

# **ENTREPRENEURIAL MARKETING: GLOBAL PERSPECTIVES**

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## Chapter 2

# The Interrelationships Between Entrepreneurial Experience, Explanatory Style, Effectuation, and Entrepreneurial Self-Efficacy

### Abstract

The present study explores the interrelationships between entrepreneurial experience, explanatory style, and effectuation logic in an attempt to better understand the antecedents of entrepreneurial self-efficacy for policy and practice. This chapter contributes to the entrepreneurship cognition literature by explicitly framing the interrelationship between entrepreneurial experience-creating of human/social capital, the two dimensions of explanatory style (optimism vs. pessimism), effectuation, and entrepreneurial self-efficacy. In addition, this chapter enhances our understanding of the cognitive conditions that facilitate business creation by proposing a theoretical framework and propositions to advance theory development in entrepreneurial cognition and self-efficacy.

### 2.1. Introduction

The process of entrepreneurship involves choices, and the actual choice to start a business is only made by a subset of people interested in entrepreneurship – those who positively assess opportunities, accept risk, and ultimately initiate entrepreneurial action, while so many others simply choose not to act (see Casson, 1982; Kickul, Gundry, Barbosa, & Whiteman, 2009; Shane, Locke, & Collins, 2003). Business creation involves not only the discovery and assessment of the match between capabilities and opportunities but also the willingness and confidence to risk the resources needed to create the venture and thereby potentially exploit the entrepreneurial opportunity (Kreuger, 1998). Moreover, many new ventures are started despite high failure rates, implying that some people perceive attractive

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opportunities in circumstances where others do not (Simon, Houghton, & Acquino, 1999).

Opportunity recognition has long been a central theme in the entrepreneurship literature. While the concept has been defined in several ways, perception of the opportunity is at the center of most definitions (Hansen, Shrader, & Monllor, 2011). As Krueger (2000) noted, one has to identify an opportunity before acting on it. Thus, the question of why some people identify and act on opportunities while others do not has emerged as a central question in entrepreneurship research (Blanchflower & Oswald, 1998; DeCarolis, Litzky, & Eddleston, 2009; Gatewood, Shaver, & Gartner, 1995; Markman, Balkin, & Baron, 2002; Shane & Venkatraman, 2000). In a rapidly changing global environment, it is critical to understand what drives the job creating, wealth generating phenomenon of entrepreneurship as large corporations, public agencies, and financial institutions flounder. Moreover, while this chapter addresses new independent ventures, this discussion might apply equally as well to corporate entrepreneurship as companies facing rapid change need to continuously renew to compete effectively, and social entrepreneurship where resource constraints combined with increased demand have dramatically altered the business models of many not-for-profit organizations.

The question of who actually will exploit the entrepreneurial opportunity puts the potential entrepreneur at the center of venture formation. Carland, Hoy, and Carland (1988) argued that understanding the entrepreneur is a critical dimension of understanding entrepreneurship. However, previous work has identified significant problems in studying the traits of entrepreneurs, since many characteristics of successful entrepreneurs did not distinguish them from effective executives or other leaders (e.g., DeCarolis & Saporito, 2006; Gartner, 1988; Shaver & Scott, 1991). Gartner (1988) argued that researchers should study the behavior and activities of entrepreneurs, rather than traits. He later suggested that researchers address the characteristics of entrepreneurship that might predict future entrepreneurial outcomes (Gartner, 1989).

The emergence of research focusing on cognitive factors began to address this issue (e.g., Baron & Ward, 2004; Farmer, Yao, & Kung-McIntyre, 2011; Krueger, 2000, 2005). Cognitive factors are a critical element of opportunity recognition, since the discovery of opportunities depends on the possession of information, and the cognitive processes necessary to value it (Shane & Venkatraman, 2000). As Krueger (2005) noted, increasingly cognitive research puts the entrepreneur back into entrepreneurship. The thrust of this stream of scholarship is to understand how entrepreneurs interpret information, construct the perception of their environment, and develop a sense of who they are. While traits such as need for achievement or tolerance for ambiguity may not differentiate those who pursue an opportunity, differences in the perceptions of resources relative to opportunity may impact entrepreneurial intention. Although there is a large and growing body of literature on the importance of entrepreneurial self-efficacy (ESE) (e.g., Chen, Greene, & Crick, 1998; Krueger & Dickson, 1994; McGee, Peterson, Mueller, & Sequeira, 2009), the emergence of effectuation logic as a driver of entrepreneurship makes the interpretation of resources and capabilities critical issues in entrepreneurial action,

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since these decisions are influenced by the individual's attributes – who they are, who they know, and what they know (Sarasvathy, 2001). These factors or “means” are driven by perceptions of one's abilities and resources. In this light, an appropriate starting point is to look at the central actor in the processes and the antecedents of ESE that can propel an individual to start a business and become an entrepreneur.

The present study develops a conceptual framework that describes the interplay among cognitive factors at the fuzzy front end of entrepreneurial actions. The model is developed in the next section of this chapter and assumes that experience is a critical driver of one's perception of capabilities and intention, but that experience is interpreted through a lens of cognitive bias, impacting perceptions of self-efficacy, and the consequent effectual planning.

