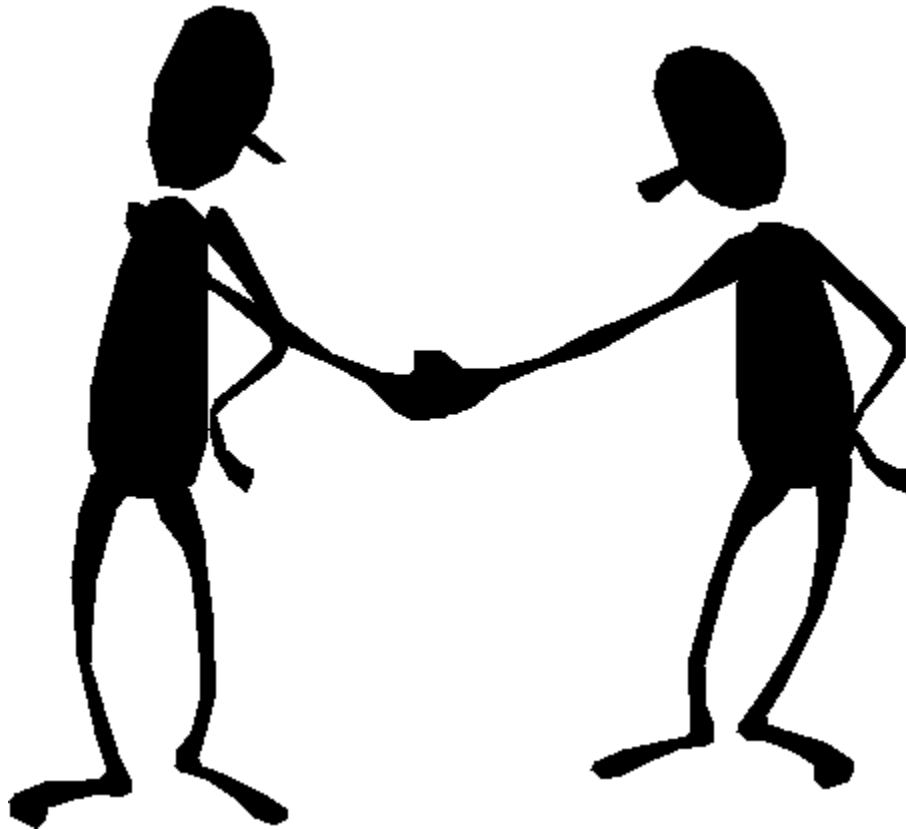


# The Role of Social Skills in the Entrepreneurial Styles Effectuation and Causation



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## 1. Introduction

The creation of new ventures is an important phenomenon since it has a significant impact on the creation of jobs and economic growth (Gartner, Shaver, Carter, & Reynolds, 2004). Studies in entrepreneurial research have delivered important results. Personal characteristics of entrepreneurs, market forces and conditions, industry trends and dynamics can have a significant influence on the success of the entrepreneur. (Baron & Markman, 2003). But also the social skills – specific competences that help them to interact effectively with others (Baron & Markman, 2000) - of entrepreneurs were linked to (financial) performance of new ventures, after other studies proved high social skills is beneficial for (almost) all individuals (e.g. Riggio & Throckmorton, 1988; Heneman, Greenberg, Anonyou, 1989; Wayne & Ferris, 1990).

About ten years ago, two terms of different styles of entrepreneurship were introduced: causation and effectuation. Causation and effectuation are two alternative approaches that entrepreneurs use in the process of new venture building (Sarasvathy S. , 2001). In causation processes, the entrepreneur takes a particular effect as given and focuses on selecting between means to create that effect, while effectuation processes take a set of means as given and focus on selecting between possible effects that can be created with that set of means. Constructs in the effectuation process are experimentation, affordable loss, flexibility and pre-commitments. (Sarasvathy, 2001)

This study is about the link between entrepreneurs' social skills and their styles of entrepreneurship. It is expected that entrepreneurs with high social skills get easier in contact with people they want to use for their benefit, than entrepreneurs with low social skills. Will this lead for the entrepreneur to a focus on selecting the possible effects that can be created with the entrepreneurs' set of means? Or are social skills not important in processes of causation and effectuation?

In recent years causation versus effectuation has become an important subject in entrepreneurial science. The links between social skills and causation and social skills and effectuation are never investigated before, and hopefully this study could provide more insights in how entrepreneurs with different social skills adopt a causation approach and/or (parts of) an effectuation approach. Beyond these implications for scholars, this research can also have implications for practitioners. This study can give new insights in the value of social skills in entrepreneurship. These insights can probably lead to a change in entrepreneurial training programs, when it could be proved that social skills have a significant influence on the way entrepreneurs do their business.

In this study of 79 participants of the VentureLab Twente, I have investigated the links between social skills (Political Skill Inventory and Social Self-Efficacy), causation and effectuation. Individuals with higher social skills have several kinds of benefits, as also described above. But is it also beneficial in setting up a business? In what

entrepreneurial style are the social skills more important? Is there a strict separation between causation and effectuation, depending on the social skills of an individual?

The structure for this report is as follows. In the next section the main findings in social skills and causation versus effectuation are explained. After the theories, hypotheses are explained. Thereafter, the empirical findings are described. Finally I will discuss the results and give implications of this study both in theoretical and practical terms.

## 2. Theory

### 2.1 Social skills in entrepreneurship

The first studies in entrepreneurship were solely in terms of whom the entrepreneur is and what he or she does (Venkataraman, 1997). Shane & Venkataraman (2000) came up with a new definition of entrepreneurial research as *the scholarly examination of how, by whom, and with what effects opportunities to create future goods and services are discovered, evaluated, and exploited*. Consequently, the field involves the study of sources of opportunities; the processes of discovery, evaluation, and exploitation of opportunities; and the set of individuals who discover, evaluate, and exploit them.

When watching the entrepreneurial field in an ‘organizational view’, fundamentally three research questions are concerned: (1) why, when and how opportunities for the creation of goods and services come into existence; (2) why, when, and how some people and not others discover and exploit these opportunities; (3) why, when and how different modes of action are used to exploit entrepreneurial opportunities. (Shane & Venkataraman, 2000)

In this study, the focus is on a small part of the second question. The question ‘why, when and how some people and not others discover and exploit opportunities’ have a long history in the field of entrepreneurship (Baron & Markman, 2003). In this study, the focus is on a small element of this question, namely the role of social skills: *What is the role of social skills in discovering and exploiting opportunities?*

One of the first studies that focused on the *personal traits* of entrepreneurs was the study of Shaver & Scott (1991), but they reported only modest success. However, Chen, Green & Crick (1998) suggested that some personal characteristics, like self-efficacy, may play a role in their success. Another approach to determine why some entrepreneurs are more successful than others has focused on cognitive factors and processes: the ways in which entrepreneurs think, reason and reach decisions (Brush, 1992). Research within this perspective has identified a number of cognitive factors that influence entrepreneurs’ success, including overconfidence in their judgments, greater use of representativeness heuristic (Busenitz & Barney, 1997) and a reduced tendency to engage in counterfactual thinking (Baron, 2000a).

