0	1	0	2	2	1	3
17	1	0	4	0	1	0	1
18	0	1	0	2	1	1	3
19	1	0	0	0	1	1	4
20	1	0	0	0	2	1	2
Total:	5	16	24	9	25	17	45

APPENDIX VII - ENTREPRENEURS ON PERFORMANCE

Table 26 Entrepreneurs on performance

The basis for taking action			
No	Beneficial	Because	
1	Yes	Created focus on which opportunities to pursue	Effectuation
2	Yes	Looking towards the future	Effectuation
3	No	As they did not define an USP	Effectuation
4	Yes	As they act out of own preference	Effectuation
5	Yes	Focus on local and exclusivity	Effectuation
6	No	As it slows the operations	Effectuation
7	Yes		C/E
8	No	As ideology limits operations	C/E
9	Yes	As it delivers their inspiration and innovation	Effectuation
10	Yes	The focus within the business	Effectuation
11	Yes	Use network to profile as everyone's friend	C/E
12	Yes	Predefined plans help to achieve goals	Causation
13	Yes	Created a distinguishing factor	Effectuation
14	Yes	As they act out of own preference	Effectuation
15	Yes	Created focus on which opportunities to pursue	C/E
16	Yes	Keeps planning for the future	Effectuation
17	Neutral		Effectuation
18	Yes		Causation
19	Yes	As planning created better margins	Causation
20	Yes		Effectuation
Risk and resources			
No	Beneficial	Because	
1	Yes	Created a buffer to withstand corona	C/E
2	Yes	Taking risk is beneficial for long-term performance	Causation
3	No	Lack of focus due to excessive funds	Causation
4	No	Lack of funds to invest	Effectuation
5	Neutral		Effectuation
6	Yes	Finance do not dictate what should be done	Effectuation
7	Yes	Created a beneficial foundation	Effectuation
8	Neutral		C/E
9	Yes	As investing creates better margins	Effectuation
10	No	Long-term decisions appeared unbeneficial	Effectuation
11	Yes	Taking risk is beneficial for long-term performance	Causation
12	Yes	Plans have worked out well	Causation
13	Yes	Return on investment is quick	C/E
14	Yes	Taking risk increases creativity to keep operating	Effectuation
15	Yes	As investing creates better margins	Effectuation
16	Yes	Taking risk is beneficial for long-term performance	C/E
17	No	Lack of funds to invest	Effectuation
18	Yes	Taking risk is beneficial for long-term performance	Causation
19	Yes	As investing creates better margins	Causation

20	Yes	As the keep investing, own or company money	Effectuation
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Attitude towards others

No	Beneficial	Because	
1	Yes	It delivers synergy advantages	Effectuation
2	Yes	As it delivered new opportunites	C/E
3	Neutral		Causation
4	Yes	As contracts improve quality	C/E
5	Yes	As it creates return favours	Effectuation
6	No	As it is all short-term	Effectuation
7	Yes	Cocreation ensured less loss in harder times	Effectuation
8	Yes	As it creates return favours	C/E
9	Yes	As it creates better terms	C/E
10	Yes	As you can use the stakeholders' experience	Effectuation
11	Yes	Flexibility and simply fulfilling agreements to create loyalty	C/E
12	Yes	As it creates return favours	Causation
13	Yes	As it creates return favours	Effectuation
14	Yes	As it creates return favours	Effectuation
15	Yes	As it creates loyalty	Causation
16	Yes	As it creates return favours	Effectuation
17	Neutral		Causation
18	Yes	As contracts improves sales	Causation
19	Yes	Flexibility and simply fulfilling agreements to create loyalty	C/E
20	Yes	It delivers synergy advantages	Effectuation

Attitude towards unexpected events/contingencies

No	Beneficial	Because	
1	Yes	Created a orderly business	Effectuation
2	No	Because they occasionally reject other parties	Effectuation
3	Yes	Established growth because of flexibility	Effectuation
4	Neutral		Effectuation
5	No	Because the smallness limits the company	C/E
6	Yes	Flexibility ensure you can pursue opportunity	Effectuation
7	Yes		Causation
8	Yes	As flexibility increases the speed of operations	Effectuation
9	No	Because they are not actively responding to it	Effectuation
10	No	Because they said to often yes to other parties	Causation
11	Yes	Flexibility ensure you can pursue opportunity	Effectuation
12	Yes	As consumers like it when you do something odd	Effectuation
13	Yes	Flexibility ensure you can pursue opportunity	Effectuation
14	Yes	Increased communication	Effectuation
15	Yes	Established growth because of flexibility	Effectuation
16	Yes	Flexibility ensure you can pursue opportunity	Effectuation
17	Yes	As flexibility helps dealing with unexpected cont.	Effectuation
18	Yes	But more structure is needed to identify opportunities	Effectuation
19	Yes	Flexibility ensure you can pursue opportunity	C/E
20	Yes	As there are operations they shouldn't have done	Effectuation

