

A small independent retailer's performance: Influenced by innovative strategic decision-making skills?



Rainer Hensel^{a,*}, Ronald Visser^b, Anja Overdiek^c, Ellen Sjoer^d

^a The Hague University of Applied Sciences, Research group Sustainable Talent Development

^b Faculty director Entrepreneurship & Retail Management

^c Managing director Future Proof Retail Project

^d The Hague University of Applied Sciences, Research group Sustainable Talent Development

ARTICLE INFO

Article History:

Received 2 September 2020

Accepted 20 October 2021

Available online 30 October 2021

Keywords:

Effectuation

Entrepreneurial decision-making

Innovation

Business knowledge

Small retailers

ABSTRACT

The existence of small independent retailers is seriously jeopardised by severe competitive pressure, mainly caused by the sharp rise in online trading, rapidly changing consumer behaviours and the effectiveness of large commercial companies. It is claimed that small retailers should respond to this pressure by designing and implementing innovative business strategies. However, little is known about the specific entrepreneurial qualities and skills needed to design innovative business strategies to cope effectively with these challenging business environments. A structural equation methodology is used to analyse the impact of strategic decision-making skills, originating from the effectuation framework, on a small retailer's success.

Three entrepreneurial qualities and skills proved to be significantly related to a small retailer's effectiveness: 1) innovative personal qualities related to creativity, 2) cognitive analytic business skills, and 3) capacities in inspirational networking. However, a specific path seems to exist. Creativity provides the input for the effective application of cognitive analytic business skills, the latter again directly positively influencing a small retailer's performance. This implies that to be effective, innovative personal qualities should be combined with cognitive business skills. Moreover, the final model revealed an indirect positive influence of inspirational networking on a small retailer's performance. Capacities in inspirational networking have a positive impact, in so far as the following two basic conditions are satisfied: 1) frequent social initiative, and 2) intellectual authenticity. Moreover, the effective application of business skills positively influences inspirational networking skills, an insight again underscoring the necessity to combine cognitive analytic skills and social networking abilities.

© 2021 The Author(s). Published by Elsevier España, S.L.U. on behalf of Journal of Innovation & Knowledge. This is an open access article under the CC BY license (<http://creativecommons.org/licenses/by/4.0/>)

Introduction

A wide scientific consensus exists revealing that small independent retailers are subject to a severe competitive pressure that jeopardises the existence of a large number of small retailers (see for an overview: Grimmer, Grimmer, & Mortimer, 2018; or: Bollweg, Lackes, Siepermann, & Weber, 2019). Policymakers and scholars in the field of entrepreneurship acknowledge the significant commercial challenges. Serious concerns have been expressed regarding the inability of small independent retailers or small shopkeepers to effectively cope with this pressure and the challenges (Demko-Rihter & Ter Halle, 2015; Jones & Livingstone, 2018). These concerns are partially based on the strong decline in small retailers' revenue, an evident decrease in the number of small shops and a strong increase in vacant retail space (Bollweg et al., 2019; Greenhalgh, Johnson, &

Huntley, 2019). These developments are considered to be a global phenomenon that can be observed in many countries, such as Great Britain (Hallsworth & Coca-Stefaniak, 2018), Belgium (Grimmeau & Wayens, 2016), France (Madry, 2016), the United States (Kickert & Vom Hofe, 2018), and Japan (Katayama, Kawasaki, & Taniguchi, 2019).

The underlying drivers of this intensified competitive pressure for small independent retailers are manifold. The most salient threats are the strong growth in online sales, fast technological advances in web-based sales technologies and the aligned rapid change and unpredictability of consumer behaviours (Bollweg et al., 2019). Another relevant factor is the strong organisational ability of large retailers to digitalise business models and offer highly efficient multi- or omni-channel sales and services, often combining digital retail technologies with large physical stores in vital urban areas, which are crucial for capturing a large market share (Verhoef, Kannan, & Inman, 2015). Moreover, the increasing ubiquity and competitive

* Corresponding author.

E-mail address: r.w.hensel@hhs.nl (R. Hensel).

aggressiveness of large “big box” retail and supermarket chains, retail outlets, out-of-town retail markets and chain stores have contributed to the decline of the number of small independent shops, especially in high streets, secondary streets and rural areas (Greenhalgh et al., 2019; Kajalo & Lindblom, 2015; Megicks & Warnaby, 2008). Another relevant economic variable is the strong increasing tendency that large macro-retailers succeed in globally marketing their brand, a phenomenon called “brand power” (Hunt, 2019; Jones & Livingstone, 2018). Such a strong brand power generates a very strong global brand awareness and brand recognition, with the small independent retailers finding it very difficult to harness themselves against such a competitive strength (Jones & Livingstone, 2018). Although one may argue that competitive markets are a natural phenomenon in a market economy, the decline of the small independent retailers with physical shops has some serious implications for local or regional economies. One of these implications addresses an urban phenomenon that is labelled the “cloning” of high streets and secondary streets, as well as of major shopping malls (Dias, Iizuka, & Boas, 2019; Litz & Pollack, 2015; Litz & Rajaguru, 2008). This cloning implies that the shops in these retail areas can be characterised by a very high product and service-mix similarity, an economic phenomenon known as a strong resource similarity. Moreover, shops in cloned streets share the same competitive market space and target highly similar market segments. This situation is labelled a high market commonality. Economic reports on cloned streets reveal their strong negative impact on entrepreneurial climate (Hallsworth & Coca-Stefaniak, 2018; Kilduff, Elfenbein, & Staw, 2010). Small independent retailers make a vital contribution to local economies and employment within their direct communities or urban districts (Bollweg et al., 2019; Jackson & Stoel, 2011).