A first study that linked social skills directly to entrepreneurial (financial) performance was the study of Baron & Markman (2000). They called attention to an additional set of factors that may be relevant to the question why some entrepreneurs are more successful than others in exploiting opportunities they discover (Baron & Markman, 2003). They suggested that certain aspects of entrepreneurs’ behavior, especially their effectiveness in interacting with other persons in face-to-face contexts, may play a role in their success. Results of these social skills are perceiving others accurately (Zebrowitz, 1997), make a good first impression on them (Ferris, Witt, & Hockwarter, 2000), or persuade them to change their views of behavior (Shavitt & Brock, 1994).

Baron & Markman (2003) continued their study of the social skills of entrepreneurs and their financial success in the cosmetics industry and the high-tech industry. The types of entrepreneurs in these industries were distinctly different, and the business environment was sharply contrasting. In both industries, social perception was related to financial success. This effect is in line with other beneficial effects of social skills in non-entrepreneurial business: performance appraisals (Wayne, Liden, Graf, & Ferris, 1997), frequency and speed of promotions (Ferris, Witt, & Hockwarter, 2000), and executive wealth (socially skilled executives appear to be better able to resist the adverse effects of high levels of stress) (Perrewe, Ferris, Frink, & Anthony, 2000).

In the cosmetics industry, social adaptability was also related to success. So, to perform well in this industry, people had to be some kind of ‘social chameleon’ (Kilduff & Day, 1994). In the high-tech industry, expressiveness was significantly related to financial success (Baron & Markman, 2003). It is like a teacher who can motivate his students intrinsic with enthusiasm (Patrick, Hisley, Kempler, & College, 2000). Because the study was done in such different industries (a mostly female industry / mostly male industry), it proved that high social skills could also benefit the success of entrepreneurs too.

For the different results in the cosmetics and high-tech industry Baron & Markman (2003) have a possible explanation. They argue the call for social proficiencies is different in both industries. The first group of entrepreneurs (those in the cosmetics industry) was heavily involved in face-to-face sales, either of products or, more importantly, the idea of joining their distribution organizations. To succeed, these entrepreneurs had to approach and interact with total strangers. Success in such activities would appear to require high levels of *social adaptability*. In the second group of entrepreneurs (those of the high-tech industry), they find it not necessary to approach, meet and interact with a large number of strangers in their daily activities. (Baron & Markman, 2003)

According to Baron & Markman (2003), skills in *social perception* might well prove valuable to both groups of entrepreneurs. This ‘reading’ of others accurately (Kring, Smith, & Neale, 1994) can benefit to the success in face-to-face conversations, but also in the task of negotiating with potential customers and suppliers, like in the high-tech group.

Also *expressiveness* was positive related to success in the high-tech group. According to Baron & Markman (2003), it is because the expressiveness generates a certain enthusiasm and motivation among the employees. According to Friedman, Prince, Riggio, & DeMatteo (1980) enthusiasm often generates motivating among the employees.

Baron & Markman (2003) give also an explanation of how social skills can link to financial performance. According to them, the link between social skills and financial

performance can emerge in four possible mechanisms. First, social skills may assist entrepreneurs in working with other members of the founding team. Second, social skills may assist entrepreneurs in establishing positive, cooperative relationship with persons outside the companies who are important for their financial success. Third, social skills may contribute to entrepreneurs' success by assisting them in forming business alliances. And fourth, social skills may provide entrepreneurs with enhanced access to opportunity-related information, and may also assist them in communicating such information to other members of the new ventures.

In a study of Baron & Tang (2008), the focus was on social perception, expressiveness and self-promotion (one aspect of impression management) of Chinese entrepreneurs. The results of this study were clear. Social perception, ingratiation, self-promotion, social adaptability and expressiveness were all positively related to the financial performance of their new ventures.

Social skills have been found to influence a wide range of important organizational processes (Baron & Tang, 2008). Individuals with high social skills are more successful as job candidates (Riggio & Throckmorton, 1988), receive higher performance reviews from supervisors (Robbins, 1994), attain faster promotions, and receive higher salaries (Belliveau, O'Reilly, & Wade, 1995). Similarly, individuals high in social skills generally achieve greater success than do persons low in such skills in many different occupations (Wayne, Liden, Graf, & Ferris, 1997), attain better results in negotiations (Lewicki, Saunders, & Barry, 2005), and often achieve higher levels of task or job performance (Hockwarter, Witt, Treadway, & Ferris, 2006).

Social skills also exert strong effects on outcomes in many nonbusiness contexts (Tang & Baron, 2008). According to Diener & Seligman (2002), people with high social skills have a wider range of social contacts than people with lower social skills. According to Downs & Lyons (1991) people with high social skills influence the outcomes of legal proceedings.

These findings also suggest that social skills might exert significant effects in entrepreneurship (Baron & Tang, 2008).

All these findings are summarized in table 1.

<b>Table 1: Past findings social skills</b>		
<b>Year</b>	<b>Researcher(s)</b>	<b>Finding(s)</b>
1988	Riggio & Throckmorton	Individuals with high social skills are more successful as job candidates
1989	Heneman, Greenberg & Anonyou	Individuals with high skill in social perception are better in the process of negotiation and can better determine if an opponent is honest
1990	Wayne & Ferris	The differences in skills in persuasion and influence of others are very related to success in sales, law and medicine
1991	Downs & Lyons	People with high social skills influence the outcomes of legal proceedings
1994	Shavitt & Brock	High social skills lead to success in persuasion to change views of behavior
1994	Kilduff & Day	A high level of social adaptability can be beneficial for entrepreneurs who must make cold calls on strangers.
1994	Kring, Smith & Neale	Social perception (the reading of others) can benefit to the success in face-to-face conversations
1994	Robbins	Individuals with high social skills receive higher performance reviews from supervisors
1995	Stevens & Kristof	High skill in impression management can be helpful in efforts to attract customers or obtain needed capital for entrepreneurs
1995	Belliveau, O'Reilly & Wade	Individuals with high social skills attain faster promotions and receive higher salaries
1997	Zebrowitz	High social skills lead to accurately perceive others
1997	Wayne, Liden, Graf & Ferris	High social skills lead to higher performance appraisals
1998	Chan, Green & Crick	Personal characteristics play a role in their career success
2000	Baron & Markman	Aspects of behavior play a role, especially the effectiveness in face-to-face interactions
2000	Ferris, Witt & Hockwarter	High social skills lead to a good impression
2000	Ferris, Witt & Hockwarter	High social skills lead to more frequent and more speed of promotions
2000	Perrewe, Ferris, Frink & Anthony	Individuals with high social skills appear to be better able to resist the adverse effects of high levels of stress
2002	Diener & Seligman	People with high social skills have a wider range of social contacts
2003	Baron & Markman	Cognitive factors and processes play a role: thinking, reason and decision reaching
2003	Baron & Markman	In high-tech industry and in cosmetics industry social perception was related to financial