APPENDIX VIII – CAUSATION AND EFFECTUATION DIMENSIONS OVER TIME PER ENTREPRENEUR

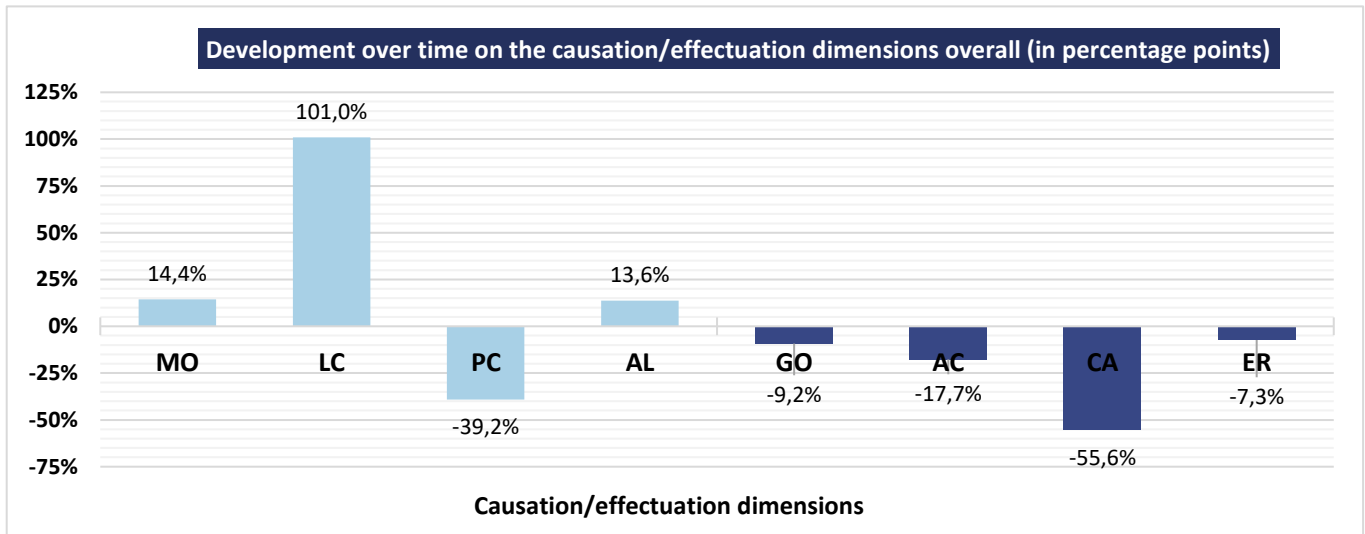


Figure 12 Development over time causation/effectuation

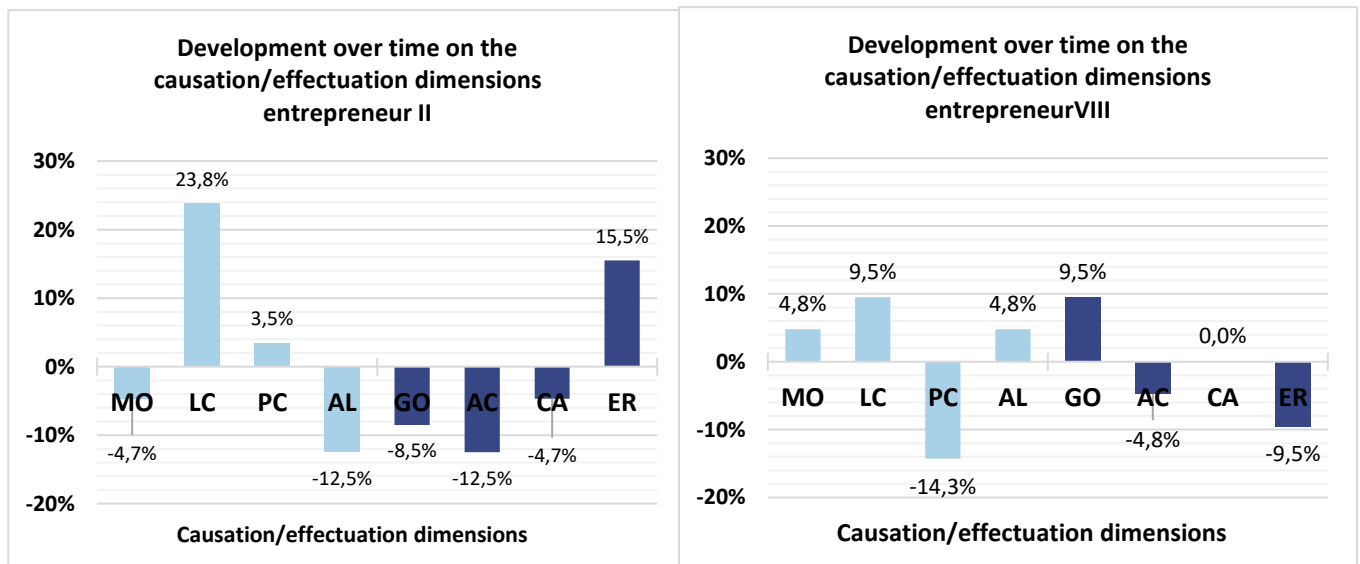


