



# Entrepreneurial Market Orientation: Assessing the Roles of Self-Efficacy, Effectuation and Causation Logics

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**Abstract.** Knowledge about entrepreneurs' market orientation is crucial as it induces behaviour for the creation of superior value for buyers. In this paper, we examine if self-efficacy, a belief that a person can achieve challenges, is a driver of entrepreneurs' market orientation. We also examine if effectuation and causation logics mediate the association. An effectuation logic implies that an entrepreneur focuses on means at hand, which she or he aims to materialise into one or more goals that were not necessarily predefined. A causation logic implies that an entrepreneur focuses on a predefined goal and then aims to find the means to reach it. Using survey data from Norwegian entrepreneurs, we show that both an effectuation and a causation logic partly mediate the relationship between self-efficacy and entrepreneurial market orientation. Our analysis furthermore reveals that entrepreneurial experience and motivation (necessity vs opportunity entrepreneurship) have indirect effects on market orientation through self-efficacy.

**Keywords:** market orientation; effectuation and causation logics; self-efficacy; entrepreneurial experience; novice entrepreneur; serial entrepreneur; repeat entrepreneur; necessity entrepreneurship; opportunity entrepreneurship; mediation effects.

## 1. Introduction

Market orientation is “the organization culture that most effectively creates the necessary behaviours for the creation of superior value for buyers and, thus, continuous superior performance for the business” (Narver & Slater, 1990, p. 21). It increases organisational performance, according to Morgan, Vorhies, and Mason (2009), but Wagener, Gorgievski, and Rijdsdijk (2010) have nonetheless shown that entrepreneurs do not have higher market orientation than established small business owners. Wagener et al.'s finding is disturbing as entrepreneurs, due to their liability of newness (Carayannopoulos, 2009; Stinchcombe, 1965), are in a vulnerable position in which they need to leverage a new product or service at the marketplace, yet normally have less reputation and familiarity than established business actors (Gassmann, Widenmayer, & Zeschky, 2012;

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Schindehutte, Morris, & Kocak, 2008). In other words, entrepreneurs should, above all, pay strong attention to market orientation.

As a consequence, we emphasise that gaining knowledge about factors that leverage entrepreneurs' market orientation is crucial, and in this paper, we address this issue. In particular, we study if self-efficacy, which is a belief that a person can successfully achieve tasks or challenges (Bandura, 1997), is a driver of entrepreneurs' market orientation. We also examine if effectuation and causation logics mediate the association between the concepts. An effectuation logic implies that an entrepreneur focuses on means at hand, which she or he aims to materialise into one or more goals that were not necessarily predefined (Sarasvathy, 2001). A causation logic, on the other hand, implies that an entrepreneur focuses on a predefined goal and then aims to find the means to reach this goal (*ibid.*).

The concept of self-efficacy has received much attention in the entrepreneurship literature (Cooper & Lucas, 2006; Cox, Mueller, & Moss; Mueller & Goić, 2003), and it has been associated with both firm formation and firm success (Chandler & Jansen, 1992; Markman & Baron, 2003; Zhao, Seibert, & Hills, 2005). Effectuation and causation logics, likewise, have received much attention in both theoretical and empirical research (e.g., Arend, Sarooghi, & Burkemper, 2015; Brettel, Mauer, Engelen, & Küpper, 2012; Goel & Karri, 2006; Høvig, Pettersen, & Aarstad, 2018; Metzger & King, 2015; Sarasvathy, 2001). However, despite that all the three concepts have been much researched in the scholarly literature, they, to our knowledge, have not been linked to the concept of market orientation in an entrepreneurial research context.