		success.
2003	Baron & Markman	In cosmetics industry, social adaptability was significantly related to financial success
2003	Baron & Markman	In high-tech industry, expressiveness was significantly related to financial success
2005	Lewicki, Sounders & Barry	Individuals with high social skills attain better results in negotiations
2006	Hockwarter, Witt, Treadway & Ferris	Individuals with high social skills often achieve higher levels of task or job performance
2008	Baron & Tang	Social perception, ingratiation, self-promotion, social adaptability and expressiveness were all positively related to the financial performance of their new ventures.

## 2.2 Causation and effectuation

After this introduction in social skills and past findings in the field of social research, I will explain the terms of causation and effectuation in entrepreneurship.

### *Causation*

Causation is consistent with planned strategy approaches, including such activities as opportunity recognition and business plan development (Chandler, DeTienne, McKelvie, & Mumford, 2009). The planning and analysis required by such models assume conditions in which the distribution of outcomes in a group is predictable through calculation or statistical inference (Sarasvathy S. , 2001). In causation process an individual makes rational choices based on all possible information relevant to his decision and an estimated utility for each option (Viale, 1992).

In entrepreneurial practice or pedagogy, the business plan is an institutional conformity to the causational approach, which means that the business plan is the manual for every entrepreneur that follow a causational approach. (Wiltbank, Read, Dew, & Sarasvathy, 2009). According to Honig and Karlsson (2004), the development of a business plan is a rational activity that assists the owners of net firms (entrepreneurs) to earn larger profits through efficiency gains and/or increased sales. Although the empirical research regarding the effectiveness of business plans has been mixed, the business plan with its step-by-step rational process is a primary deliverable in many university entrepreneurship programs (Honig & Karlsson, 2004).

### *Effectuation*

In contrast, effectuation processes (Sarasvathy S. , 2001) are consistent with emergent or non-predictive strategies (Wiltbank, Dew, Read, & Sarasvathy, 2006). According to Chandler, DeTienne, McKelvie, & Mumford (2009), under conditions of uncertainty, unique circumstances make it impossible to draw statistical inferences. In addition, there is no feasible way to calculate an expected return for a given course of action.

Thus, instead of analyzing alternatives and selecting the one with the highest expected return, the entrepreneur selects alternatives based on *loss affordability* instead of expected return. (Kraaijenbrink, 2008)

The entrepreneur also maintains *flexibility*, since the structure of the emerging organization is dependent on contingent opportunities and the particular investments made by stakeholders. (Sarasvathy S. , 2001).

*Experimentation*, ‘a series of trial and error changes pursued along various dimensions of strategy, over a relatively short period of time, in an effort to identify and establish a viable basis for competing’, is done by effectuators to test different approaches in the marketplace (Sarasvathy S. , 2001).

Entrepreneurial effectuators also rely on *pre-commitments* and strategic alliances with potential suppliers, competitors and customers (Chandler, DeTienne, McKelvie, & Mumford, 2009) rather than competitive analysis. The effectuators used pre-commitment to reduce uncertainty, minimize cost of experimentation, and maintain flexibility.

Another dimension of effectuation, described by Wiltbank, Read, Dew, & Sarasvathy (2009) – *control* instead of prediction – suggest that to the extent you can control the future you do not need to predict, because you can control your outcomes (Sarasvathy S., 2001).

Sarasvathy (2001) states that in effectuation approaches: “...take a set of means as given and focus on selecting between possible effects that can be created with that set of means.” In venture creation, entrepreneurs following an effectuation approach might begin the new venture process with general aspirations to create a new venture, but as they make decisions and observe the results of those decisions, they utilize this new information to change course. Because the future is unpredictable, entrepreneurs using an effectuation approach may try different approaches in the marketplace before settling on a business model. In addition, they are likely to put mechanisms into place that allow them to have some control over the outcome (Chandler, DeTienne, McKelvie, & Mumford, 2009). According to Sarasvathy (2001), to the extent we can control the future, we don’t need to predict it, is the underlying logic.

An other important study in causation and effectuation is done by Chandler, DeTienne & Mumford (2007). They did a validating study in causation and effectuation. In this study the main constructs of Sarasvathy (2001) are measured. Chandler, DeTienne & Mumford (2007) showed that the causation processes appear to be a well-defined and coherent set of practices that can be viewed as a unidimensional construct. But in contrast with Sarasvathy (2001), effectuation processes appear to be a loosely defined and only loosely related set of practices, which means that, according to Chandler, DeTienne & Mumford (2007) the constructs of flexibility, affordable loss, partnering and pre-commitments are not parts of the effectuation process. Only the construct of experimentation is related to effectuation.

### 3. Hypothesis Development

In this section the hypothesis will be developed. According to past research (e.g. Baron & Markman 2000; Ferris, Treadway, Kolodinsky, Hochwarter, Kacmar, & Frink, 2005) social skills can be used to enhance your social capital, what represent the actual and potential resources individuals obtain from knowing others, being part of a social network with them, or merely from being known to them and having a good reputation (Baron & Markman, 2000), and give an individual several benefits in their career. In this study two main social skills were investigated: *Political Skill Inventory* and *Social Self-Efficacy*. I have chosen for these two skills because these skills contains more than just one aspect of social interaction. Political Skill Inventory contains Networking Ability, Apparent Sincerity, Social Astuteness and Interpersonal Influence, which is a broad spectrum of social skills, further explained below. Social Self-Efficacy is also a general form of making contact with an other person. A high score on social self-efficacy makes an individual capable in building and maintaining relationships, which is a result of social skills described by Baron & Markman (2003), who describe four factors of social skills: social perception, social adaptability, expressiveness and impression management.