Figure 11 Development over time entrepreneur II & VIII

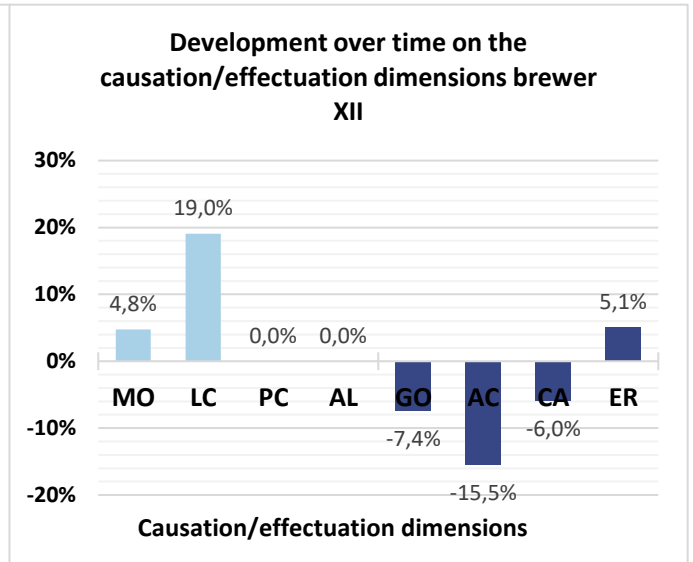
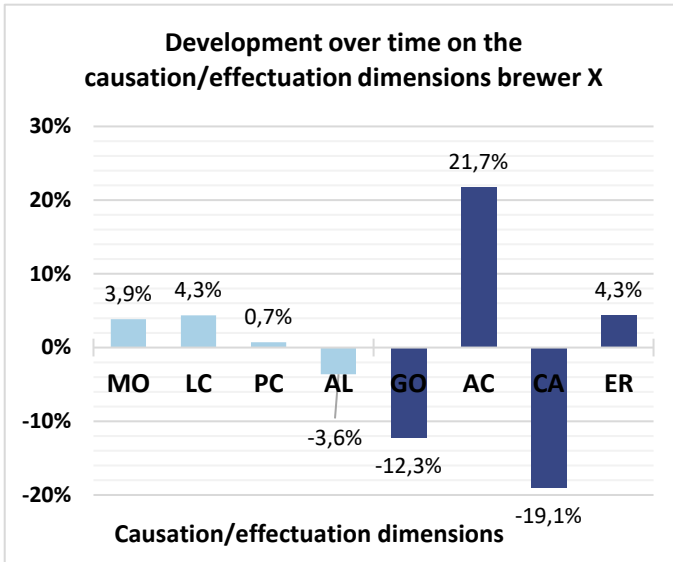


Figure 13 Development over time entrepreneur X & XII

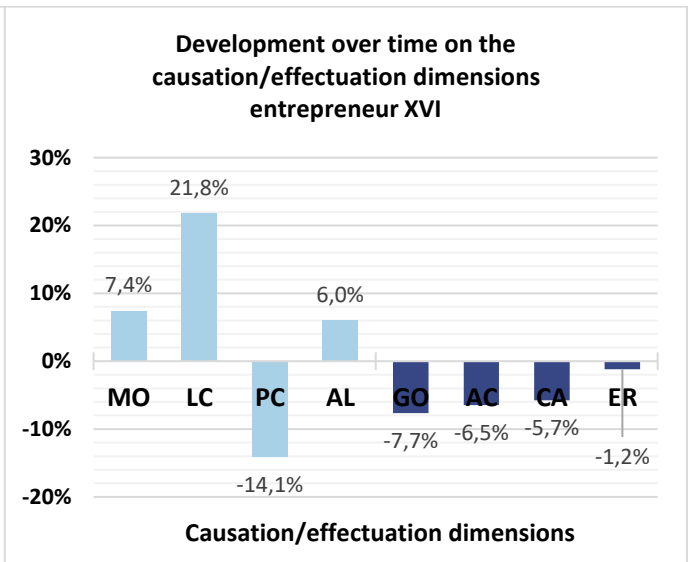
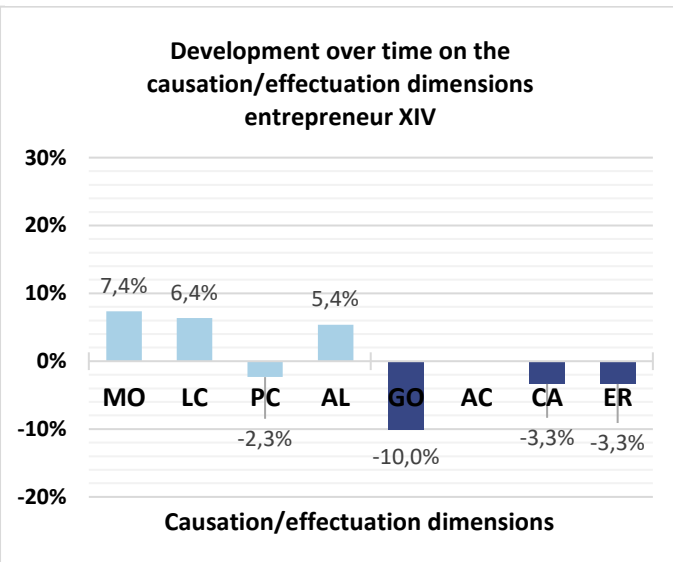