Due to the crucial role self-efficacy appears to play for entrepreneurship in general, and entrepreneurial market orientation in particular, we furthermore aim to gain knowledge about what kind of entrepreneurial characteristics are likely to influence the concept. To do so, we examine if self-efficacy is a function of entrepreneurial experience and necessity vs opportunity entrepreneurship, which, to our knowledge, has not been explicitly studied in previous research. Entrepreneurial experience pertains to whether the actor is a novice in leveraging a venture, or whether she or he has previous entrepreneurial experience (Aarstad, Pettersen, & Henriksen, 2016; Forsyth & Van Gelderen, 2005; Westhead, Ucbasaran, Wright, & Binks, 2005). Necessity entrepreneurship implies that starting a new venture is a result of limited alternative opportunities for employment (Darnihamedani & Hessels, 2016; Dvouletý & Lukeš, 2016), whereas opportunity entrepreneurship implies that starting a new venture is one of more alternative options at hand for the candidate (Acs, Arenius, Hay, & Minniti, 2005).

In the following section, we elaborate five hypotheses, which we incorporate into a conceptual model. The hypotheses and the conceptual model include concepts that we have introduced in the previous paragraphs. Then we address the research context and the methodology for the study, which includes survey data

of 295 entrepreneurial firms affiliated with different business incubators in Norway. In the Results section, we empirically test our conceptual model, and in the final section, we discuss the empirical findings' theoretical and practical implications. We also address the study's limitations and suggest avenues for future research.

## 2. Hypotheses and a Conceptual Model

Entrepreneurial self-efficacy, which is a person's belief that she or he can successfully achieve a task or a challenge (Bandura, 1997), we have noted, may be an essential ingredient to successfully carry a business idea from its inception to the marketplace. Previous research has shown that self-efficacy is associated with knowledge-sharing behaviour (Li, 2018), creativity (Kwon, Lee, & Kim, 2015; Liu & Ghorbani, 2016), performance (Hallak, Assaker, & O'Connor, 2014), customer orientation (Gountas, Gountas, & Mavondo, 2014), and service innovation (Nsenduluka & Shee, 2009). Schmitt, Rosing, Zhang, and Leatherbee (2018, p. 835) find that "self-efficacy acts as a personal resource that helps entrepreneurs to transform increasing perceptions of uncertainty into exploration and opportunity identification". Peng, Liu, and Lin (2015, p. 559) in a similar vein report that "self-efficacy positively moderates the relationship between environmental dynamism and flexibility". All these characteristics related to self-efficacy are relevant in enabling an entrepreneur to develop "the necessary behaviours for the creation of superior value for buyers" (Narver & Slater, 1990, p. 21), we argue. Hence, we find it reasonable to assume that there is a positive association between self-efficacy and entrepreneurs' market orientation. Self-efficacy may, in other words, result in a proactive attitude to search for end-users' needs and how to deal with these. Thus, to create superior value for buyers, the entrepreneur needs an innate belief in her or his ability to achieve such challenges. Taken together, we conclude and hypothesise that there is a positive association between self-efficacy and entrepreneurs' market orientation.

*Hypothesis 1 (H1): There is a positive association between self-efficacy and entrepreneurs' market orientation.*

Research has shown that self-efficacy is associated with an effectuation logic and a causation logic (Stroe, Parida, & Wincent, 2018). Other studies have found that effectuation and causation logics increase performance and entrepreneurial intentions (Brettel et al., 2012; Dutta, Gwebu, & Wang, 2015; Roach, Ryman, & Makani, 2016; Scheepers, Boshoff, & Oostenbrink, 2017; Smolka, Verheul, Burmeister-Lamp, & Heugens, 2018), and Mthanti and Urban (2014) have shown that there is a direct association between an effectuation logic and entrepreneurial orientation. In line with these studies, we furthermore assume that an effectuation

logic and a causation logic mediate the positive association between self-efficacy and entrepreneurs' market orientation (cf. H1). An effectuation logic implies an open-minded, flexible approach to the entrepreneurial process (Sarasvathy, 2001), which may indicate that the entrepreneur continuously and reactively adapts the business idea according to information about potential customers' preferences and needs. A causation logic, on the other hand, implies a less flexible and more linear approach (ibid.), but it is nonetheless likely to be a result of knowledgeable input from actors in the marketplace, which the entrepreneur aims to serve. Taken together, we conclude and hypothesise that an effectuation logic and a causation logic mediate the positive association between self-efficacy and entrepreneurs' market orientation.