A cognitive bias, how entrepreneurs think, reason, and make decisions is a powerful dimension in the explanation of entrepreneurial behavior since decisions to act are driven by perceptions of situations (Baron & Ward, 2004; DeCarolis, Litzky, & Eddleston, 2009; Simon et al., 1999). In our framework, we explicitly incorporate explanatory style as a measure of cognitive bias, and argue that it drives the interpretation of experience (measured by social and human capital), affecting the development of ESE. Likewise, effectuation logic impacts ESE as the entrepreneur attempts to leverage their human/social capital “means” in the pursuit of some entrepreneurial outcome.

The contributions of this study are twofold. First, we propose an explanation of the antecedents of ESE by using explanatory style to moderate the relationship between experience, measured as social and human capital, and ESE. Gregoire, Corbett, and McMullen (2011) concluded that while there is an impressive and growing body of literature addressing cognitive issues, critical shortcomings are (1) the lack of attention to the origins of cognitive variables and (2) the reciprocal interrelationships among cognitive variables and their impact on cognitive action. Likewise, in their meta-analysis of the relationship between human capital and entrepreneurial success, Unger, Rauch, Frese, and Rosenbusch (2011) found that although there is a relationship between human capital and entrepreneurial success, research needs to consider the impact of moderating variables. This study develops a framework that explicitly addresses these issues and attempts to clarify the interrelationships between cognitive (1) resources, (2) variables, and (3) entrepreneurial processes.

Second, effectuation has received significant attention in the entrepreneurship literature since Sarasvathy's (2001) article. It offers a powerful explanation of entrepreneurial planning and action, focusing on available resources rather than end goals. Effectuation logic is dynamic, opportunity driven, and entrepreneur centric. Understanding the interrelationship between cognitive resources (social and human capital), cognitive variables (explanatory style and ESE), and effectuation adds a significant dimension to advance our understanding of entrepreneurial decisions.

Although ESE has been well defined (see, for example, McGee et al., 2009), the antecedents of ESE and its interrelationships with entrepreneurial experience, explanatory style, and the role of effectuation logic are much less understood. Defining the relationship between ESE and effectuation is critical since effectuation is driven by the perception of resources and capabilities. In this model, we propose that

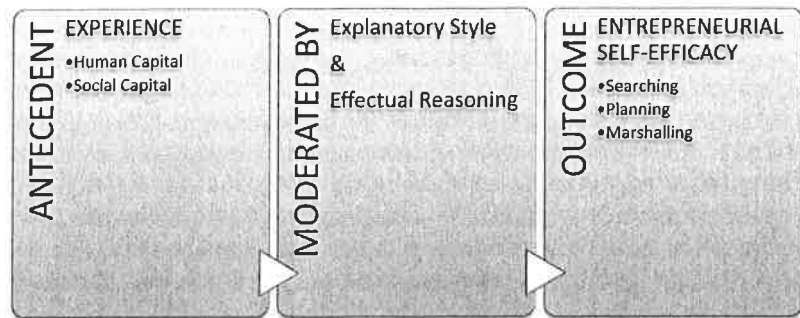


Figure 2.1: Relationship between experience and entrepreneurial self-efficacy.

those perceptions are related to ESE. The effectual self-assessment of the entrepreneur's "means" will change both relevant entrepreneurial experience and their subsequent impact on ESE.

Moreover, a richer understanding of the antecedents of ESE has significant implications for public policy, curriculum development, and scholarship. We incorporate explanatory style as a measure of cognitive bias. Explanatory style is a variable that has been related to success in sales representatives, athletes, and cancer patients (e.g., Fu, Richards, Hughes, & Jones, 2010; Seigman & Schulman, 1986; Seligman, 1991) as the interpretive lens that drives how people perceive their capabilities. In turn, ESE impacts the calculus of effectuation that in turn results in either entrepreneurial action or inaction. Linking ESE to an interpretive dimension is consistent with recent research that suggests that the process through which one acquires information affects how that information is used in assessing opportunities (Corbett, 2007). This research builds on the concepts of experiential learning (Kolb, 1984) and creative cognition (Ward, 2004) that argues learning is the integration of experiences and existing knowledge. Our framework proposes that human/social capital generates different levels of ESE depending on one's explanatory style and adoption of effectual logic. These relationships are illustrated in Figure 2.1.

The proposed framework provides a glimpse inside the entrepreneur's "black-box" heuristic model, and therefore makes a contribution toward a more complete understanding of entrepreneurial intention and action (see Krueger, 2007). The following sections will discuss the elements of the model, concluding with a set of research propositions derived from the conceptual framework. We begin with self-efficacy and entrepreneurship, the center of the model. We then discuss the proposed antecedents of self-efficacy and the impacts of explanatory style and effectuation logic on ESE.

## 2.2. Self-Efficacy and Entrepreneurship

The essence of self-efficacy is manifested in the confidence to execute a specific course of action (Bandura, 1986, 1997), thus self-efficacy affects the perception that the

individual can achieve his or her goals. Boyd and Vozikis (1994) augmented Bird's (1988) model on entrepreneurial intentionality to propose that a task-specific measure of self-efficacy, "entrepreneurial-self-efficacy," is an antecedent of entrepreneurial intentions and goal setting. Shane and Venkatraman (2000) argued that entrepreneurial opportunities exist because different members of society have different beliefs about the relative value of sets of heterogeneous resources and their capabilities to exploit these resources and capabilities into wealth creating assets.