Figure 14 Development over time entrepreneur XIV & XVI

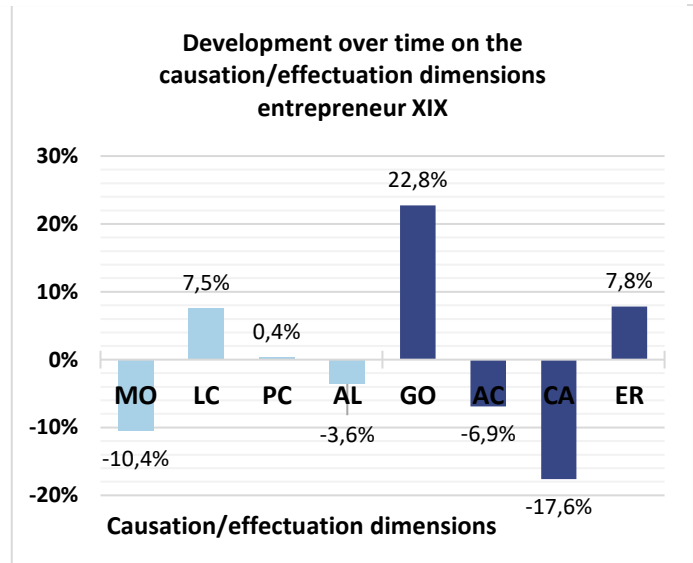
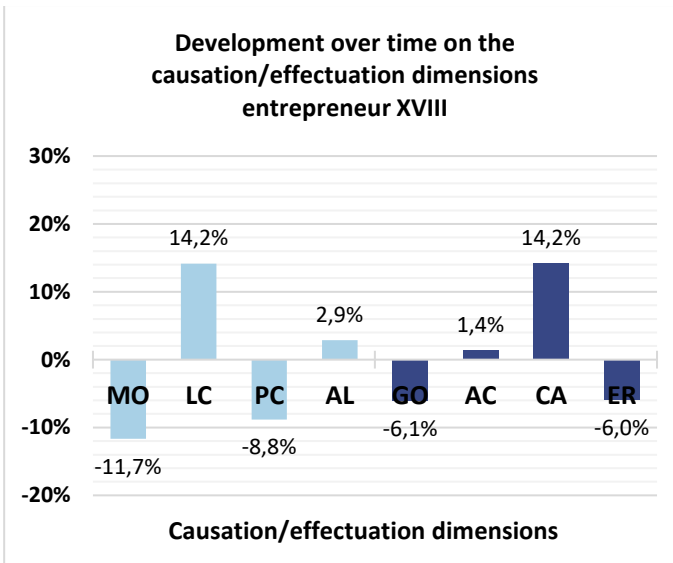