*Hypothesis 2 (H2): An effectuation logic mediates the positive association between self-efficacy and entrepreneurs' market orientation.*

*Hypothesis 3 (H3): A causation logic mediates the positive association between self-efficacy and entrepreneurs' market orientation.*

Entrepreneurial experience pertains to whether the actor is a novice in leveraging the venture, or whether she or he has previous entrepreneurial experience (Westhead et al., 2005). Studying the entrepreneurs operating in the Norwegian oil and gas industry, Aarstad et al. (2016) have shown that inexperienced entrepreneurs, i.e., novice entrepreneurs, are less willing than experienced entrepreneurs to disclose business secrets and to establish relations with external partners. Studying the difference between novice and experienced entrepreneurs, Markowska (2018, p. 222) in a similar vein concludes that "differences in behaviour between novice and expert entrepreneurs stem from self-perceptions of their ability to act." The author moreover asserts that "strategy, capacity, and control beliefs are key in individuals' decisions of whether to engage in entrepreneurial action and that expert entrepreneurs hold stronger beliefs than novices" (ibid.). A potential implication of the reported differences is that novice entrepreneurs have less belief in that they can successfully achieve tasks or challenges, i.e., they have lower self-efficacy (Bandura, 1997), as compared to their more experienced peers. Taken together, we conclude and hypothesise that there is a positive association between entrepreneurial experience and self-efficacy.

*Hypothesis 4 (H4): There is a positive association between entrepreneurial experience and self-efficacy.*

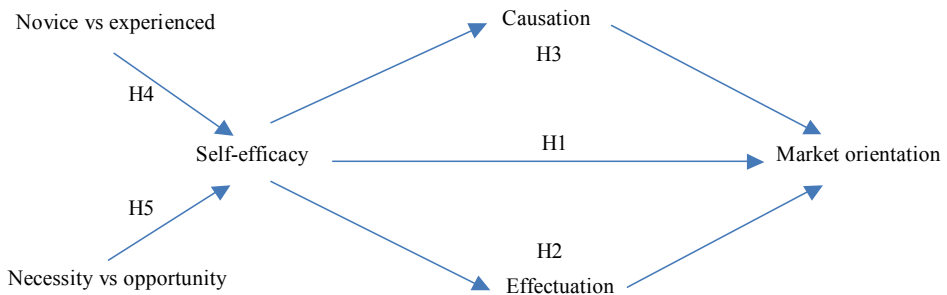
Necessity entrepreneurship implies that starting a new venture is a result of limited alternative opportunities for employment, whereas opportunity entrepreneurship implies that starting a new venture is one of more alternative

options for the candidate (Acs et al., 2005). In a recent multinational study Boudreaux, Nikolaev, and Klein (2019, p. 178) report that “entrepreneurs’ self-efficacy... promote opportunity entrepreneurship”, and the strength of the relationship is more robust in countries with more economic freedom than in countries with less economic freedom (ibid.). Strictly speaking, the authors assert that self-efficacy creates opportunity entrepreneurship, but an entrepreneur who is creating a new business out of necessity will have less self-efficacy than an opportunity entrepreneur, we argue. The person is largely forced to self-employment independent of whether she or he has the necessary abilities, motivation or self-esteem in carrying out such a task. On the contrary, an opportunity entrepreneur has proactively pursued a career path to start a new business, reflecting a higher degree of self-efficacy than a necessity entrepreneur who reactively starts a new business, due to lack of other opportunities. Taken together, we conclude and hypothesise that necessity entrepreneurs have lower self-efficacy than opportunity entrepreneurs.

*Hypothesis 5 (H5): Necessity entrepreneurs have lower self-efficacy than opportunity entrepreneurs.*

In Figure 1, we illustrate in a conceptual model the five hypotheses that we have developed. It illustrates an association between self-efficacy and entrepreneurs’ market orientation (H1), and an effectuation logic (H2) and a causation logic (H3) as mediating variables. In addition, the figure illustrates an association between entrepreneurial experience and self-efficacy (H4), and likewise an association between necessity vs opportunity entrepreneurship and self-efficacy (H5).