Jackson and Dutton (1988) and Brockner and James (2008) found that the relationship between perceived control and intentionality shifts decision maker uncertainty about future outcomes into positive opportunities (e.g., situations with potential gain, likely resolution, and the means to resolve the issue), and threats (e.g., issues with potential loss and an inability to control the situation). This perspective was supported by Krueger and Dickson (1994), who found that changes in perceived self-efficacy resulted in changes in opportunity perception (for positive change) or threat perception (for negative change), and is consistent with Bandura (1994) who suggested that a strong sense of self-efficacy makes it more likely that people will approach difficult situations as opportunities rather than threats. Recent work by Fu et al. (2010) also found strong and positive relationships between sales-specific self-efficacy and both intentions to sell and sales performance. In addition, self-efficacy seems to elicit a perception of greater control and may explain why entrepreneurs are willing to engage in courses of action that seem risky to others (e.g., Markman, Baron, & Balkin, 2005).

Self-efficacy can be a general concept describing an individual's perception that they have the capabilities to be successful in life, or a task-specific variable that addresses only the domain of interest. Some argue that entrepreneurship is too broad a construct and requires too many diverse skills to have a specific measure, and prefer general self-efficacy (Chen, Gulley, & Eden, 2004; Judge, Erez, & Bono, 1998). On the other hand, many agree with Bandura (1997) that the explanatory value of self-efficacy is enhanced by its specificity. Stajkovic and Luthans (1998) noted that more empirical work has been done with task-specific self-efficacy, and they provided support for Bandura by finding a strong and positive relationship between task-specific self-efficacy metrics and workplace performance in their meta-analysis.

Chen et al. (1998) found a positive relationship between self-efficacy and the likelihood of becoming an entrepreneur and suggested that the critical factors that differentiated venture founders from nonfounders were the respondents' self-efficacy of innovation and risk-taking. Given this, there is evidence that lead entrepreneurs to score higher on self-efficacy measures than team members (Ensley, Carland, & Carland, 2000). In a study of entrepreneurship students on five US campuses, Zhao, Seibert, and Hills (2005) found that ESE fully mediated the relationship between a number of entrepreneurial skills and entrepreneurial intention, suggesting that entrepreneurial efficacy is grounded in developed entrepreneurial skills, and, that ESE drives entrepreneurial intentions.

Whether intentions result in venture formation is another issue. Markman et al. (2005) suggested that starting a venture is a challenging undertaking that requires a high level of confidence, and proposed that self-efficacy drives career choice (since



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people make decisions based on perceived abilities) and that stronger self-efficacy will result in better performance in the difficult circumstances that entrepreneurs face. In addition, using a general measure of self-efficacy (e.g., the perceived ability to handle difficult situations), they found that entrepreneurs reported higher levels of self-efficacy than nonentrepreneurs. This is consistent with previous literature reporting a strong relationship between self-efficacy and career choice, since self-efficacy drives the selection of a course of action such as one's willingness to persist in the face of difficulties and setbacks (e.g., Bandura, 1988; Betz, 2001).

Restricting the model to task-specific ESE, there are still questions about the behavior domains that are most appropriate to include in it. Some studies have used one-dimensional measures of ESE, asking subjects to self report their confidence for success in a single question (e.g., Arenius & Minniti, 2005), or a single factor (e.g., Baum, Locke, & Smith, 2001; Baum & Locke, 2004). Ensley et al. (2000) suggested three domains of entrepreneurial skills (1) technical, (2) human, and (3) conceptual. This framework expanded on the Chen, et al. (1998) measure of ESE (later refined by Forbes, 2005) that assessed the respondents' level of self confidence in five functional areas including (1) marketing, (2) innovation, (3) management, (4) risk-taking, and (5) financial control. In a subsequent study of nascent entrepreneurs McGee et al. (2009) further refined and developed the multidimensional ESE model to include the following dimensions that assess the ability to (1) identify venture ideas, (2) strategically plan, (3) marshal resources, and (4) manage.

### **2.3. Experience: Entrepreneurial Outcomes and the Creation of Human and Social Capital**

Experience that builds skills, resources and capabilities and that creates social and human capital is valuable in venture formation and performance (see, for example, Diochon, Menzies, & Gasse, 2008; Gimmon & Levie, 2010; Terjesen, 2005; Ucbasaran, Westhead, & Wright, 2009). While it is tempting to focus on start-up experience, a more fine grained view of experience may be valuable in understanding entrepreneurs (Ucbasaran, Westhead, Wright, & Flores, 2010). A prospective entrepreneur typically approaches a new venture opportunity with a bundle of attributes that she expects to increase the likelihood of success. Some of this is direct entrepreneurial experience, while she may also learn through a variety of modes, both in formal education, learning relevant skills in other venues, and, often, having a network of contacts and relationships that will be valuable in running the business or securing support.

A more inclusive multidimensional perspective of entrepreneurial experience that takes into account other forms of experience is useful in understanding the link with ESE. Entrepreneurial experiences that create human/social capital should explicitly include learning (formal and informal education), work and volunteer activities, family background, social networks, and other pursuits that impact a prospective nascent entrepreneur's desire and capability to found a business (see, for example, Diochon et al., 2008; Gimmon & Levie, 2010; Terjesen, 2005; Ucbasaran et al., 2009).

stronger self-efficacy will that entrepreneurs face. In perceived ability to handle higher levels of self-efficacy literature reporting a, since self-efficacy drives is to persist in the face of

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While experience is a driver of self-efficacy not all people with the same experience or stock of human capital demonstrate similar levels of self-efficacy for an activity such as business start-up.