It is claimed that small independent retailers should boost their resilience against this competitive pressure by designing and implementing innovative business concepts (Hallsworth & Coca-Stefaniak, 2018; Quin et al., 2019). However, there seem to be very few research results available offering evidence-based insights into the exact nature and the underlying dimensionality of the entrepreneurial qualities and skills needed to effectively design and implement such a competitive response in a small or micro retail context. Based on this line of reasoning, the core goal of this study is to identify and specify evidence-based entrepreneurial competencies, cognitive analytic skills and social interactional skills in the strategic knowledge construction process, with an enhancing effect on capacities for developing innovative business models. This goal is in accordance with the theoretical claim that future research on innovative entrepreneurship should identify actionable business skills and competencies, with an evidence-based enhancing impact on innovative abilities (Mansoori & Lackeus, 2020). The relevance of deepening this theoretical understanding outlined above is underscored by scientific insights revealing that an in-time activation of skills and competencies is related to an entrepreneurial effectiveness (Erken, Donselaar, & Thurik, 2016; St-Jean, 2012; Zhao & Seibert, 2006).

In the section on theoretical considerations, a comprehensive elaboration is presented on the complexities in defining and conceptualising core issues in entrepreneurship, such as creative abilities, risk-taking, and defining and conceptualising a small retailer’s performance. In the methodology section, the data collection process is described and a methodological justification is provided to apply a structural equation analysis.

In the discussion section, theoretical considerations and implications are discussed, reflecting on small retailers’ effectiveness in designing and implementing innovative business models.

Theoretical considerations

As explained earlier, survival under competitive market conditions demands a competitive response, especially when competitors

share the same market space and the resource similarity is strong (Litz & Pollack, 2015; Quin et al., 2019). Scholars argue that creative entrepreneurial abilities are necessary to design and implement competitive business models in response to high commercial pressure (Bollweg et al., 2019; Jones & Livingstone, 2018; Kajalo & Lindblom, 2015; Quin et al., 2019). However, scholars have claimed that some serious theoretical complexities exist in identifying entrepreneurial innovative abilities: 1) conceptualising creative abilities as an intrapersonal entrepreneurial competency, 2) the effective application of cognitive analytic business skills, including risk-taking, as a core feature, and 3) effectively coping with competitors in unpredictable business environments (Dew, Read, Sarasvathy, & Wiltbank, 2018; Kuechle, Boulu-Reshef, & Carr, 2016).

Innovativeness

Studies have shown that innovativeness in the opportunity recognition and exploitation process in ambiguous environments cannot be based on a rational, strategic decision-making methodology (Kuechle et al., 2016; Sarasvathy & Dew, 2008, 2013; Venkataraman, Sarasvathy, Dew, & Forster, 2012). Key to the rational decision-making methodology are the following business skills: prediction of business opportunities based on marketing research, analysing and avoiding threats by competitors, enhancing competitive aggressiveness and goal-directed striving for only one specific strategic goal (Brettel, Mauer, Engelen, & Küpper, 2012).

Research has, however, identified that a rational decision-making methodology, often labelled as a causal approach in the strategic decision-making process, lacks the incremental flexibility and the aligned creativity needed to cope with high ambiguity and the complexity of consumer markets (Futterer, Schmidt, & Heidenreich, 2018; Grégoire & Cherchem, 2019; Harms & Schiele, 2012). The high ambiguity and complexity of consumer markets are key issues in highly competitive markets, in which the small independent retailer must effectuate a competitive response (Hensel & Visser, 2020; Jiang & Rüling, 2019).