Figure 1. A conceptual model.



### **3. Data and Methodology**

To study our research question, we used data from an investigation and evaluation of Siva's incubator program in Norway (see Jakobsen et al., 2017). Siva operates about 35 business incubators in Norway and is owned by the Norwegian Ministry of Trade and Fisheries. It facilitates innovation by leveraging infrastructure for industry actors, entrepreneurial firms, and research environments (<https://siva.no/om-oss/?lang=en>). The population for this study is 785 entrepreneurial firms affiliated with the business incubators, and the manager of each firm received an email and was requested to participate in an electronic survey. Practically all firms are young start-ups, mostly between one and five years old, with a novel business idea. After three reminders, we received in December 2016 data from 295 respondents that enabled us to investigate the research questions for this study. The manager and the founder is the same person in more than 89% of the cases.

For the concepts of self-efficacy, an effectuation logic, a causation logic, and entrepreneurs' market orientation, we used multiple items on Likert scale varying between strongly disagree (1) and strongly agree (5). To measure self-efficacy, we developed a four items scale grounded in Bandura's (1997) research. We asked the respondent to indicate the extent to which "you as a person have the personal characteristics to: (1) identify one or more business opportunities that can be successful, (2) create and develop new products and services, (3) think in a creative and novel way and, (4) commercialise a business idea in a market" (all text translated from Norwegian).

Measuring an effectuation and a causation logic have proven challenging (Chandler, DeTienne, McKelvie, & Mumford, 2011), and effectuation is moreover multidimensional (Saravathy, 2001). Following Gabrielsson and Politis (2011), we focus primarily on flexibility and experimentation when measuring effectuation, and concerning this concept, we used the following Likert scale items (grounded in strongly disagree (1) and strongly agree (5)): (1) "I prefer flexible targets, and I am open to change the course if alternative possibilities were to come about."; (2) "I have a pragmatic attitude toward developing and using a concrete business plan." High scores on the items indicate an effectuation logic. Entrepreneurs reporting flexibility and pragmatism regarding a specific business plan are good and relevant indicators, we argue, since "in highly uncertain and dynamic environments, ... [g]oals change, are shaped and constructed over time, and are sometimes formed by change", according to Fisher (2012, p. 1024). Moreover, the first item is very similar in wording as applied by Gabrielsson and Politis (2011).<sup>2</sup> We developed the second indicator ourselves, and argue that it adequately captures entrepreneurial pragmatism and flexibility.

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2. Their other indicators have, in our opinion, low face validity. Hence we excluded them from the study; please see p. 296 in their paper for further details.

To measure a causation logic, we included the following items in the electronic questionnaire: (1) "I prefer clearly defined targets, and I work consciously to achieve these." (2) "I regard it as important to elaborate and apply a concrete business plan." A high score on the items indicates a causation logic. Entrepreneurs indicating that they favour specific goals and apply a concrete business plan are appropriate indicators, we argue, as a causation logic implies to take "a particular effect as given and focus on selecting between means to create that effect" (Sarasvathy, 2001, p. 245). Moreover, the first indicator is almost identical to the indicator used by Gabrielsson and Politis (2011).<sup>3</sup> We developed the second indicator ourselves, and argue that it adequately captures the topic of task orientation.

To our knowledge, no universally agreed upon items exist to measure entrepreneurs' market orientation, but based upon Baker and Sinkula (2009) and Deshpandé and Farley (1998), we developed four items in which we asked the respondent to indicate the extent to which she or he agreed or disagreed about the following statements: (1) "Continually, we aim to gain maximum knowledge about what our customers or potential customers want." (2) "Continually, we try to gain maximum knowledge about what our competitors or potential competitors do concerning our customers or potential customers." (3) "It is important for our business that we understand our customers or potential customers' wishes and needs." (4) "It is important for us that we continually try to adapt to our customers or potential customers' wishes and needs."