Whether one sees entrepreneurial action as the result of a causal, sequential process (identifying an opportunity and strategically gathering resources) or an effectual process (identifying means and establishing the parameters of action), human/social capital are a critical foundation of opportunity assessment. Davidsson and Honig (2003) measured human capital formation through formal education, informal training such as workshops, and work or start-up experience and found that education and experience were related to nascent entrepreneurial activities such as writing a business plan, but not related to venture success. DeCarolis et al. (2009) assessed the relationship between venture creation and two types of social capital: social networks (professional affiliations) and relational capital (information generated by social networks). They found that social capital was related to venture formation through an illusion by the nascent entrepreneur of control (based on social networks) and risk propensity (based on relational capital). Experience impacts ESE by increasing human/social capital, providing a richer resource base for a person assessing an attractive entrepreneurial opportunity.

## 2.4. Explanatory Style as the Moderator of Experience and Entrepreneurial Self-Efficacy

In addition to confidence, cognitive styles may also affect ESE. For example, Kickul et al. (2009, p. 439) found that subjects with a more intuitive style "were more confident in their ability to identify and recognize opportunities," while those with a more analytic cognitive style "were more confident in their abilities to assess, evaluate, plan, and marshal resources..." Erez and Isen (2002) found that a positive mood was associated with greater task persistence and higher motivation than a neutral mood, and concluded that positive mood influences the cognitive processes that underlie motivation. They suggested that positive mood may affect goal commitment and goal setting, certainly two elements of successful entrepreneurship and opportunity recognition. In their discussion, they noted that positive affect (an optimistic explanatory style) influenced the perceived link between effort, performance, and outcomes.

Our framework proposes that both prior entrepreneurial outcomes and personal factors affect ESE, as moderated by an individual's explanatory style, the mechanism of how someone explains stimuli in their lives through the lens of an optimistic or pessimistic perspective (Seligman, 1991). Krueger (2007) argued that a research focus on deeply held beliefs is critical to better explain and predict entrepreneurship. In a similar vein, Baron (2008) concluded that there is a pervasive link between affect (feelings and emotions) and cognition. Further, he suggested that this relationship is especially relevant to entrepreneurship for two reasons. First, entrepreneurs often operate in environments that are unpredictable and uncertain, and standard procedures may not be effective. In these circumstances, affect may drive decisions.

Second, entrepreneurial tasks often involve activities that are related to affect, including creativity, making judgments, and forming productive working relationships. An alternative perspective is offered by Hmieleski and Baron (2009, p. 473) finding "a negative relationship between entrepreneurs' optimism and the performance (revenue and employment growth) of their new ventures." Hmieleski and Baron (2009) discussed several reasons why this relationship may have been found including (1) the sample population was very highly optimistic and (2) that previous studies suggest that optimism and task performance are typically curvilinear. In addition, a plausible but speculative explanation could be that optimism tends to be positively related to the new venture behaviors of opportunity creation, assessment, and exploitation, while negatively related to the subsequent task of venture management.

Seligman (1991) provides a very useful description of optimism and pessimism, and measures it via explanatory style – the interpretation that people give to events in their lives. In essence, it is how people attribute the positive and negative experiences in their lives. Optimism is a potentially powerful factor in the explanation of entrepreneurship. Jensen and Luthans (2006) found that authentic entrepreneurial leadership, which they defined as a leader who is able to motivate associates to be future oriented and committed to the organization, is positively and significantly related to optimism. Arakawa and Greenberg (2007) found that manager optimism was linked to employee engagement and performance. While these are indirect associations with opportunity recognition, each of these studies link positive affect, sometimes in the form of optimism to entrepreneurial success. Optimism has been related to sales force performance, where agents' sales volume and tenure with the agency were related to optimistic explanatory style (Seligman & Schulman, 1986), performance after athletic setbacks, where the performance of Olympic caliber swimmers after receiving disappointing feedback was related to optimism (Seligman, Nolen-Hocksema, Thornton, & Thornton, 1990); and illness, where pessimistic explanatory style was related to mortality (Peterson & Seligman, 1987).

The development of substantial self-confidence is dependent on the interpretation of events and the development of a confidence that setbacks can be learning experiences and leveraged to create subsequent success. As Gillham and Seligman (1999) argue, self-esteem produces a fragile self-confidence that does not sustain under pressure and setbacks. True self-efficacy is developed under conditions in which one deals with accomplishments and setbacks.

Explanatory style is measured on a continuum from pessimistic to optimistic, using the attributional style questionnaire (ASQ) for self-reporting (Peterson, Semmel, von Baeyer, Metalsky, & Seligman, 1982; Peterson & Villanova, 1988) or the content analysis of verbatim explanations (CAVE) for the analysis of archival data such as newspaper articles, speeches, or interviews (Schulman, Castellon, & Seligman, 1989). The foundation of these instruments is based on three dimensions of explanatory style:

**Permanence:** "Is this forever?" In the case of a setback, is the negative event permanent or transient? If the person perceives the setback to be permanent, s/he is left with less confidence that it can be overcome.

are related to affect, active working relationship and Baron (2009, p. 473) optimism and the performance." Hmieleski and Baron have been found including 2) that previous studies are curvilinear. In addition, a person tends to be positively affected by information, assessment, and feedback of venture management. Optimism and pessimism, that people give to events are positive and negative factors in the explanation of authentic entrepreneurial motivate associates to be positively and significantly that manager optimism while these are indirect effects link positive affect, success. Optimism has been related to tenure with the business (An & Schulman, 1986), success of Olympic caliber athletes to optimism (Seligman, 1987), where pessimistic individuals are more likely to report setbacks can be learning from setbacks (Gillham and Seligman, 1987) that does not sustain success under conditions in

pessimistic to optimistic, self-reporting (Peterson, 1987) & Villanova, 1988) or the analysis of archival data (Schulman, Castellon, & others) on three dimensions of

is the negative effect of setback to be overcome.