#### 3.1 Political Skill Inventory, Causation and Effectuation

Political Skill Inventory (PSI) is ‘the ability to effectively understand others at work, and to use such knowledge to influence others to act in ways that enhance one’s personal and/or organizational objectives’ (Ahearn, Ferris, Hochwarter, & Douglas, 2004) As such, politically skilled individuals combine *social astuteness* with the capacity to adjust their behavior to different and changing situational demands in manner that appears to be sincere, inspires support and trust, and effectively influences and controls the responses of others (Ferris, Treadway, Kolodinsky, Hochwarter, Kacmar, & Frink, 2005). Social astuteness (“social persuasion and influence”) was also part of the study of Baron & Markman (2000). They define it as skills for changing the attitudes or behavior of others in desired directions. Because other people do not always share our views, and often behave differently from the way we would prefer, most of us try to influence the attitudes, beliefs, or behavior of others every day (Cialdini, 1994). The differences in skills in persuasion and influence of others are very related to success in sales, law and medicine (Wayne & Ferris, 1990). Potential relevance for the entrepreneur is more likely to obtain financing, better recruiting the key employees, dealing with customers and suppliers, and of course doing better negotiations (Baron & Markman, 2000).

In the study of Ferris, Treadway, Kolodinsky, Hochwarter, Kacmar & Frink (2005), Political Skill Inventory was positively related to self-monitoring, political savvy, and emotional intelligence; and negatively related to trait anxiety. Harris, Kacmar, Zivnuska, & Shaw (2007) found that individuals who are high politically skilled used high levels of impression management tactics (intimidation, exemplification, ingratiation, self-promotion and supplication) which lead to higher results in supervisor ratings. Impression management involves proficiency in a wide range of techniques for inducing positive reactions in others. This can be from efforts to enhance one’s own appearance and image, through agreeing with others, flattering them, and giving them small gifts

during an initial meeting. Skills in impression management can be very helpful in efforts to attract customers or obtain needed capital for entrepreneurs (Stevens & Kristof, 1995). According to Baron & Markman (2000) examples of potential relevance to entrepreneurial success is the ability to obtain financing, attract key employees and to deal with customers and suppliers.

#### *Means-End-approach*

Politically skilled individuals convey a sense of personal security and calm self-confidence that attracts others and gives them a feeling of comfort. This self-confidence never goes too far so as to be perceived as arrogance but is always properly measured to be a positive attribute. Therefore, although self-confident, those high in political skill are not self-absorbed (although they are self-aware) because their focus is outward toward others, not inward and self-centered. This allows politically skilled individuals to maintain proper balance and perspective, and also, along with their tendency to be conscientious, to ensure that they keep a healthy gauge on their accountability to both others and themselves. (Ferris, Treadway, Kolodinsky, Hochwarter, Kacmar, & Frink, 2005) This self-confidence or self-awareness is corresponding with Sarasvathy & Dew (2005). According to them, entrepreneurs who adapt the effectual means-driven-approach start by asking the questions of who I am, what I know and who I know, rather than by a particular goal or opportunity (Sarasvathy & Dew, 2005). In this case, individuals see means and resources other do not see, because they think it could create value for them. In the opposite way, people with lower political skills have lower self-confidence and self-awareness, so these individuals focus on the end-goal and what means *should* be accumulated to achieve these goals. (Kraaijenbrink, 2008)

An important element of Political Skill Inventory is social perception. *Social perception* is the ability to perceive accurately the emotions, traits, motives and intentions of others. According to Baron & Markman (2000) examples of potential relevance to entrepreneurial success is the ability to make good presentations to investors and customers, attracting and selecting partners and employees and conducting negotiations. Entrepreneurs with a high skill of social perception are also more capable to give other people a positive residue of the social interaction. According to Baron & Markman (2000), social skills can contribute to the social capital of the entrepreneur. So, the entrepreneur provide himself/herself more options to get in business with potential customers or partners, which makes that entrepreneurs with higher Political Skills have more social capital.

#### *Pre-commitments*

Social skills can also contribute to entrepreneurs in forming business alliances (Baron & Markman, 2003). People with a large network of cooperative relationships with persons outside the company have an advantage to people with a smaller network because people with a larger network have more opportunities to change, so it is expected that entrepreneurs with higher Political Skills are more cooperative than competitive with other companies. These cooperative intentions are part of the effectuation approach

where entrepreneurs make pre-commitments with customers, suppliers and other organization to reduce the amount of uncertainty. (Chandler, DeTienne, McKelvie, & Mumford, 2009)

### *Control*

Reducing uncertainty is also an important element in the study of Wiltbank, Read, Dew, & Sarasvathy (2009). In their investigation of angel investing they distinguish prediction and control. According to Sarasvathy (2001), to the extent we can control the future; we do not need to predict it. To control the future Wiltbank, Read, Dew & Sarasvathy created in their survey items like 'Talk with people you know to enlist their support in making this opportunity a reality' or 'You move forward because your expertise allows you to influence the uncertainty of this situation'. Effectuation focuses on the controllable aspects of an unpredictable future, while causation primarily focuses on those aspects of the future that are predictable. (Kraaijenbrink, 2008)

As also described above, politically skilled individuals combine *social astuteness* with the capacity to adjust their behavior to different and changing situational demands in manner that appears to be sincere, inspires support and trust, and effectively influences and controls the responses of others (Ferris, Treadway, Kolodinsky, Hochwarter, Kacmar, & Frink, 2005). Individuals with high political skills are good in changing the attitudes or behavior of others in desired directions, what makes that an individual with high political skills can control the people he needs in the future. It makes the individual also more flexible, because he/she beliefs that his network will help him when things do not work out as it would be, or when new opportunities arise in their environment. Individuals who have less political skills are worse in influencing and controlling other people, so for them it is more important to predict – what can happen – the future.

H1: There is a positive relationship between the entrepreneur's political skills and his/her likelihood to follow an effectuation approach.

According to Chandler, DeTienne, McKelvie, & Mumford (2009) Causation can be characterized by elements of business plans, clear vision, long-term strategy, competitive analyses, planned production, competition and marketing efforts. Wiltbank, Read, Dew, & Sarasvathy (2009) distinguish in their study prediction and control, where prediction is a dimension of causation and controlling a dimension of effectuation.

When analyzing elements of causation together with elements of political skills, it is not likeable to think there is a relationship. Politically skilled individuals have the capacity to use their behavior to influence and control the responses of their interaction partner, what gives several possibilities to change the attitude of the interaction partner. As mentioned before, causation is based on long-term thinking and with a clear vision, where the people the entrepreneur meet in his business is not related to this pre-set

strategy and vision. The vision of where the business had to be in five or ten years is not related to who the entrepreneur is meeting.

In a causational approach the entrepreneur is trying to predict the future on forehand, instead of trying to control the future with Political Skills as in an effectuation approach. In the causation approach, Political Skills can be used by the entrepreneur within its company. But it is expected that there is no relationship between the effect of higher or lower Political Skills of the entrepreneur and its likelihood to follow a causation approach. Neither it is expected that Political Skills have a negative relationship with a causation approach.

H2: There is no relationship between the entrepreneur's political skills and his/her likelihood to follow a causation approach.