To measure whether the respondent was a novice or an experienced entrepreneur, we asked if this "was the first firm that you have participated in establishing." Answering "yes", was coded as a novice entrepreneur, and answering "no" was coded as an experienced entrepreneur. To measure necessity vs opportunity entrepreneurship, we asked the following question: "What do you think has been the most important reason for becoming an entrepreneur?". Answering "for a long time I have wished to start a new firm", was coded as opportunity entrepreneurship. The answer "unemployment or insecure work situation was decisive..." or "other reason" was coded as necessity entrepreneurship.

#### **4. Results**

All four multi-item measures, self-efficacy, effectuation logic, causation logic, and entrepreneurs' market orientation showed a satisfactory degree of unidimensionality. That is, using Cronbach's (1951) alpha, the two-item measures, an effectuation logic and a causation logic, scored 0.58 and 0.54, respectively, while self-efficacy and entrepreneurs' market orientation scored 0.68 and 0.77,

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3. Again, their other indicators have, in our opinion, low face validity. Hence we excluded them from the study; please see p. 296 in their paper for further details.

respectively.<sup>4</sup> All measures are operationalised as separately estimated non-rotated factor scores based on maximum likelihood. The Hartman's test concerning the whole model (Figure 1) reported a common factor of about 25%, and we conclude that common factor bias is unlikely (cf. Podsakoff et al., 2003; Podsakoff et al., 2012).

#### 4.1. Descriptive Statistics

Table 1 shows correlations, means and standard deviations for all measures. Due to the estimation method, all measures based on factor analyses (measures 1, 2, 3 and 4) have, by definition, a mean of zero and a standard deviation of 1. Measures 5 and 6 are dichotomies.

Table 1. Means, standard deviations and correlations between model variables

Variables	Mean	St. dev.	1	2	3	4	5	6
1 Market orientation	0.00	1.003	1.000					
2 Causation	0.00	1.003	0.364	1.000				
3 Effectuation	0.00	1.003	-0.006	-0.690	1.000			
4 Self-efficacy	0.00	1.003	0.444	0.210	0.264	1.000		
5 Novice vs experienced	0.55	0.498	0.021	0.088	-0.041	0.104	1.000	
6 Necessity vs opportunity	0.58	0.494	0.056	0.054	0.020	0.169	-0.054	1.000

*n* = 295

#### 4.2. Model Testing

To test H1-H3, i.e., the right part of the model that we report in Figure 1, we used centred scores and seemingly unrelated regression (Zellner, 1963). The procedure implies cross products of variables and potentially inflated standard errors due to (potential) non-linear variables. The standard errors of the estimates were corrected using the `nlcom` program in Stata 15.1 (Gould, 1996; StataCorp., 2017). The independent variables concerning H4 and H5 are binary, which constrained the inclusion of them into one single model that would reflect the whole conceptual model pictured in Figure 1. H4 and H5 are accordingly tested separately using an ordinary least squares regression.

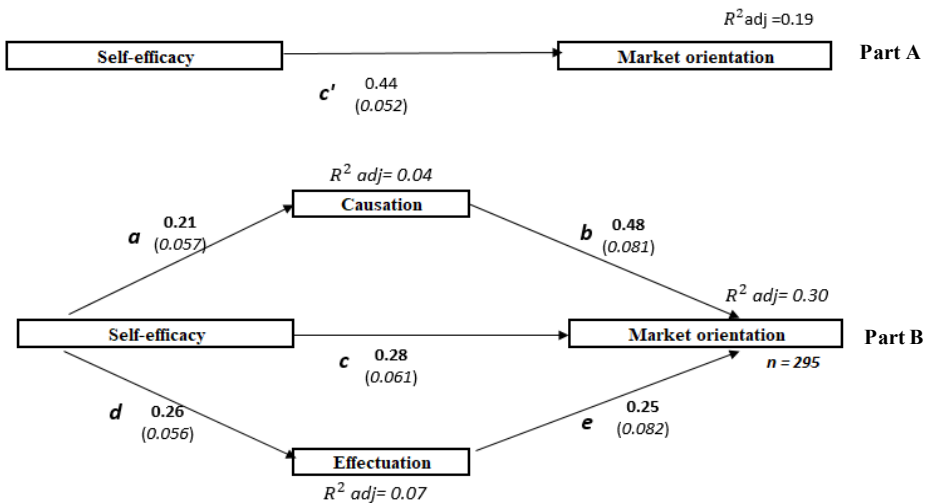
Figure 2, Part A and B, reports empirical results concerning H1-H3. We have noted that we used seemingly unrelated regressions (Zellner, 1963), but structural equation regressions (e.g., Bollen, 1989) in unreported models yielded identical