**Pervasiveness:** "Does this affect everything?" If the setback is perceived as something that affects many elements of his/her life, the person will have less confidence that s/he can deal with a setback. Negative events are interpreted in light of a generalized incompetence.

**Personal:** "Is it my fault?" If setbacks are perceived as being caused by transient external factors, the person will be less likely to interpret negative events as his/her "fault." Thus, confidence is more likely to develop.

For example, a salesperson with an optimistic explanatory style might explain a sales rejection by seeing the event as a temporary setback that was confined to that situation and the result of the prospect simply not seeing the proposal as a solution to that particular problem. That rejection would have little impact on the salesperson levels of optimism and self-efficacy in subsequent sales calls. On the other hand, if the event was interpreted as a general inability to sell then the event would be a rejection of the person, not the product, and not seen as situational, the now sadly pessimistic sales representative would probably investigate other occupations. Considering Baron's (2008) argument this variable is a potentially valuable element to explain the development of ESE. When operating in uncertain environments, there is a high likelihood of setbacks, and how these are negotiated could affect entrepreneurial success. These linkages are summarized in Table 2.1 that adapts McGee et al. (2009) conceptualization of ESE into an effectuation logic framework with examples.

## 2.5. Experience and Entrepreneurial Self-Efficacy

One of the most appealing elements of exploring self-efficacy is that it is malleable and can be developed in individuals, either as an individual or public policy initiative. Thus, if we would like to increase entrepreneurial behavior in a region, we can develop mechanisms to increase the self-efficacy of the region's nascent entrepreneurs with programs targeted to help nascent entrepreneurs develop ESE. But what are these experience based factors that can enhance ESE? Bandura (1982, 1997) identified four factors that influence self-efficacy:

**Enactive mastery:** Repeated performance of the task specific skill is the most powerful driver of self-efficacy because the person becomes convinced that s/he has the ability to succeed and becomes resilient in the face of failure and setbacks.

**Vicarious experience:** When observing another person perceived to be similar to oneself performing/demonstrating a skill, one's own self-efficacy can increase. This process, also called modeling is not as effective as enactive mastery, but may be beneficial when enactive mastery is not possible (Gist, 1987), or as a supplement to enactive mastery.

Table 2.1: Entrepreneurial self-efficacy from an effectuation logic perspective.

Effectuation Logic Questions <sup>a</sup> (The interpretation of ESE)	Link To Explanatory Style (The lens through which the nascent entrepreneur perceive themselves and the environment)	Dimensions of ESE <sup>b</sup> (The self-perception of selected entrepreneurial skills)
<p>What do I have (what are my means)?</p> <p>Who am I? Who do I know? What do I know? What resources do I control?</p>	<p><b>OPTIMISTS:</b> Recognizes attractive opportunities that are exploitable with the "means" that they control.</p> <p><b>PESSIMISTS:</b> Searches the environment; perceives that there are NO attractive opportunities that are "exploitable" with the means that they control, even if there are.</p>	<b>SEARCHING</b>
<p>Where I am now in terms of venture creation &amp; what can I do with it?</p>	<p><b>OPTIMISTS:</b> Perceives that they have the means to successfully exploit the opportunity and <b>DO NOT FORMALLY ENGAGE IN PLANNING.</b></p> <p><b>PESSIMISTS:</b> Perceive that investing in planning may offer a reason to <b>NOT</b> pursue the entrepreneurial opportunity.</p>	<b>PLANNING</b>
<p>How can I combine who I am with what I know, with who I know, and what I control most effectively and efficiently?</p>	<p><b>OPTIMISTS:</b> Attempt to <b>SYMBIOTICALLY</b> combine and leverage their set of "means" to <b>EXPLOIT</b> the entrepreneurial opportunity and create new wealth.</p> <p><b>PESSIMISTS:</b> Fret over the organization of resources to the extent that they never actually combine resources to create new wealth.</p>	<b>MARSHALLING</b>

Table 2.1: (Continued)

Effectuation Logic Questions <sup>a</sup> (The interpretation of ESE)	Link To Explanatory Style (The lens through which the nascent entrepreneur perceive themselves and the environment)	Dimensions of ESE <sup>b</sup> (The self-perception of selected entrepreneurial skills)
What do I need to do to exploit these "means?" Where do I go from here?	OPTIMISTS: Failure and adversity is seen as a normal part of business and a learning experience. New entrepreneurial initiatives are developed from the ashes of failed efforts by reallocating their resources to better opportunities. PESSIMISTS: If they start a venture and there is any adversity then they "retreat."	IMPLEMENTATION

<sup>a</sup>Adapted from Sarasvathy (2001).<sup>b</sup>Adapted from McGee et al. (2009).

**Verbal persuasion:** This is the process that tries to convince a person that s/he is capable of performing the behavior. This may be the strategy of an effective mentor.