Comprehensive research results and aligned theoretical considerations support the claim that to be effective in an ambiguous business environment, entrepreneurs should apply a more circular, incremental and therefore iterative strategic decision-making methodology (Chandler, DeTienne, McKelvie, & Mumford, 2011; Piñeiro-Chousa, López-Cabarcos, Romero-Castro, & Pérez-Pico, 2020; Sarasvathy, 2001). The underlying rationale of such an incremental, iterative methodology in the strategic decision-making process is labelled as effectual logic (Sarasvathy, 2001). Effectual logic implicates that strategic goals evolve and emerge during an ongoing progressive redesign process. Effectual logic is targeted at the development and implementation of a multi-faceted innovative business strategy. Contrary to the selection of only one strategic goal, progressively developing a diversity of strategic multi-faceted goals is identified as an effective strategy in ambiguous business environments (Jiang & Rüling, 2019; Venkataraman et al., 2012). This contrasts the causal approach in which a major focus on solely one specific strategic goal is regarded as vital to be effective. Moreover, the effectual approach claims that exploiting a close fit between emergent strategic goals and resources, available to the entrepreneur, enhances the entrepreneurial capacity to design innovative business models (Chandler et al., 2011; Lin & Ho, 2019; Venkataraman et al., 2012). Another important entrepreneurial skill, originating from the Effectuation framework, is the ability to reshape and adjust organisational goals by collaborative co-creation processes with strategic partners and contingencies.

Risk-taking

Risk-taking is one of the core entrepreneurial features in the entrepreneurial orientation (EO) framework. It is defined as an

overall willingness to allocate large amounts of resources to specific strategic goals where the cost of failure may be high (Kajalo & Lindblom, 2015; Rauch, Wiklund, Lumpkin, & Frese, 2009). However, research reveals that effective risk-taking in highly ambiguous entrepreneurial environments demands a well-scrutinised risk analysis (Grégoire & Cherchem, 2019). Scholars argue that to be successful in ambiguous business environments, entrepreneurs should conduct a thorough risk analysis targeted at a grounded vision and anticipation of possible future losses, and the acceptability of such losses (Sarasvathy & Dew, 2013; Venkataraman et al., 2012). Such a risk analysis is labelled as an affordable loss analysis (Sarasvathy, 2001). From a theoretical point of view, a well scrutinised risk analysis contradicts the definition of risk-taking as proposed by the EO framework (Grégoire & Cherchem, 2019). Based on the theoretical considerations outlined above, it is hypothesised in this paper that a well-scrutinised risk analysis impacts a small retailer's performance.

Competitive aggressiveness

Another relevant distinction between the causal and effectual approach is the identification of the effective entrepreneurial social skills that are necessary to cope with highly competitive business environments. Scholars claim that inspirational networking and establishing strategic alliances should be regarded as being key in coping effectively with competitive business environments (Grégoire & Cherchem, 2019; Sarasvathy & Dew, 2013).

This contrasts sharply with the concept of competitive aggressiveness, a concept that is very frequently applied in an entrepreneurial context and originates from the market orientation (MO) framework (Rosenbusch, Rauch, & Bausch, 2013; Sarasvathy & Dew, 2013). Competitive aggressiveness identifies the intensity of the efforts by firms to outperform rivals by implementing a strong, offensive stance or aggressive response. Research on entrepreneurial effectiveness, however, suggests a rather different approach: the application of inspirational networking skills. A key feature in inspirational networking is detecting and forming strategic alliances, thereby enlarging the business's access to resources while securing the pre-commitment of business partners (Sarasvathy & Dew, 2013). Furthermore, inspirational networking aims to analyse competitors' characteristics and to use this new information as leverage to continuously improve and redesign the business model (Sarasvathy & Dew, 2013; Venkataraman et al., 2012). Based on this line of reasoning, the impact of inspirational networking skills and establishing strategic alliances on a small retailer's performance is analysed in this paper.

Measuring performance

Wide scientific consensus seems to exist about the concept that, in a small business context, non-financial measures should be preferred above financial measures in analysing a small business's performance (Rauch et al., 2009). Comprehensive research results show that the use of mainly financial indicators leads to ambiguous research results. It is claimed that such research results can be quite misleading (Murphy, Trailer, & Hill, 1996; Rosenbusch et al., 2013). This implies that traditional financial measures as performance indicators, such as profitability, sales or revenue growth and return of investment, cannot be regarded as a reliable or valid basis for designing a performance scale or success criterion. The underlying reason seems to be that in a small business context success is internally defined by the small independent retailer (Rosenbusch et al., 2013). Furthermore, the methodological choice to measure performance by success criteria with an internal perspective is supported by research results revealing that the achievement of personalised goals is a major motivator or driver to be or become a small independent retailer or micro-entrepreneur (Beaver, 2003). Relating success criteria, based on an internal perspective, to innovative, strategic

decision-making skills links the research results to the theoretical construct self-efficacy, a self-assessment of job competence. The relevance of this relationship is pinpointed by research results revealing a direct and positive impact of self-efficacy on sales performance (Wang & Netemeyer, 2002). Moreover, robust research results and meta-studies reveal a close relatedness of the construct of self-efficacy to general human performance in a high diversity of work and learning contexts (Bandura, 1993; 2001; Stajkovic & Luthans, 1998, 2003). Generally, a high self-efficacy demands: 1) *A strong vision of the specific coping skills, which are necessary to be successful in a specific work or learning environment;* and 2) *a positive anticipation of the valence and effectiveness of applying these coping skills by the person judging their own self-efficacy.* (Bandura, 1993; 2001). This study should result in evidence-based insights in detecting, defining and specifying those coping skills that prove to be relevant for designing and implementing an effective, competitive entrepreneurial response in a complex and ambiguous entrepreneurial environment. An effective enhancement of a self-efficacy demands challenging learning and development goals with a high goal specificity (Chalofsky & Krishna, 2009).