4. Among the items used for the analyses, the percentage of missing data varied from 4.2% to 8.8% while the percentage missing across all 13 items was 13.5%. Assuming the missing is completely at random (MCAR) we applied the EM algorithm to estimate the missing values (see Little & Rubin, 2002). The change in Cronbach's alpha before and after missing imputation was ignorable, i.e. a change only in the third decimal.



estimates and standard errors. Part A shows that there is a strong association between entrepreneurial self-efficacy and market orientation, which supports H1. Part B shows that a substantial part of this association is mediated via an effectuation and a causation logic, which supports H2 and H3, respectively (the coefficient of path *c* in Part B is lower than path *c'* in part A). Moreover, while self-efficacy influences both an effectuation and a causation logic with relatively similar magnitudes (path *d* and *a*, respectively), and which is consistent with other research (Stroe et al., 2018), the path from an effectuation logic to market orientation (path *e*) is merely half as strong in magnitude as the path from a causation logic to market orientation (path *b*). The latter reported results are nonetheless consistent with previous research showing that an effectuation and a causation logic increase performance and entrepreneurial intentions (Brettel et al., 2012; Dutta et al., 2015; Roach et al., 2016; Scheepers et al., 2017; Smolka et al., 2018). Mthanti and Urban (2014) have finally shown that there is a direct association between an effectuation logic and entrepreneurial orientation.

Figure 2. Potential drivers of entrepreneurs' market orientation.



Note: The nlcom program in Stata 15.1 calculates standard errors in parentheses. All estimates are significant at  $p < 0.05$ , two-tailed conservative tests.

Table 2 reports further empirical results concerning H1-H3. It shows that 15.0% of the association between self-efficacy and market orientation is mediated by an effectuation logic ( $d * e$ ), while 22.6% is mediated by a causation logic ( $a * b$ ). In other words, a total of 37.6% of the association between self-efficacy and market orientation is mediated by an effectuation and a causation logic ( $a * b + d * e$ ). Consequently, 62.4% of the association between self-efficacy and market orientation is *not* mediated or explained by an effectuation and a causation logic (*c*). We conclude that an effectuation and a causation logic *partially* (but not totally) mediate the association between self-efficacy and market orientation.

Table 2. Further details concerning mediation effects.

	Path	Coefficient	t-value	Percent
Indirectly self-efficacy to market orientation <i>via</i> causation	$a*b$	0.10	3.1	22.6 %
Indirectly self-efficacy to market orientation <i>via</i> effectuation	$d*e$	0.07	2.6	15.0 %
Sum mediated by causation and effectuation	$a*b+d*e$	0.17	4.1	37.6 %
Direct effect from self-efficacy to market orientation	$c$	0.28	4.5	62.4 %
Total effect	$c'$	0.44	8.5	100.0 %

To test H4 and H5, we carried out, as noted, an ordinary least squares regression. We report the empirical results in Table 3 and observe that experienced entrepreneurs have stronger self-efficacy than novice entrepreneurs, and that opportunity entrepreneurs have stronger self-efficacy than necessity entrepreneurs. Accordingly, both H4 and H5 gain empirical support. Both results are significant, but the effect is particularly strong concerning the association between opportunity entrepreneurship and self-efficacy (vs experienced entrepreneurship and self-efficacy).