**Physiological arousal:** When an individual is in an aroused and anxious state, self-efficacy may be activated or inhibited if the physiological reaction is positive or negative respectively. Thus a positive arousal (e.g., excitement with the task) encourages the individual to engage whereas a negative arousal (e.g., anxiety over the task) inhibits self-efficacy.

These four dimensions that Bandura (1982, 1997) found of experience can be developed and managed to create a viable entrepreneurial ecosystem. For example, the SPARK Entrepreneurial Challenge program for students at the University of Auckland builds on all four factors to develop in interested students (of all levels and from all areas of study) a high level of ESE (see [www.spark.auckland.ac.nz](http://www.spark.auckland.ac.nz)) through their entrepreneurial eco-system including (1) creating a level of *enactive mastery* in students by facilitating student business venturing and start-ups with formal university courses in entrepreneurship, workshops in entrepreneurship, competitive funding, angel investments, management assistance, and a top ranked venture

incubator; (2) providing the opportunity to *vicariously experience* entrepreneurship through speakers and workshop presenters who were former SPARK participants; (3) creating a supportive climate for entrepreneurship with *positive verbal persuasion* and support; and (4) generating tremendous *physiological arousal* by hosting high stakes venture funding competitions for the students where the winners of the contest are awarded seed funding to develop their business – and building the human/social capital of the SPARK program participants.

Likewise, enactive mastery can be developed through youth development and business leadership programs such as Junior Achievement, Distributive Education Clubs of America (DECA), or Collegiate Entrepreneurs' Organization (CEO). In addition, formal university entrepreneurial education, short-term management development programs, and on-the-job training (OJT) experiences such as working in a family business or other entrepreneurial venture can provide a nascent entrepreneur with both the capabilities and confidence to be willing to engage in proactive, risky, and innovative initiatives. Vicarious experiences can be provided by the media highlighting successful entrepreneurs, social networking with entrepreneurs, national awards given to successful entrepreneurs, or any other program that promotes capitalism and entrepreneurship as paths to enhanced social welfare. Verbal persuasion can be offered by any form of entrepreneurial development training, such as mentoring or management and organizational development consulting. Physiological arousal can be encouraged by entrepreneurial community projects that create social benefits through competitive grants for developing innovations or entrepreneurial businesses. Table 2.2 illustrates selected experiences that can enhance ESE with supporting anecdotal evidence.

## 2.6. Effectuation Logic

Sarasvathy's (2001) work on effectuation logic was disruptive to decades of entrepreneurship scholarship that assumed a more causal and sequential approach to entrepreneurial decision making. Her work offered an entirely different perspective to understand the logic of the decision-making processes that entrepreneurs use, adding a dimension to the traditional perspective of entrepreneurship that had previously included three consistent components: the propensity to be innovative, proactive, and risk accepting (see, Covin & Slevin, 1989; Lumpkin & Dess, 1996; Miller, 1983).

Effectuation logic suggests that entrepreneurship starts with the entrepreneur's (or entrepreneurial team's) recognition of their ability to leverage experience into a set of capabilities and means that they might exploit in venture formation. Terjesen (2005) implicitly links experience with the dimensions of effectuation logic when she categorized experience-derived human/social capital into (1) "knowing how," (2) "knowing whom," and (3) "knowing why." Terjesen's (2005) dimensions maps on Sarasvathy's (2001) means such that "knowing how" relates to "what I know"; "knowing whom" to "who I know"; and "knowing why" relates to "who I am."

Table 2.2: Correlates of entrepreneurial experience.

Correlate of Entrepreneurial Experience <sup>a</sup>	Selected Examples That Can Develop the Dimension
<b>ENACTIVE MASTERY</b> (Management capabilities development)	Education: Student Clubs such as DECA, Jr. Achievement, or CEO Secondary and post-secondary formal education in entrepreneurship and small business management Management training and development, Small business management workshops Work/volunteer: Family business experience, general business experience, entrepreneurial experiences creating new organizations
<b>VICARIOUS EXPERIENCE</b> (Role modeling)	Role models & networking: Entrepreneur in family or social network, business angel in family or social network Society & Cultural: Culture values entrepreneurs, culture values capitalism, low social cost of business failure, government support of entrepreneurship
<b>VERBAL PERSUASION</b> (Coaching)	Entrepreneurial mentoring and coaching, management assistance and consulting advice
<b>PHYSIOLOGICAL AROUSAL</b> (Joy & Fear)	The joy of creation, arousal from entrepreneurial success and failures, stimulation from working with and helping others <sup>b</sup> . Fear of the uncertainty of venturing

<sup>a</sup>Adapted from Bandura (1982, 1997).<sup>b</sup>Dayan and Di Benedetto (2011).

Effectuation logic is embodied by its three core principles: affordable loss, rather than expected gains, cooperative rather than competitive analyses and leveraging contingencies rather than avoiding them. How entrepreneurs effectuate was demonstrated in Sarasvathy (2001) and compared with managers (Read, Dew, Sarasvathy, Song, & Wiltbank, 2009). Morrish (2009, p. 46) found additional support for these principles in a study of portfolio entrepreneurs and concludes "that portfolio entrepreneurs do employ effectuation processes at the preliminary and early stages of venture and portfolio development... [where] portfolio entrepreneurs start



out as effectuators and manifest this through the three basic principles of affordable loss, leveraging contingencies and in taking on strategic partners." In her study, she found that while success has not always come easy, many of the successful ventures eventuated through the entrepreneur's determination to forge ahead using different contingencies despite early setbacks. These portfolio entrepreneurs were using effectual reasoning to draw on their life and work experience in pursuing entrepreneurial opportunities, thus demonstrating a higher self-efficacy than those that do not act on perceived opportunities.