Based on the theoretical considerations outlined above and a theoretical framework identifying actionable, effectual behaviours (Hensel & Visser, 2020), a model is developed in which three social constructs are differentiated: 1) Innovativeness is defined as an intrapsychological competency, 2) analytic business skills as cognitive skills, and 3) inspirational networking as social skills. Moreover, sound theoretical support for this differentiation is offered by scientific claims arguing that competencies, cognitive and social skills are often unjustly used interchangeably in research studying human performance (Arnold, Silvester, Cooper, Robertson, & Patterson, 2005; Furnham, 2008, pp 314–318; Hensel & Visser, 2020).

An overview of the full hypothesised model is given in Fig. 1.

Based on studies analysing the underlying scientific constructs influencing a human work-related performance (Arnold et al., 2005; Hensel & Visser, 2020), it is hypothesised that creative abilities first deliver the input for effectuating cognitive skills. Subsequently, the effective application of cognitive skills should be considered as the underlying driver of realising inspirational networking skills. Moreover, two additional variables are embedded in the model. The first is labelled as “entrepreneurial authenticity”, the second as “initiative”; both being entrepreneurial features that are highly relevant when an entrepreneurial performance is studied (Barrick, Mount, & Judge, 2001; Baum, Frese, & Baron, 2014).

The research questions are:

RQ1 (major research question): Is there statistical support that innovative, entrepreneurial personal qualities, cognitive analytic business skills and capacities in inspirational networking positively influence a small independent retailer's performance?

Sub-research questions:

RQ1a: Is there a direct influence of cognitive analytic business skills on a small retailer's performance?

RQ1b: Is the influence of creative abilities on a small retailer's performance (completely) mediated by cognitive analytic business skills?

RQ1c: Do inspirational networking skills have a direct influence on a small retailer's performance?

Methodology

Data collection

In 2019, 182 small retailers were approached to participate in this study. To secure a grounded generalisability of the research results, only small retailers employing no more than a maximum of five

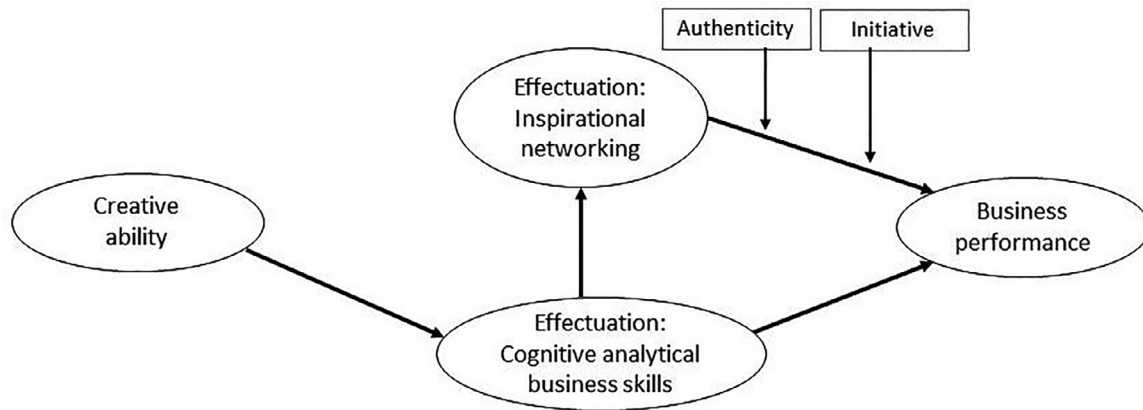


Fig. 1. Full hypothesised model.

individuals were invited to participate. This is based on research that independent, micro-entrepreneurs employ on average around 10 to 20 individuals (Berisha & Pula, 2015). Therefore, five seems to represent a secure upper limit. Eighty-eight small retailers completed the questionnaire, resulting in a response rate of 48%. Of the total, 59% of the shopkeepers worked alone and 41% employed an average of 2.4 persons. Another inclusion criterion was the location of the shop; it had to be on a high, secondary or tertiary street or in a (at least medium-sized) shopping mall or shopping area. Analysing a small independent retailer's performance requires a strong homogeneity of the shop location, a methodological consideration grounded on a strong relationship of the shop location with the shop performance (Litz & Rajaguru, 2008). To justify that the sample of 88 shopkeepers is representative, the measurement part of the model was additionally tested by using a bootstrap procedure (bootstrap =1000). As explained earlier, the design of the questionnaire is based on a model developed by Hensel and Visser (2020), a model which is supportive for the validity and reliability of the applied measures in the questionnaire. Moreover, this model offers statistical support to apply a three-dimensional structure to measure creative abilities and effectual behaviours originating from the Effectuation framework. A structural equation methodology is applied to develop and test the model. Such a methodology is indicated when hypothesised direct and especially indirect (mediated) effects are tested (Van de Schoot, Lugtig, & Hox, 2012). All exogenous variables were measured by 5-point Likert scales.