Figure 15 Development over time entrepreneur XVIII & XIX

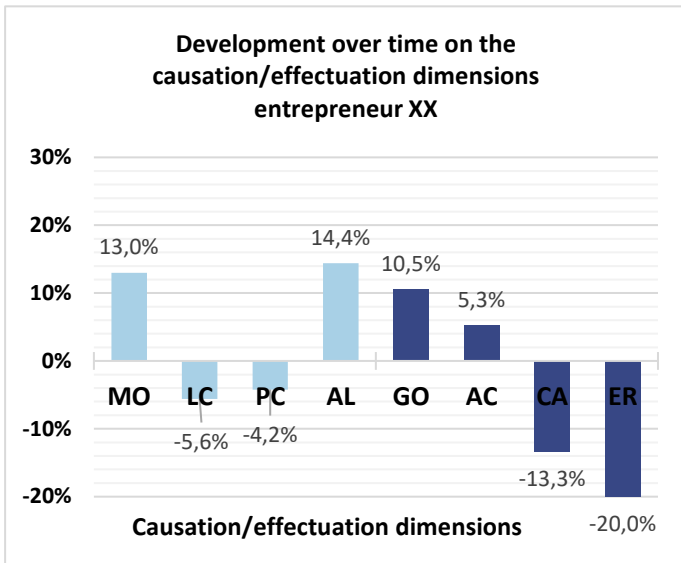


Figure 16 Development over time entrepreneur XX

APPENDIX IX – PERFORMANCE INDICATORS HECTOLITRES SOLD AND GROWTH RATE

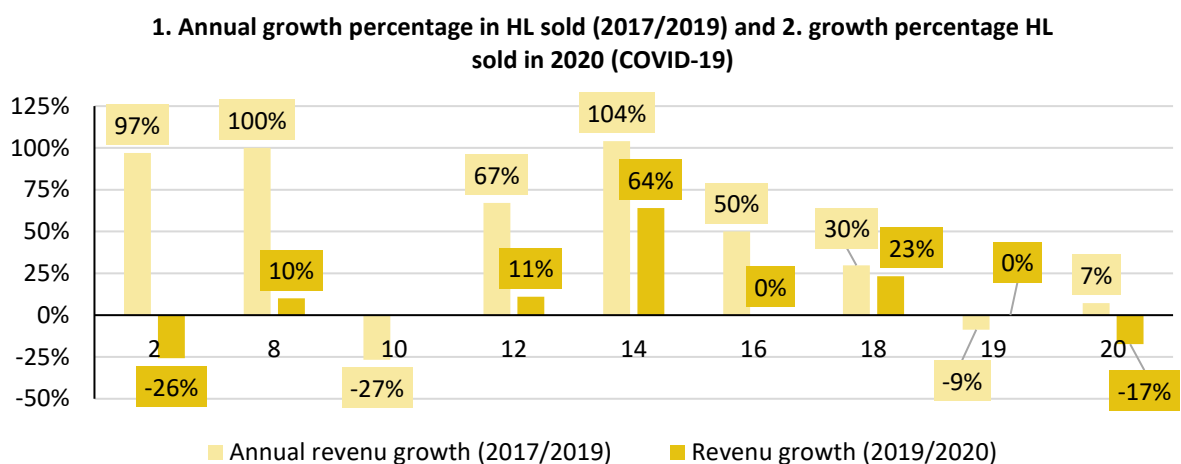


Figure 17 Annual growth rate of hectolitres sold from 2017 to 2019 and from 2019 to 2020

Table 27 Annual growth rate of revenue and employees from 2018 to 2021

Venture	2	8	10	12	14	16	18	19	20
3. Annual revenue growth	60%	20%	-	20%	10%	100%	20%	5%	20%
4. Employee growth in total	650%	50%	-33%	0%	300%	200%	20%	57%	-10%