## 2.7. Propositions

The model illustrated in Figure 2.1 proposes that the development of self-efficacy is the result of external events and individual capabilities that are moderated by explanatory style and interrelated to the logic of effectuation in nascent entrepreneurs. Different people may see the same environmental factors, and/or have the same experiences, but exhibit differences in self-efficacy depending on how they explain the events in their environment and their skills. Confidence is more likely to be developed in those who interpret events optimistically. Explanatory style is proposed as a moderator rather than a mediator given the model suggests that explanatory style affects the magnitude of the relationship between the independent variables and efficacy. It is proposed that the independent variables work through explanatory style, increasing the magnitude of explanatory style as an intervening variable. This is consistent with the Baron and Kenny (1986) distinction between mediation and moderation.

Not all potential entrepreneurs have similar capabilities in all dimensions of ESE. Moreover, the categorization of perceived skills into the dimensions of ESE has implications for the manner in which an entrepreneur moves forward to exploit an opportunity. Ucbasaran et al. (2009) note the relationship between entrepreneurial specific human/social capital and ESE. Individuals no doubt vary in their capabilities, thus no two individuals are the same. For example, some people may be well-trained engineers or "grow up" working in a family business such as a retail store, a small manufacturing plant, a farm, or a restaurant, yet have little confidence in their ability to successfully start a new venture despite a wealth of relevant experience. Likewise, the technical elements of running a business are sometimes sophisticated and require significant engineering or science expertise. In others the operations may be less complex but require expertise in performing the many tasks associated with a successful enterprise.

Again, we argue that the interpretation of one's background is affected by explanatory style and one's self-efficacy perception can vary despite encouragement from mentors or family, or despite seeing colleagues of equal ability succeed. Bandura and Locke (2003) found that people can demonstrate different levels of efficacy despite similar levels of achievement. A student may receive the same grades

principles of affordable partners." In her study, she found that the successful ventures went ahead using different strategies. Entrepreneurs were using confidence in pursuing entrepreneurship more than those that do not.

Development of self-efficacy is that are moderated by situation in nascent entrepreneurs, and/or have the confidence depending on how they learn. Explanatory style is the model suggests that between the independent variables work through style as an intervening variable (Bandura, 1986) distinction between

in all dimensions of ESE. Dimensions of ESE has been forward to exploit an distinction between entrepreneurial confidence, doubt vary in their example, some people may start a business such as a retail yet have little confidence despite a wealth of relevant business are sometimes expertise. In others the forming the many tasks

background is affected by, despite encouragement, equal ability succeed. They state different levels of confidence receive the same grades

in courses and demonstrate the same level of knowledge as another student, yet not have the confidence to exploit that knowledge.

Related conclusions were drawn in recent studies of entrepreneurial education. In investigating the antecedents of entrepreneurial drive (the propensity to pursue opportunities) Floin, Karri, and Rossiter (2007) concluded that there was not a clear relationship between entrepreneurial drive and specific courses or experiences during the undergraduate education of their subjects. They suggested that other factors such as maturation could account for that development.

Experience may indeed account for self-efficacy among entrepreneurs and mitigate the impact of failure in some ventures. Morrish (2009) found that many portfolio entrepreneurs have a positive view on failure arguing that that it does not matter if one fails as long as they learn from the experience and apply the lesson to the next venture. Yamakawa, Peng, and Deeds (2010) also concluded that entrepreneurs who learn from failure by internalizing the causes of the setback are more likely to succeed in subsequent ventures. While the focus on internal causes of failure may appear to contradict the foundations of explanatory style, they suggested that these entrepreneurs considered what had gone wrong and what they can do to be more successful next time. This is consistent with the feeling that the setback is not permanent, or pervasive.

Three of the possible foundations of self-efficacy identified by Bandura (1997) are based on experience. Enactive mastery (the successful performance of the task-specific skill), vicarious experience (observing another person with similar capabilities mastering the skill), and verbal persuasion (being convinced by another that one is capable of the behavior) are all part of an individual's experience. Human and social capital are effective indicators of the sometimes diffused concept of "experience." However, we propose that the interpretation of experience drives whether experience is converted to self-efficacy. People with the same level of skill may differ in their perceived self-efficacy (Bandura & Locke, 2003). We propose that ESE is developed by experience interpreted by explanatory style. We suggest that an individual's explanatory style moderates the relationship between experience and ESE. Thus:

**P1:** The relationship between entrepreneurial experience and ESE is positive and moderated by explanatory style.

**P1a:** The relationship between human capital and ESE is positive and moderated by explanatory style.

**P1b:** The relationship between social capital and ESE is positive and moderated by explanatory style.

McGee et al. (2009, p. 970) suggest that the dimensions of ESE should be considered as "they indicate that the various types of self-efficacy or underlying dimensions may have individual and unequal relationships to multiple dependent variables..." The first dimension of ESE is confidence in the ability to search for entrepreneurial opportunities. This ability results in the perception of opportunity before others, and drives the entrepreneur to use her talents to develop innovative

and valuable solutions. Integrating Bandura's (1982, 1997) antecedents with explanatory style.

**P2a:** The relationship between entrepreneurial experience and the searching dimension of ESE is positive and moderated by explanatory style.