Results

Chi-square test of the model fit

The chi-square test of the model fit, presented in Table 1, reveals that the sample of 88 participants allows enough iterations to test the model. The P value of 0.012 indicates a strong significance level, meaning that the theoretical basis of the model — and its underlying relationships — is not a coincidental one.

Confirmative factor analysis

The explorative factor analysis (EFA) and, subsequently, the confirmative factor analysis (CFA) delivered solid support for designing a model with four endogenous (latent) variables: 1) creative abilities, measuring

innovative entrepreneurial qualities, 2) cognitive analytic business skills, 3) capacities in inspirational networking, and 4) a small retailer's business performance (the success criterion). A bootstrap (1000) procedure was conducted to execute the EFA and subsequently the CFA. The model fit indices proved to be satisfying/acceptable: RMSEA: 0.068; CFI: 0.91/TLI: 0.90; SRMR: 0.075 (Van de Schoot et al., 2012).

Consequently, the model fit indices of the confirmative factor analysis support the overall conclusion that all the exogenous variables proved to be valid and reliable measures of the three endogenous variables and the success criterion (Van de Schoot et al., 2012). The measurement part of the model is presented in Fig. 2.

In Fig. 2 the four endogenous (latent) variables and their measures are presented. The fit indices of the confirmative factor analysis proved to be good/acceptable. The bootstrap (1000) procedure strongly supports the representativeness of the sample (88 participants). This implicates that the measurement part of the model can be considered as a sound foundation of the construction of the final model. In Tables 2-5 a comprehensive overview is given of all the exogenous (manifest) measures of the four endogenous (latent) variables and the aligned significance levels and estimated predictive strength. When a structural equation analysis is used as the key methodology, these latter two indices represent statistical support for the reliability and validity of the used questionnaire. Additionally, the proportion explained variance, presented in Table 6, should be considered as another important indicator of the validity and reliability of the questionnaire. A comprehensive overview of the questionnaire and its items are presented in Tables 2-5. First, the measures of the success criterion or performance measure are presented in Table 2.

Table 2 reveals that all three measures, using an internal perspective on a small retailer's performance, proved to have a strong and very significant estimated predictive strength (predictive power). The predictive strength and significance levels of the exogenous variables of the endogenous variable creative abilities are presented in Table 3.

All three measures proved to be strong and very significant, revealing valid support for the way creative abilities are measured in this study. The measures of capacity in inspirational networking, representing social skills originating from the Effectuation framework are presented in Table 4.

Again, Table 4 reveals strong and very significant measures of social skills in inspirational networking. Finally, the measures of the endogenous variable cognitive analytic business skills are presented in Table 5.

Final model

The final model is represented by Fig. 3, revealing all the direct and indirect (mediating) relationships between: 1) creative abilities,

Table 1
Chi-square test of the model fit.