APPENDIX X – CAUSATION AND EFFECTUATION AND PERFORMANCE

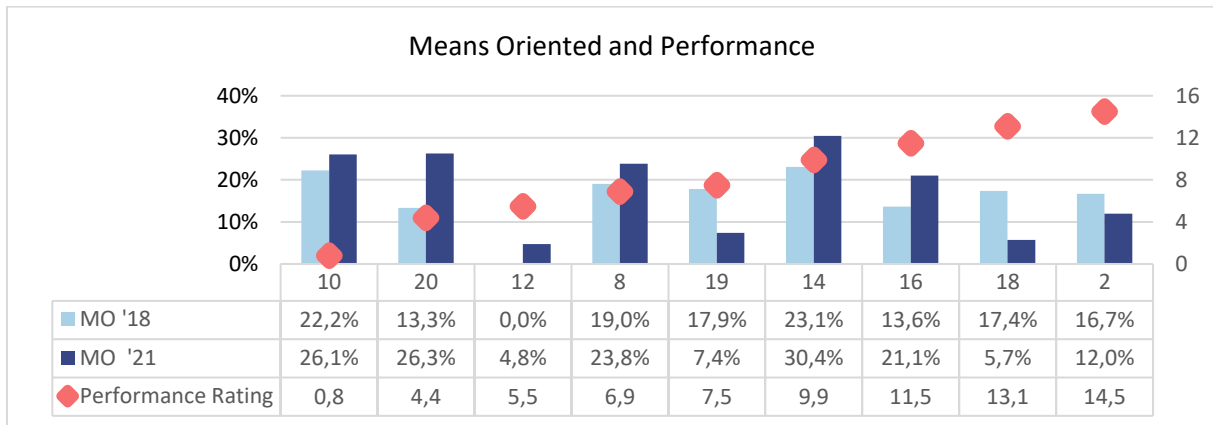


Figure 18 MO & Performance over time

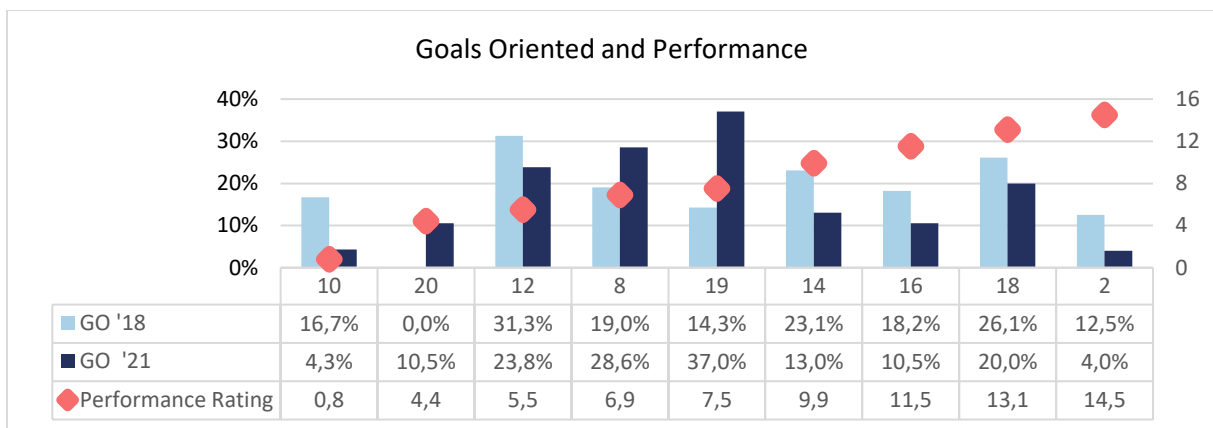


Figure 19 GO & Performance over time

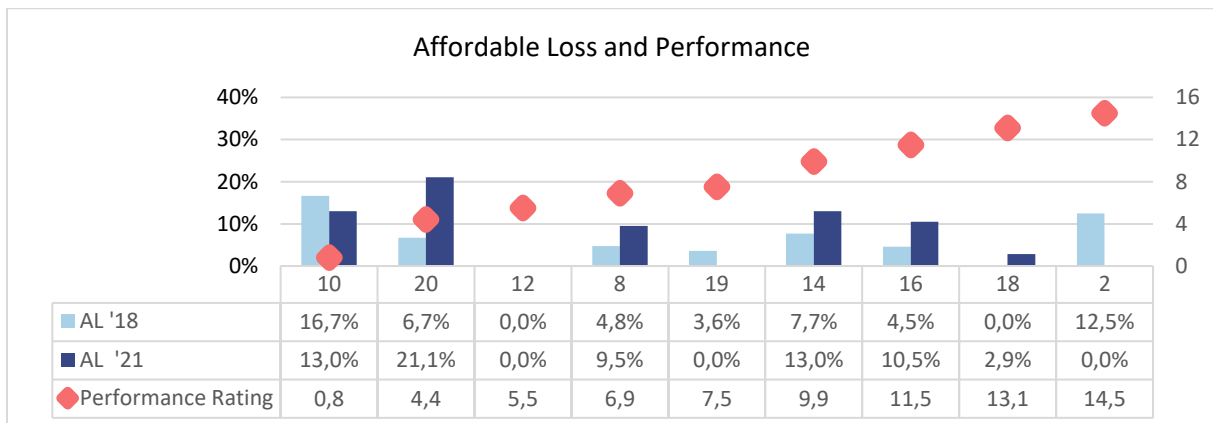


Figure 20 AL & Performance over time

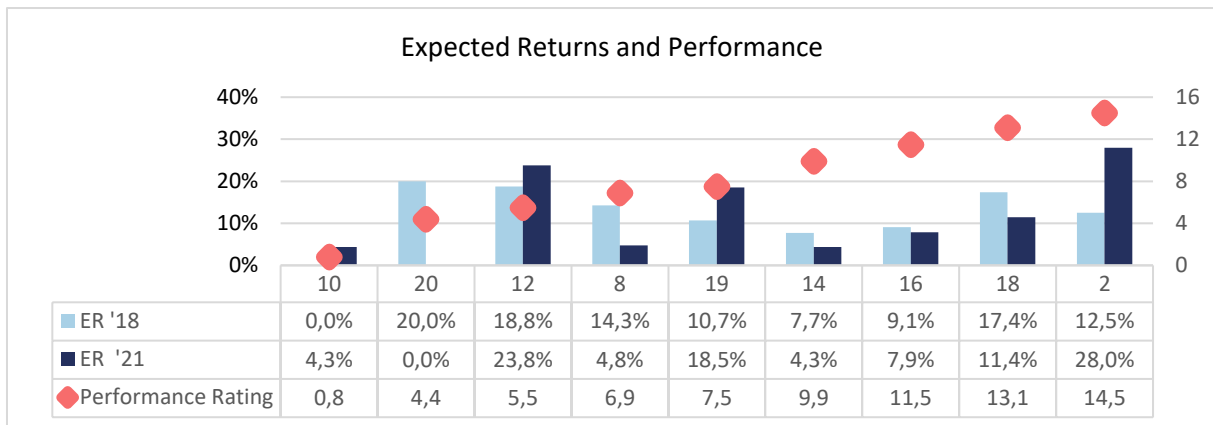


Figure 21 ER & Performance over time

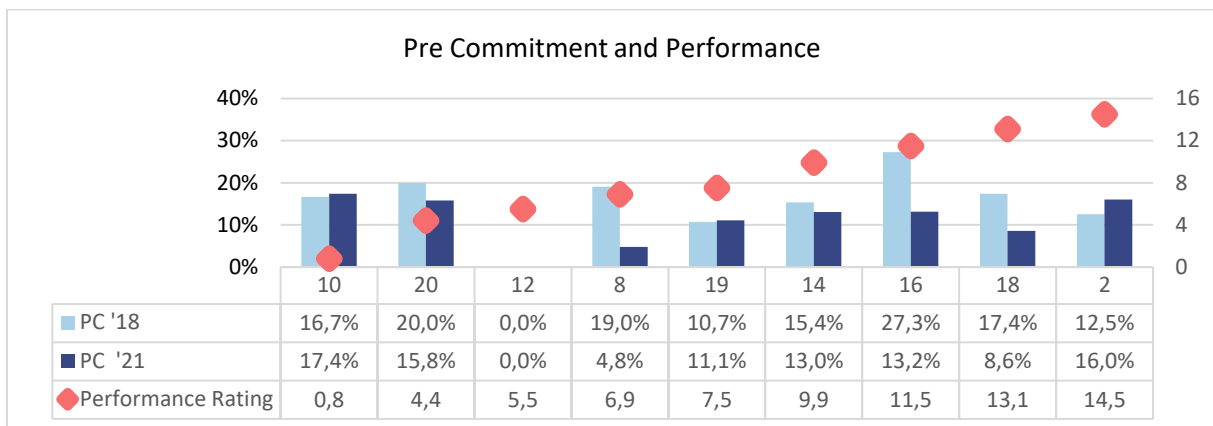


Figure 22 PC & Performance over time

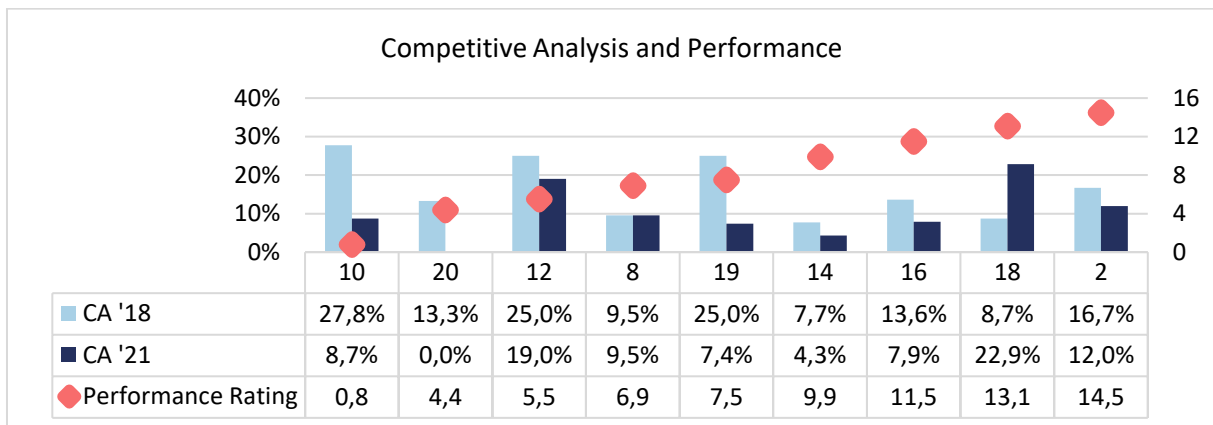


Figure 23 CA & Performance over time

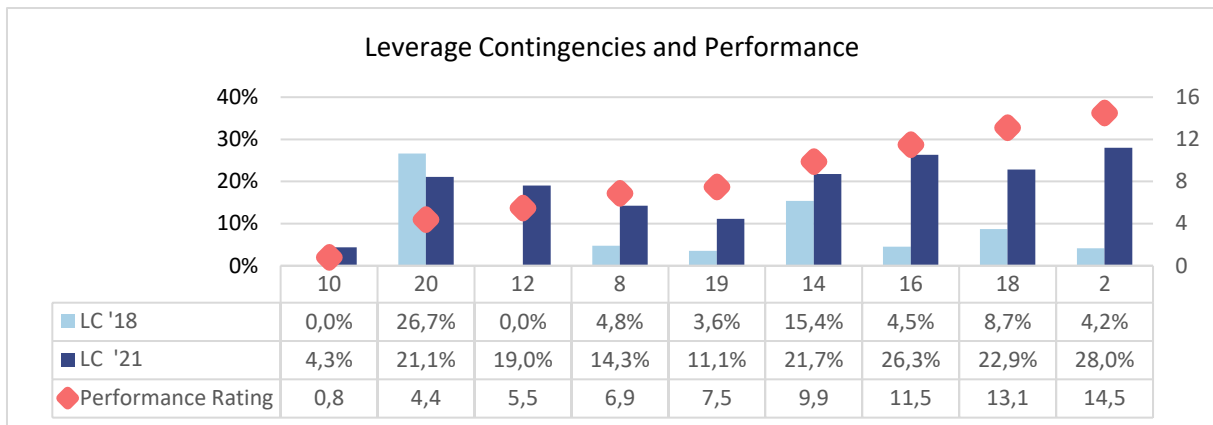


Figure 24 LC & Performance over time

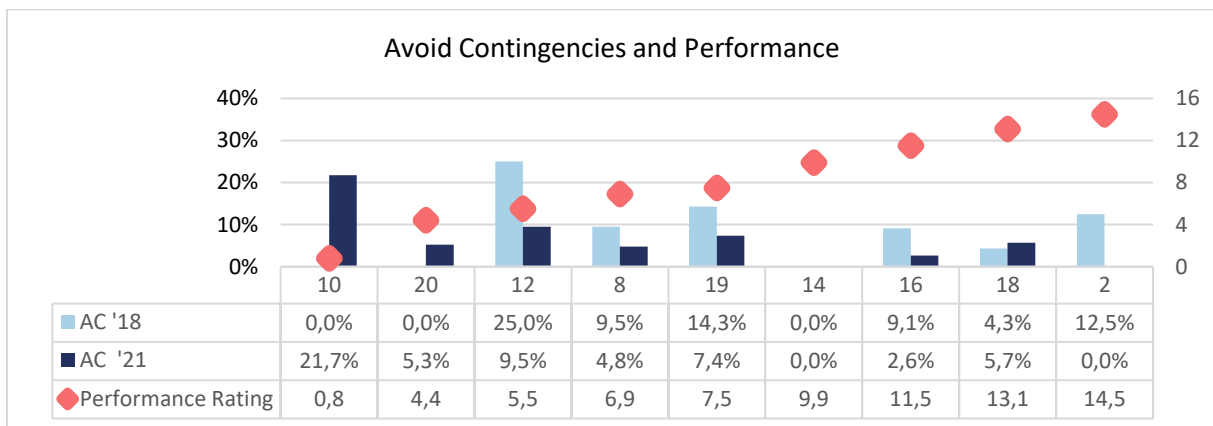