Table 3. The effects of entrepreneurial experience and motivation (necessity vs opportunity entrepreneurship) on self-efficacy.

Dependent: Self-efficacy (centered)	Coef.	Std.err.	t	P>t	[95% Cionf. Interval]	Beta
Novice vs. experienced entrepreneur (0/1)	0.23	0.116	2.0	0.049	0.001	0.11
Necessity vs. Opportunity entrepreneur (0/1)	0.36	0.116	3.1	0.002	0.126	0.18
Constant	-0.33	0.111	-3.0	0.003	-0.550	-0.113

*Adj. R-square = .04, n = 295*

In unreported analyses, we checked if entrepreneurial experience and motivation (necessity vs opportunity entrepreneurship) mediated the direct association between self-efficacy and market orientation, but it did not. In other words, entrepreneurial experience and motivation (necessity vs opportunity entrepreneurship) have indirect (but not direct) effects on market orientation through self-efficacy, consistent with our conceptual model in Figure 1.

## 5. Discussion and Concluding Remarks

In this paper, we found that an effectuation and a causation logic mediated the association between self-efficacy and entrepreneurs' market orientation. We furthermore found that entrepreneurial experience and motivation (necessity vs opportunity entrepreneurship) had indirect effects on entrepreneurs' market orientation through self-efficacy.

It is reasonable to assume that a causation logic implies a way of pursuing your goals that is likely to induce market orientation, i.e., that a causation logic includes consciousness concerning potential sales and a kind of awareness about the vital importance of customer satisfaction in the goal-setting process. The strong path (**b**) in Figure 2 (Part B) supports the plausibility of this notion. Accordingly, the more haphazard “logic” and disorganised impression implied by effectuation is in accordance with the weaker path (**e**) from effectuation to market orientation (Figure 2, Part B). Nonetheless, we observe that both a causation logic *and* an effectuation logic mediate the association between self-efficacy and market orientation, which is in line with previous research showing that successful entrepreneurs use both logics in their endeavours (Brettel et al., 2012; Dutta et al., 2015; Roach et al., 2016; Scheepers et al., 2017; Smolka et al., 2018).

In Figure 2 (Part B), we moreover observe that the paths from self-efficacy to a causation logic (**a**) and an effectuation logic (**d**), are both significant and positive. Thus, we have found support for the idea that self-efficacy is positive as it induces more specific and challenging goals that lead to higher task performance (Seijts, Latham, Tasa, & Latham, 2004), but at the same time stimulates a high degree of flexibility in the entrepreneurial process.

We have demonstrated that some crucial concepts from the entrepreneurial and marketing literature are closely intervened. However, with only cross-sectional data at hand, we have not been able to indicate any causal connections, and hence we call for future contributions that can study the concepts in a longitudinal research design, or apply relevant instrumental variables. We do, nevertheless, maintain the belief that self-efficacy, at least partly, is a personality trait established early in life, although affected by contextual circumstances. For instance, in the current study, we have demonstrated how self-efficacy appears to be partly a function of entrepreneurial experience and an external vs internal motive for the very endeavour of establishing a new firm. Nonetheless, we call for future studies that can further invest if self-efficacy is a function of other external contextual features, both within and beyond the field of entrepreneurship and marketing research.

One may argue that the study should have included control variables, but having said this, Spector and Brannick (2011, p. 288) assert that the supposed need for control variables in social science research “qualifies as a methodological urban legend – something accepted without question because researchers and reviewers of their works have seen it used so often that they do not question the validity of the approach.” Spector and Brannick continue stating that “the nature of what they [the control variables] can actually test is quite limited” (ibid.), and which, according to the authors, may also yield for the inclusion of demographic control variables. Future research should nonetheless intend to replicate our analyses by including relevant control variables, yet by following recommendations as suggested in the literature (Spector & Brannick, 2011).

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