Value	222.196
Degrees of Freedom	177
P-Value	0.012

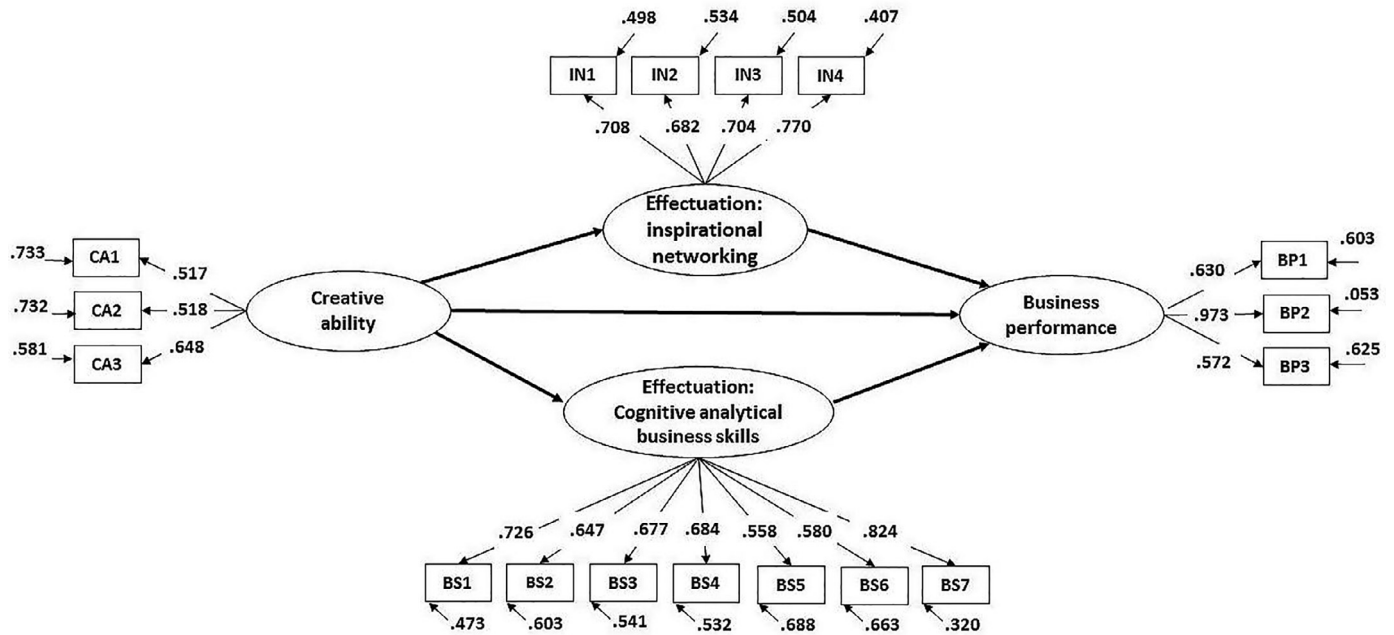


Fig. 2. Measurement part of the model (revealing the result of the confirmative factor analysis (CFA)). Model fit indices CFA: RMSEA: 0.068; CFI: 0.91/ TLI: 0.90; SRMR: 0.075.

Table 2

The success criterion or output variable, a small independent retailer's performance (business performance) is measured by:

Variable	Meaning	Sign.	Estimated predictive strength:
BP 1	If you would compare the success of your shop with your direct competitors, how successful would you rate your own business?	***	0.59
BP 2	If you would ask your direct competitors to rate the competitive strength of your business, what would they say?	***	1.02
BP 3	In the last year, to what extent has your business been a reliable source of income?	***	0.57

*** : $p < 0.001$.

Table 3

Creative abilities (CA): innovativeness as intra-psychological competency is measured by.

Variable	Meaning	Sign.	Estimated predictive strength:
CA 1	I am a pretty creative person when it comes to generating new business ideas	***	0.52
CA 2	I am often full of innovative ideas for my business	***	1.02
CA 3	I regularly experiment with new products/services in my shop	***	0.57

*** : $p < 0.001$.

2) analytic business skills, and 3) capacities in inspirational networking with the success criterion.

All the direct relationships are represented by a continuous line; the indirect mediating effects by a broken line. To create a clear overview, facilitating a faster insight and understanding, the exogenous measures have been omitted from Fig. 2. An overview of the proportion of explained variance is given in Table 6.

The strong significance levels and the high proportion explained variance, revealed by Table 6, show that all the endogenous (latent)

Table 4

Insp Net: capacity in inspirational networking (the crazy quilt principle) is measured by.

Variable	Meaning	Sign.	Estimated predictive strength:
IN 1	I often take the initiative to approach other people to discuss business ideas	***	0.72
IN 2	I frequently use my social network to test my business ideas	***	0.65
IN 3	My social network is an important source of inspiration to discover innovative ideas for my business	***	0.98
IN 4	I consider my social network to be an important source of inspiration	***	0.75

*** : $p < 0.001$.

variables are measured in a valid way, solidly supporting the theoretical basis of the model and moreover the validity and reliability of the used questionnaire.

Direct effects

In summarising the model, one can conclude that a small retailer's performance is indeed positively and directly impacted by cognitive analytic business skills, with the impact being relatively strong (estimated predictive strength: 0.5. $p < 0.01$). Moreover, strong and direct positive relationships do exist between the exogenous measure: initiative (variable IN1, measuring frequently taking the initiative in networking) and the endogenous success criterion. A negative direct relationship was found between the exogenous variable IN 4 with the success criterion, acknowledging the social network is a vital source of inspiration and performance. This means that frequent social initiative positively impacts the relationship between inspirational networking and a small retailer's performance. The negative impact of acknowledging the social network as a vital source of inspiration reveals that a social independency by autonomous thinking and reasoning is important for a positive effect of capacities in inspirational networking.

Table 5
Cognitive analytic business skills (originating from three dimensions of the Effectuation framework - 1) bird-in-hand principle; 2) the affordable loss principle; 3) the lemonade principle) are measured by.