Figure 25 AC & Performance over time

APPENDIX XI – CAUSATION AND EFFECTUATION CHANGE COMPARED TO PERFORMANCE RATING

Table 28 Total change of the different effectuation dimensions

No.	Total change of the different effectuation dimensions								Performance
	MO '18	MO '21	LC '18	LC '21	PC '18	PC '21	AL '18	AL '21	High
2	17%	12%	4%	28%	13%	16%	13%	0%	14,5
18	17%	6%	9%	23%	17%	9%	0%	3%	13,1
16	14%	21%	5%	26%	27%	13%	5%	11%	11,5
14	23%	30%	15%	22%	15%	13%	8%	13%	9,9
Average:	18%	17%	8%	25%	18%	13%	6%	7%	
									Medium
19	18%	7%	4%	11%	11%	11%	4%	0%	7,5
									Low
8	19%	24%	5%	14%	19%	5%	5%	10%	6,9
12	0%	5%	0%	19%	0%	0%	0%	0%	5,5
20	13%	26%	27%	21%	20%	16%	7%	21%	4,4
10	22%	26%	0%	4%	17%	17%	17%	13%	0,8
Average:	14%	20%	8%	15%	14%	9%	7%	11%	

Table 29 Total change of the different effectuation dimensions

Total change of the different causation dimensions									Performance
No.	GO '18	GO '21	AC '18	AC '21	CA '18	CA '21	ER '18	ER '21	High
2	13%	4%	13%	0%	17%	12%	13%	28%	14,5
18	26%	20%	4%	6%	9%	23%	17%	11%	13,1
16	18%	11%	9%	3%	14%	8%	9%	8%	11,5
14	23%	13%	0%	0%	8%	4%	8%	4%	9,9
Average:	20%	12%	6%	2%	12%	12%	12%	13%	
									Medium
19	14%	37%	14%	7%	25%	7%	11%	19%	7,5
									Low
8	19%	29%	10%	5%	10%	10%	14%	5%	6,9
12	31%	24%	25%	10%	25%	19%	19%	24%	5,5
20	0%	11%	0%	5%	13%	0%	20%	0%	4,4
10	17%	4%	0%	22%	28%	9%	0%	4%	0,8
Average:	17%	17%	9%	10%	19%	9%	13%	8%	