Morrish (2009) suggests that experience can enhance efficacy in entrepreneurial searching and opportunity recognition. Entrepreneurial opportunities often arise out of innovation and it is important to understand the context with which experience plays a part. She suggests that entrepreneurs view innovation to be intensely context specific. They therefore look for the things in the context that lets them shift innovation to a better space, and always with an expectation of a higher return. Experience in this context allows entrepreneurs to move innovation to market faster and realize returns quickly.

Whereas the above statement suggests less experienced entrepreneurs would apply prescriptive approaches (causation logic), experienced entrepreneurs use other strategies. They may apply a proven system depending on the context or build additional features into existing systems. For example, Starr and Bygrave (1991) argue that experience can be an asset and a liability. The transferability of experience can also straight jacket a potential entrepreneur, keeping them from being able to perceive unrelated opportunities. Experience is then linked in the model to the planning phase of ESE that involves the assessment of the market, the identification of resources to meet the market need (including manufacturing locations and channels), and an understanding of costs. We propose:

**P2b:** The relationship between entrepreneurial experience and the planning dimension of ESE is positive and moderated by explanatory style.

Marshaling resources involves acquiring and organizing the resources to start a venture, including obtaining start-up funds, hiring staff, and developing a supply base and sales. Unlike causation logic, effectuation holds that entrepreneurial decision making explores contingencies such as resources available to the entrepreneur. These decisions are made in pursuit of some form of return, although may not be fully defined initially. This decision making includes the motivation for starting ventures such as career, opportunity, and lifestyle choices, but it is expected that effectuators will pursue business ideas with the expectation that the result can be any one of many possible outcomes. Therefore:

**P2c:** The relationship between entrepreneurial experience and the marshalling dimension of ESE is positive and moderated by explanatory style.

Lacking in all of the previous conceptualizations and operationalizations of ESE is the integration of Sarasvathy's (2001) findings that entrepreneurs tend to be guided not by causal logic but by effectual logic that shapes their business decision making. Augmenting McGee et al. (2009) work with effectuation logic offers a potentially more realistic explanation of how an entrepreneur might frame their self-assessment of their capability to succeed in a new venture.

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Effectuation logic is in direct contrast to a causal perspective of business creation, where the entrepreneur was thought to strategically select the product market space that they planned to either create or enter and then by marshalling the required resources proactively leverage innovation to implement a more or less explicit strategy. A causal perspective of business creation suggests a planned outcome. Effectuation logic explicitly accommodates the lack of planning by entrepreneurs during the business formation stage and allows the outcome of the venture to be a function of the entrepreneur's social networks, educational background, business experience, assets, and values. The questions that are fundamental in the effectual logic used in starting a business such as "what do I know," "who do I know," "what resources do I control," and "who I am" moderate a potential entrepreneur's human/social capital's effect on their perceived ability to effectively engage in three dimensions of ESE – searching, planning and resources marshalling. Therefore, we propose that:

**P3:** The relationship between entrepreneurial experience and an ESE is positive and moderated by effectual reasoning.

## 2.8. Conclusion and Discussion

The purpose of this study was to explore the interrelationships between entrepreneurial experience, explanatory style, and effectuation logic in an attempt to better understand the antecedents of ESE for policy and practice. Using work from entrepreneurship and social psychology, we developed a model that may help explain the interrelationship between experience, explanatory style, effectuation, and ESE. In addition, we propose a set of propositions that we hope will help direct future empirical research on the interrelationships between experience, explanatory style, effectuation logic, and ESE.

Experience appears to be the foundation on which both ESE and the capability to engage in effectuation rests. The four components of experience enable an individual to build both the confidence and human/social capabilities to leverage effectuation, intuition, and the joy of entrepreneurial creation. Experience is malleable, with policy makers having the opportunity to create more opportunities for potential entrepreneurs to gain experience through a wide variety of education and management development programs. If experience does hold up in empirical testing across different contexts, it could provide policy makers a tool to better encourage entrepreneurial initiatives.

We suggest that based on this conceptualization, explanatory style may moderate the impact of experience on ESE. Explanatory style can also be influenced. Youth leadership development programs that use positive reinforcement may offer one potential tool to influence explanatory style. However, explanatory style is shaped by many factors such as cultural attitudes toward risk and failure, cultural and individual values, and general economic conditions and may not be subject to explicit policy initiatives.

Effectuation logic can also be a learned technique. While causal logic works well for static organizations in stable predictable environments, effectuation logic is more opportunity seeking, more proactive, more adaptive, more risk accepting, and more innovative. Entrepreneurs that rely on causal logic may never feel as confident in the future, and their ability to successfully exploit future opportunities; unlike effectuation logic driven entrepreneurs who see the future as something that they can shape. In this chapter, we have proposed that the entrepreneurs that exhibit the highest level of ESE will be those whose past experiences provide a solid foundation of entrepreneurial capabilities, are leveraged through an optimistic, opportunity seeking effectual decision-making process.

This chapter contributes to the entrepreneurship literature in two major ways. First, the chapter attempts to explore the rather ambiguous front end of the entrepreneurial process. In addition, the chapter integrates an effectuation perspective into these processes to better capture the primary entrepreneurial initiative – venture creation. We hope that this chapter stimulates further conceptual work and subsequent empirical testing of the framework proposed. In addition, we hope the conceptual framework is further refined and tested for policy makers.

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