### **3.2 Social self-efficacy, Causation and Effectuation**

One domain with potentially important implications for both personal and career development is that of social self-efficacy expectations, defined herein as confidence in one's ability to engage in the social interactional tasks necessary to initiate and maintain interpersonal relationships in social life and career activities. (Anderson & Betz, 2001)

Sherer and Adams (1983) defined social self-efficacy as a willingness to initiate behavior in social situations. Theoretically, social self-efficacy expectations should affect social approach versus avoidance behavior, and performance and persistence in social situations (Anderson & Betz, 2001). Social self-efficacy expectations have been reported to relate to academic performance in first-year college students (Ferrari & Parker, 1992), career indecision (e.g. Betz, Schifano, & Kaplan, 1999; Temple & Osipow, 1994), and career decidedness (Tuck, Rolfe, & Adair, 1995).

Niles and Sowa (1992) reported significant relations of Social self-efficacy to career decision-making, flexibility, motivation, and preference; such that higher social self-efficacy was associated with beliefs that facilitate the career development process.

Social self-efficacy may be a major determinant of *social adaptability* and of social preferences when deciding with whom to interact in the future. (Carstensen, 1993) According to Baron & Markman (2000), social adaptability involves the ability to adjust to a wide range of social situations and to feel comfortable with individuals from diverse backgrounds. People high in social adaptability are able to talk to virtually anyone about almost anything, can introduce themselves to strangers with relative ease, and readily adjust to a wide range of new social situations. These 'social chameleons' are capable of adapting their behavior in order to blend comfortably into almost any social context. For example, entrepreneurs (especially in early stages) must make many cold calls on strangers. Then, a high level of social adaptability can be very beneficial to them (Kilduff & Day, 1994). The advantage for entrepreneurs with high skill in social adaptability is

they can better establish business relationships with strangers, and are more capable to work with people from different backgrounds (Baron & Markman, 2000).

It is expected, that people with a higher social self-efficacy have more control in the development of their career, and are also more flexible in their paths of their career and of their business. Entrepreneurs with a high social self-efficacy have more confidence in social interactions and are more willingness to initiate behavior in social situations (Sherer & Adams, 1983). So, for individuals with a higher social self-efficacy, it is less important to make an extended planning, because they have the ability to control the future or change direction when things do not work out as they expected.

People with a higher social self-efficacy have a larger network of social life and career activities (Anderson & Betz, 2001). As a result of this, entrepreneurs with a higher social self-efficacy can do more pre-commitments to get an advantage in their (new) business.

The large network of an entrepreneur can give him/her also the confidence that he/she is not on his/her own, and can use his/her network to change things in the business in the direction he/she wanted, what makes the entrepreneur more flexible in doing his/her business.

Just like in the first hypothesis where it is expected that there is a relationship between Political Skills and an effectuation approach, it is also expected that there is a relationship between social self-efficacy and the effectuation approach, based on the same arguments as in the first hypothesis. Expectations about using means, pre-committing and being flexible as a Political Skilled individual are the same as the expectations of one with a high social self-efficacy. In this case it is also expected that a higher social self-efficacy will relate to an effectuation approach.

H3: There is a positive relationship between the entrepreneur's social self-efficacy and his/her likelihood to follow an effectuation approach.

As mentioned in a the second hypothesis, causation can be characterized by elements of business plans, clear vision, long-term strategy, competitive analyses, planned production, competition, marketing efforts and prediction the future instead of trying to control it. (Chandler, DeTienne, McKelvie, & Mumford, 2009)

Just as in the second hypothesis, a relationship is not expected, because the long-term orientation and the vision of clear goals in the future is not depending on what will happen and who the entrepreneur will meet. In a causational approach the entrepreneur is trying to predict the future on forehand, instead of trying to control the future with Political Skills as in an effectuation approach. Predicting the future is not depending on social self-efficacy of the entrepreneur.



In an approach like this, social self-efficacy can be used by the entrepreneur within its company. But it is expected that the effect of higher or lower social self-efficacy of the entrepreneur has no relationship with its likelihood to follow a causation approach. Neither it is expected that social self-efficacy have a negative relationship with the causation approach.

H4: There is no relationship between the entrepreneur's social self-efficacy and his/her likelihood to follow a causation approach.

## **4. Methodology**

### **4.1 Participants**

The data of the entrepreneurs participated in this study is coming from VentureLab Twente. VentureLab Twente 'offers business development support for technology-based start-up businesses and is a business growth accelerator for well-established companies.' (VentureLab Twente, 2011) VentureLab is intended to stimulate the economy of the region Twente.

Participants of VentureLab fill in a survey several times, which is obligatory to participate. A little part of this set of data is used for this study; a little part of the first survey – called the profile survey – and a little part of the end survey after a year. This contains data of 79 participants, participating VentureLab in 2010 and 2011. In the profile survey, participants answer questions of their personality; in the end survey most questions were about how they do the things during their entrepreneurial training of a year.

### **4.2 Measures**

#### *Social Skills*

The constructs of political skill inventory and social self-efficacy are separated into items. The items designed to measure political skill inventory (18) were taken from Ferris, Witt, & Hockwarter (2000) and the items of social self-efficacy (6) were taken from Sherer, Maddux, Merchandante, Prentice-Dunn, Jacobs, & Rogers (1982). All the items were answered by the entrepreneurs with a 5-point Likert-scale from 'strongly agree' to 'strongly not agree'.

#### *Sources of Effectuation and Causation*

To analyze the constructs of causation and effectuation, in this study the studies of Chandler, DeTienne, McKelvie & Mumford (2009) and Wiltbank, Read, Dew and Sarasvathy (2009) are used. They were part of the survey list of Venture Lab Twente as described above.

#### *Causation Processes*

Causation processes in Chandler, DeTienne, McKelvie & Mumford (2009) are extracted from the study of Sarasvathy (2001), including envisioning the end from beginning, maximizing expected return, business planning and competitive analyses to predict an uncertain future, and exploiting pre-existing knowledge.

Wiltbank, Read, Dew & Sarasvathy (2009) assume that individuals want their desired outcomes in the future. To reach these favorable outcomes they try to predict or control the future. Predicting the future can for example be done by risk calculations, making business plans or doing market research. All the items were answered by the entrepreneurs also with a 5-point likert-scale from 'strongly agree' to 'strongly not agree'.

*Effectuation Processes*

Chandler, DeTienne, McKelvie & Mumford (2009) described effectuation processes as experimentation with alternatives in which losses in the worst-case scenario are affordable, they use pre-commitments and strategic alliances in an attempt to control an unpredictable future, and they remain flexible so they can take advantage of changing environmental contingencies. Dimensions of the effectuation processes in this study are: flexibility, affordable loss, experimentation and pre-commitments.