Variable	Meaning	Sign.	Estimated predictive strength:
BS 1	I have a strong understanding why customers could be attracted to new products/services in my business (originating from the bird-in-the-hand principle)	***	0.73
BS 2	Whenever I intend to implement new products and services, I succeed in anticipating potential future losses (originating from the affordable loss principle)	***	0.65
BS 3	When I feel frustrated or my future plans are blocked, I still manage to find a creative solution (originating from the lemonade principle)	***	0.68
BS 4	I find it hard to create new products/ services for my shop without taking a lot of financial risks (demands to be recoded, originating from the affordable loss principle)	***	0.68
BS 5	I find it difficult to transform my business ideas into concrete products/ services (demands to be recoded, originating from the pilot-in-the-plane principle)	***	0.56
BS 6	I frequently take the initiative to seek feedback on my new business ideas (originating from the bird-in-hand principle)	***	0.58
BS 7	I have the ability to generate new understandings when my business initiatives are threatened with failure (originating from the lemonade principle)	***	0.82

*** : $p < 0.001$.

Indirect effects

The final model reveals four significant mediating (indirect) effects as presented in Tables 7-9 (with two indirect effects presented in Table 8). The first mediating effect exists between creative abilities

Table 6
Final model, estimated proportion of explained variance, R-square of the small retailer's business performance, creative abilities, cognitive analytic business skills and inspirational networking.

Endogenous (latent variable)	Estimated proportion of explained variance, R-square	Two-tailed P-value
Performance (success criterion)	31%	0.002
Creative abilities	28%	0.001
Cognitive analytic business skills	43%	0.001
Inspirational networking	24%	0.003

Table 7
Small retailer's performance, indirect relationship with cognitive analytic business skills and the estimated predictive strength.

Indirect effect of creative abilities (latent variable) on a small retailer's business performance	Estimated predictive strength
Mediated by: Cognitive analytic business skills	0.33 ***

*** : $p < 0.001$.

Table 8
Small retailer's performance, stronger indirect relationship with inspirational networking and the estimated predictive strength.

Indirect effect of inspirational networking (latent variable) on a small retailer's performance	Estimated predictive strength
1) When mediated by: frequent initiatives (IN1)	+0.21 **
2) When mediated by: acknowledging the social network as a source of inspiration (IN4; measuring)	-0.24 **

** : $p < 0.01$.

and a small retailer's performance. The effect is completely mediated by the endogenous variable of cognitive analytic business skills.

This result is presented in Table 7.

The indirect effect implicates that the application of cognitive analytic business skills has to be combined with creative abilities to be effective. Furthermore, a second complete mediation effect exists between capacities in inspirational networking and performance.

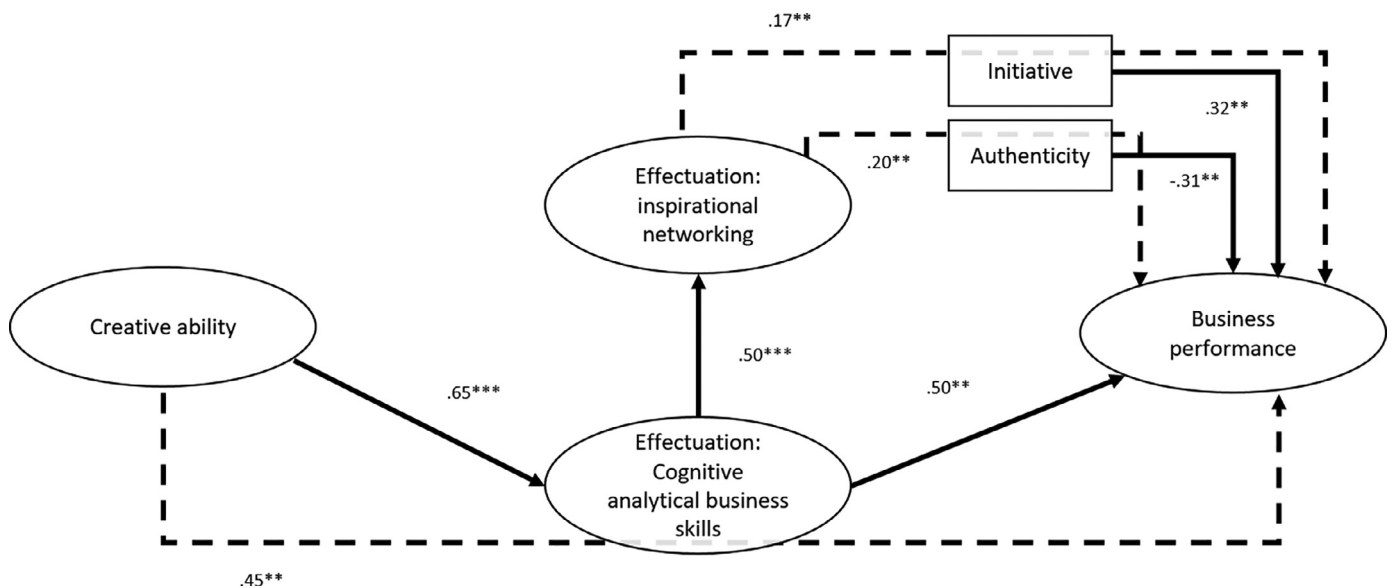


Fig. 3. Final model. Model fit indices of the final model: RMSEA: 0.056; CFI: 0.93/ TLI: 0.91; SRMR: 0.073. **: $p < 0.01$ **; ***: $p < 0.001$. The interrupted lines represent the mediated (indirect) effects; the solid/ unbroken lines the direct effects.