Wiltbank, Read, Dew & Sarasvathy (2009) assume that individuals want their desired outcomes in the future. To reach these favorable outcomes they try to predict or control the future. Logic of non-predictive control, suggests that to the extent an individual can control the future, he or she do not need to predict it. All the items were answered by the entrepreneurs also with a 5-point likert-scale from 'strongly agree' to 'strongly not agree'

## 5. Results

Tables 2, 3 and 4 are factor analyses of political skill inventory (table 2), effectuation processes (Chandler, DeTienne, McKelvie, & Mumford, 2009) (table 3) and prediction and control (Wiltbank, Read, Dew, & Sarasvathy, 2009) (table 4). Descriptive statistics and Pearson Correlations are shown in table 5. Table 6 shows the regression results.

### 5.1 Factor Analyses

To analyze the underlying dimension of the constructs of PSI, effectuation (Chandler, DeTienne, McKelvie, & Mumford, 2009) and prediction and control (Wiltbank, Read, Dew, & Sarasvathy, 2009) factor analyses have been done.

#### *Factor Analysis Political Skill Inventory*

Factor analysis in political skill inventory contains four dimensions: Networking Ability, Apparent Sincerity, Social Astuteness and Interpersonal Influence (Ferris, Witt, & Hockwarter, 2000). The 18 items of PSI were extracted into 4 different factors, where in table 2 outcomes below 0,35 are not in the table. The Cronbach's alpha of political skill inventory is 0,89. (Networking ability:  $\alpha=0.90$  (highest reliability), Social Astuteness:  $\alpha=0.84$ , Apparent Sincerity:  $\alpha=0.79$ , Interpersonal Influence:  $\alpha=0.75$ )

**Table 2: Factor Analysis Political Skill Inventory**

	Construct	Factor 1	Factor 2	Factor 3	Factor 4
I spend a lot of time and effort at work networking with others.	<b>Networking Ability</b>	0.65			
At work, I know a lot of important people and am well connected.		0.84			
I am good at using my connections and networks to make things happen at work.		0.81			
I have developed a large network of colleagues and associate at work who I can call for support when I really need to get things done.		0.83			
I spend a lot of time at work developing connections with others.		0.87			
I am good at building relationships with influential people at work.		0.78			
It is important that people believe I am sincere in what I say and do.	<b>Apparent Sincerity</b>				0.79
When communicating with others, I try to be genuine in what I say and do.					0.93
I try to show a genuine interest in other people.					0.76
I always seem to instinctively know the right thing to say or to influence others.	<b>Social Astuteness</b>	0.44		0.45	
I have a good intuition or savvy about how to present myself to others.			0.58	0.49	
I am particularly good at sensing the motivations and hidden agendas of others.				0.87	
I pay closely attention to people's facial expressions.				0.77	
I understand people very well.	<b>Interpersonal Influence</b>		0.40	0.73	
It is easy for me to develop good rapport with most people.			0.82		
I am able to make most people feel comfortable and at ease around me.			0.64		
I am able to communicate easily and effectively with others.			0.55		
I am good at getting people to like me.			0.72		

*Factor Analysis Effectuation Processes (Chandler, DeTienne, McKelvie, & Mumford, 2009)*

When entrepreneurs use effectuation processes they experiment with alternatives in which potential losses in the worst-case scenario are affordable, they use pre-commitments and strategic alliances in an attempt to control an unpredictable future, and they remain flexible so they can take advantage of changing environmental contingencies (Chandler, DeTienne, McKelvie, & Mumford, 2009).

To measure *flexibility*, Chandler, DeTienne, McKelvie & Mumford (2009) developed a four item measure, which reflects the extent to which entrepreneurs remained flexible.

To measure *pre-commitment*, a two-item scale was developed by Chandler, DeTienne, McKelvie & Mumford (2009), which reflects potential contacts or agreements with suppliers, competitors and customers.

To measure *experimentation*, they developed a four-item scale, despite this Cronbach's Alpha is not reliable enough. Even after deleting 1 or 2 items of experimentation, the reliability is still not enough. For this reason, in the next tables experimentation is not included anymore.

To measure *affordable loss*, they developed a three-item measure, which focuses on predetermining the amount of affordable loss and choosing strategies within those given means. (Sarasvathy S. , 2001)

The factors of effectuation processes described by Chandler, DeTienne, McKelvie &

<b>Table 3: Factor Analyze Effectuation Processes</b>					
<b>Items</b>	<b>Construct</b>	<b>Factor 1</b>	<b>Factor 2</b>	<b>Factor 3</b>	<b>Factor 4</b>
We allowed the business to evolve as opportunities emerged.	<b>Flexibility</b>	0.83			
We adapted what we were doing to the resources we had.		0.67			
We were flexible and took advantage of opportunities as they arose.		0.82			
We avoided courses of action that restricted our flexibility and adaptability		0.68			
We used a substantial number of agreements with customers, suppliers and other organizations and people to reduce the amount of uncertainty.	<b>Pre-commitments</b>		0.83		
We used pre-commitments from customers and suppliers as often as possible.			0.84		
We experimented with different products and/or business models	<b>Experimentation</b>		0.70		
The product/service that we now provide is essentially the same as originally conceptualized.					0.67
The product/service that we now provide is substantially different that we first imagined.					0.76*
We tried a number of different approaches until we found a business model that worked.					0.56
We were careful not to commit more resources than we could afford to lose.	<b>Affordable loss</b>			0.57	
We were careful not to risk more money that we are willing to lose with our initial idea.				0.91	
We were careful not to risk so much money that the company would be in real trouble financially if things didn't work out.				0.90	
*Reverse coded.					

Mumford (2009) are also shown in table 3 as factors (after deleting less than 0,50). (Cronbach's Alpha: flexibility ( $\alpha=0.79$ ); pre-commitments ( $\alpha=0.83$ ); experimentation ( $\alpha=0.47$ ); affordable loss ( $\alpha=0.85$ )).

*Prediction and control (Wiltbank, Read, Dew, & Sarasvathy, 2009)*

To identify prediction and control in the study of Wiltbank, Read, Dew & Sarasvathy (2009) factors have been extracted. Were it was expected that the entrepreneurs formed two factors to create outcomes in the future, in fact they formed four factors. To analyze the effect of predicting and controlling, the items with double factors or other factors than the first two are deleted and not included anymore. The ten items left formed two factors: controlling ( $\alpha=0.82$ ) and predicting ( $\alpha=0.75$ ).

<b>Table 4: Factor Analyze Prediction and Control</b>			
<b>Items</b>	<b>Construct</b>	<b>Factor 1</b>	<b>Factor 2</b>
Talk with people you know to enlist their support in making this become a reality	<b>Control</b>	0.65	
Imagine possible courses of action based on your prior experience		0.70	
Your expertise allows you to influence that uncertainty		0.79	
Your actions can create a future you value		0.75	
Creating new solutions on your own terms, any competitors will have to keep up		0.80	
Study expert predictions of where the market is "heading"	<b>Predicting</b>		0.71
Research the competitors' approaches			0.65
Comparing your progress against the development of competitors			0.61
Use them to create forecasts of what your business might accomplish over time			0.75
Relevant forecasts and analyses			0.74

## 5.2 Descriptive Statistics and Correlations

In table 5, the descriptive statistics and Pearson Correlations are shown. The construct of experimentation (Chandler, DeTienne, McKelvie, & Mumford, 2009) is not included, because  $\alpha=0.47$  (mean=3; SD=0.74).

<b>Table 5: Descriptive Statistics and Correlations</b>									
	Mean	SD	1	2	3	4	5	6	7
<b>1. Social Self-Efficacy (6)</b>	3.54	0.62							
<b>2. PSI (18)</b>	3.67	0.48	0.51**						
<b>3. Causation (Chandler et al. 2009)</b>	3.50	0.77	0.18	0.35**					
<b>4. Flexibility (4)</b>	3.78	0.77	0.06	-0.02	0.44				
<b>5. Pre-commitments (2)</b>	2.86	1.13	0.12	0.20	0.58**	0.30*			
<b>6. Affordable Loss (3)</b>	3.59	1.00	-0.03	0.13	0.17	0.48**	0.29*		
<b>7. Prediction (5)</b>	3.39	0.66	-0.00	0.24*	0.48**	-0.02	0.38**	-0.07	
<b>8. Control (5)</b>	3.73	0.60	-0.14	0.03	0.41**	0.34**	0.20	0.19	0.42**

\*= $p<0,05$

\*\* $P<0,01$

### 5.3 Regression Analyses

In order to determine whether political skill inventory and social self-efficacy are related to the entrepreneurial style, regression analyses were conducted. In the first analysis (table 6) causation (Chandler, DeTienne, McKelvie, & Mumford, 2009), prediction (Wiltbank, Read, Dew, & Sarasvathy, 2009), constructs of effectuation - flexibility, affordable loss, pre-commitment (Chandler, DeTienne, McKelvie, & Mumford, 2009), and control (Wiltbank, Read, Dew, & Sarasvathy, 2009) were regressed on political skill inventory. In the second analysis (table 7), causation and effectuation were regressed on social self-efficacy. As noted earlier, experimentation was not included in these analyses because of the low reliability of the scale that assessed this item.

Political skill inventory has a positive significant relation ( $P=0,004$ ) with the construct of causation (table 6). Both of the variables, causation and prediction, have a positive significant relationship with political skill inventory. The construct of Political Skill Inventory, with its dimensions networking ability, apparent sincerity, social astuteness and interpersonal influence, is very closely related ( $B=0,576$ ,  $t=3.020$ ,  $P<0,01$ ) with causation (Chandler, DeTienne, McKelvie, & Mumford, 2009). Also the other variable of the construct causation, prediction, is closely related to Political Skill Inventory ( $B=0.345$ ,  $t=2.007$ ,  $P<0,05$ ). This implicates that individuals with higher political skills are more likely to follow a causation approach in entrepreneurship. Those people can be recognized by elements of business plans, clear vision, long-term strategy, competitive analyses, planned production, competition, marketing efforts and prediction the future instead of trying to control it. (Chandler, DeTienne, McKelvie, & Mumford, 2009)

None of the dimensions of effectuation have a significant relation with political skill inventory. Flexibility has a negative relation with political skill inventory. These results indicate that for this sample, the entrepreneurs with higher political skills are more intended to follow a causational approach. There is no indication that entrepreneurs with higher political skills are more intended to follow an effectuation approach. This implicates that it is not likely that individuals with higher political skills are following an effectuation approach.

**Table 6: Results of Regression Analysis in Political Skill Inventory**

		B	t	P	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	F	N
<b>Single variables:</b>									
<b>CAUS</b>	Causation	.211	3.020**	.004**	.348	.121	.108	9.121	67
	Prediction	.167	2.007*	.049*	.240	.058	.043	4.029	67
<b>EFF</b>	Flexibility	-.014	-.182	.856	.023	.001	-.015	.033	64
	Affordable Loss	.062	1.108	.272	.134	.018	.003	1.228	68
	Pre-Commitment	.082	1.608	.113	.196	.038	.023	2.586	66
	Control	.019	.205	.839	.025	.001	-.015	.042	67
<b>Combined models:</b>									
<b>Causation Model</b>					.354	.126	.098	4.593	66
Causation		.184	2.262	.027*					
Prediction		.060	.638	.526					

<b>Effectuation Model</b>				.231	.053	-.011	.83	63
Flexibility	-.082	-.898	.373					
Affordable Loss	.072	1.073	.288					
Pre-Commitment	.065	1.125	.265					
Control	-.004	-.044	.965					

\*  $p < 0,05$

\*\*  $p < 0,01$

When combining both elements of the causation construct to a 'causation model', only causation (Chandler, DeTienne, McKelvie, & Mumford, 2009) is significantly related ( $P=0.027$ ) to political skill inventory. Prediction (Wiltbank, Read, Dew, & Sarasvathy, 2009) is not significantly related anymore. ( $P=0.526$ ) In the 'effectuation model', the independent elements of effectuation are still not significant to political skill inventory.

In table 7 the construct of causation and effectuation were regressed on social self-efficacy. In the analysis none of the variables of causation and effectuation were significantly related to social self-efficacy. This implicates that entrepreneurs with higher skills of social self-efficacy are not inclined to follow a causation approach, neither an effectuation approach.

<b>Table 7: Results of Regression Analysis in Social Self-Efficacy</b>									
<i>Single variables:</i>									
		B	t	P	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	F	N
<b>CAUS</b>	Causation	.148	1.603	.113	.184	.034	.021	2.570	74
	Prediction	.002	-.018	.986	.002	.000	-.014	.000	74
<b>EFF</b>	Flexibility	.050	.520	.605	.062	.004	-.010	.270	71
	Affordable Loss	-.091	-.267	.790	.031	.001	-.013	.071	75
	Pre-Commitment	.068	1.048	.298	.123	.015	.001	1.098	73
	Control	-.128	-1.222	.226	.142	.020	.007	.493	74
<i>Combined models:</i>									
<b>Causation Model</b>									
	Causation	.192	1.807	.075					
	Prediction	-.100	-.858	.394					
<b>Effectuation Model</b>									
	Flexibility	.125	1.094	.278					
	Affordable Loss	-.051	-.602	.550					
	Pre-Commitment	.065	.378	.378					
	Control	-.198	.083	.083					

Also when combining elements of causation and effectuation in a 'causation model' and an 'effectuation model', no significant relations can be discovered, although causation (Chandler, DeTienne, McKelvie, & Mumford, 2009) and control (Wiltbank, Read, Dew, & Sarasvathy, 2009) are almost significant ( $P=0.075$  /  $P=0.083$ ) in the combined model.



## **6. Conclusion and Discussion**

In this study, surveys of 79 respondents who were participants in the entrepreneurial program of Venture Lab are used to analyze effects of social skills on style of entrepreneurship. The constructs of social interaction – political skill inventory and social self-efficacy – and the link to effectuation and causation was investigated.

In the first hypothesis it was expected that high political skills of an entrepreneur will lead to follow an effectuation approach. Four dimensions of effectuation are investigated; none of the dimensions – flexibility, pre-commitments, affordable loss and control – confirmed this hypothesis. It was expected that there was a relationship, because the entrepreneur with higher political skills can be more flexible, can easier do more pre-commitments and better control the future with its larger network. A reason for this result can be that entrepreneurs underestimated their social skills, because they have not the awareness and/or knowhow how to use it for their benefit. Another reason can be that entrepreneurs are not aware of other opportunities than just setting up a clear business plan, and just try to control the future, or maybe the entrepreneurs underestimate the value of their network, or do not want to use their (private) network for their business.

Causation, on the contrary, has a very significant relationship with Political Skill Inventory, what was not expected after studying previous research. Both causation (Chandler, DeTienne, McKelvie, & Mumford, 2009) and prediction (Wiltbank, Read, Dew, & Sarasvathy, 2009) have a significant relation with political skill Inventory. This means that people with higher political skills use their network to create a long-term vision, planned their production, do market efforts and try to predict their future, instead of using their large network to control it. Entrepreneurs do not use their political skills to change their direction when things do not work out as planned; they keep their (wrong) direction. Maybe they underestimate their qualities to ‘use’ people for the business, or is not capable enough to know how to ‘use’ his social skills to make more money on the short and the long term.

For social self-efficacy there are no relations found with effectuation and causation. This does not confirm the third hypothesis, but it does confirm the fourth. It was expected that there was a relation between social self-efficacy and effectuation because these ‘social chameleons’, with good skills to adapt the situation, can better establish relationships with strangers – especially in the earlier stages of their start-up it is a great advantage - and are more capable to work with people from different backgrounds, will have some advantages in social interaction. In the third hypothesis it was expected that this ‘social advantage’ will lead to an effectuation approach. Just as in the first hypothesis a reason can be that people underestimated their social skills or do not use it on the right way.

The only hypothesis that can be confirmed is the fourth. There is no relationship between social self-efficacy and causation. Where this was also expected between political skills and causation, there was a relationship. Where the political skills were used by the entrepreneurs to create a long-term vision and to try predicting the future, the social self-efficacy was not used that way.

## **6.1 Limitations**

Without decreasing the value of this results, as with any study, there are tradeoffs inherent in design choices and the approach to empirical analysis, which is a starting point for future research. Research in political skill inventory and social self-efficacy contains obviously not all social skills. Skills in for example leadership or bravery can provide other insights in relation to causation or effectuation. Also other characteristics, like work experience or personal characteristics of an entrepreneur can be analyzed in relation with causation and effectuation. For example generosity or empathy can also have effect on the style of entrepreneurship.

This study is conducted in the region of Twente, the Netherlands. So people could have the same attitude and have the same environmental conditions in the region. It is possible that people in other regions see more opportunities in effectuation because there are more businesses in the region to commit with, or have more courage to use their social skills for their own benefits.

Another limitation of this study is the gap between the profile survey and the end survey. The social skills are measured in the profile survey, where the construct of effectuation and causation are measured in the end survey; otherwise it could not be measured how the entrepreneur has done his/her business in the past year. Entrepreneurs can enhance their social skills in a year, or can change their belief(s) in the way he/she runs his/her business. The entrepreneur can for example be a very social individual, but learned in the training to write a business plan, to make a clear vision and to create a long-term strategy, what leads him/her to a more causal approach of entrepreneurship.

## **6.2 Implications**

I believe the findings of this study contribute to the knowledge of entrepreneurial finance, the importance of social skills and the insights in the constructs of causation and effectuation. This interesting part of the entrepreneurial research has been studied a lot in recent years, and these findings can extend the knowledge of new venture building.

I believe these findings have important implications for practice. As said in the previous part, entrepreneurs need to be aware of the possibilities of entrepreneurial styles. In previous research it has been proven that entrepreneurs with higher social skills have many advantages to make a success of their business. Despiteful, the entrepreneurs in this study do not make use of their social skills, because when they do this they were

probably more intended to follow an effectuation approach. Chandler, DeTienne, McKelvie, & Mumford (2009) mentioned in their article a succesful entrepreneur who stated that she was glad that there was a name for what she had been doing. Causation and effectuation are new fenomena in entrepreneurship and it is expected and recommended to do more research in this topic of entrepreneurship. For practicing and aspiring entrepreneurs it is important to be aware of the social skills he/she has and this awareness and 'how to use it' should be part of entrepreneurs' training programs, and trainers can studies like this use to describe how important these skills are.

### **6.3 Future Research**

Most important literature used in this report is from Chandler, DeTienne, McKelvie, & Mumford (2009) and Wiltbank, Read, Dew, & Sarasvathy (2009). Chandler, DeTienne, McKelvie & Mumford (2009) did a validation study in causation and effectuation processes, which was a very useful article for this report, because it delivers the understanding of these fenomena. This article was a very useful start in analyzing the dimension of effectuation. Regretful, and in contrary with the article, the dimension of experimentation was not reliable in this study with this sample. The study in angel investing of Wiltbank, Read, Dew, & Sarasvathy (2009) delivers insights in controlling and predicting the future, which are allocated to the constructs of causation and effectuation. It could be interesting to analyze the angel investing with the dimensions of pre-commitment, experimentation, flexibility and affordable loss, which can give new insights between investing and style of entrepreneurship. Baron & Markman (2003) and Baron & Tang (2008) linked social skills earlier to financial performance. A suggestion for future research is to link causation and effectuation to financial performance in a long-term study.

As said in the limitations of this research, a lot of other elements of entrepreneurs can be studied. It could be very interesting to look at other social skills, like leadership or the courage to get in face-to-face contacts. Will the relation of these skills with causation and effectuation be the same than with political skills of social self-efficacy? Also looking at other personal characteristics of an entrepreneur, like generosity or empathy, can give new insights in how to train and develop certain skills in entrepreneurial training programs.

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