Table 9
Small retailer's performance, indirect relationship with cognitive analytic business skills and the estimated predictive strength.

Indirect effect of creative abilities (latent variable) on a small retailer's performance	Estimated predictive strength
Mediated by: Cognitive analytic business skills Initiative Inspirational networking	0.07 *

* : $p < 0.05$.

The effect is a completely positive mediation effect through the exogenous (manifest) variable *often taking the initiative to approach other people to discuss business ideas*. Furthermore, a completely negative mediation effect was found between the exogenous variable *acknowledging the social network as a source of inspiration* and performance.

The positive as well the negative mediation effects are presented in [Table 8](#).

Both variables IN1 and IN4 proved to be significant and strong measures of the endogenous variable capacities in inspirational networking. However, the variable IN1 has a positive influence, whilst high(er) scores on IN4 have a negative one.

The fourth mediating effect exists between creative abilities and a small retailer's performance. The effect is completely mediated by the following path:

- 1) cognitive analytic business skills
- 2) initiative
- 3) inspirational networking

This result is presented in [Table 9](#).

Creative abilities have a direct relationship on cognitive analytic business skills, with a predictive strength of 0.65***. Moreover, *cognitive analytic business skills directly impact abilities in inspirational networking* (estimated predictive strength: 0.5; $p < 0.001$).

Discussion

The final model provides relatively strong support that: 1) innovativeness, measured as an intrapersonal competency, 2) cognitive analytical business skills, and 3) capacities in inspirational networking, do indeed positively influence a small retailer's business performance. Consequently, all research questions have been answered positively. The model reveals that effectuating a competitive response demands a holistic approach, integrating a broad set of entrepreneurial abilities, conceptualised by creative competencies, cognitive analytic business skills and interactional social networking skills. The theoretical implication of this insight is that designing, redesigning and implementing innovative business models in a small retail context should be considered to be a circular, iterative learning process. This supports the key underlying rationale of the Effectuation framework that in an entrepreneurial context with ambiguous, complex and unpredictable markets, an effectual approach is indicated ([Sarasvathy & Dew, 2013](#); [Venkataraman et al., 2012](#)). As explained earlier, an effectual approach contrasts a causal approach. The model furthermore supports the hypothesised conceptualisations of innovativeness, risk-taking and competitive aggressiveness as outlined in the section on theoretical complexities. This has the following theoretical implications. First, innovativeness seems to demand an effectual approach; second, risk-taking should be based on a well scrutinised risk analysis; and third, competitive aggressiveness should be replaced by inspirational networking and analysing possibilities or engaging in strategic alliances with competitors. Moreover, differentiating between different social constructs like

creative abilities, cognitive analytic skills and social skills is conform other research results applying the same categorisation principles ([Furnham, 2008](#); [Hensel & Visser, 2020](#)). The high proportion explained variance of the success criterion of 31%, and moreover good or very satisfying model fit indices, quite firmly support the relevance of the model for a small retailer's performance ([Hooper, Coughlan, & Mullen, 2008](#)).

As explained earlier, the model links innovative entrepreneurial decision-making skills and as well innovative competencies to a small retailer's self-efficacy or self-assessed job competence. The relevance of this relatedness is pinpointed by the understanding that self-efficacy has an important positive impact on a sales performance ([Wang & Netemeyer, 2002](#)). Consequently, the model identifies and specifies entrepreneurial key qualities as well as cognitive and social skills related to innovative entrepreneurial abilities, relevant for the enhancement of strategic decision-making skills. Research on the Effectuation framework has pointed out that such creative abilities and decision-making skills are utterly relevant for situations that entrepreneurs must effectively cope with high ambiguity and complexity ([Grégoire & Cherchem, 2019](#)). Ambiguity and complexity are key characteristics of the organisational environment in which small independent retailers have to design and implement a competitive response to increase their chance of survival and profitability ([Greenhalgh et al., 2019](#)). By placing the research results in this context, the final model seems to offer useful insights for a targeted development of actionable entrepreneurial qualities and business skills aimed at redesigning innovative business models in a small retail context. The relevance of this understanding is underscored by the following two theoretical considerations and research results: 1) scholars in the field of entrepreneurship claim that future research on the effectuation theory should explicitly identify actionable prescriptions for effectual behaviours ([Mansoori & Lackéus, 2020](#)); and 2) an in-time activation of entrepreneurial competencies positively impacts an entrepreneurial effectiveness ([Erken et al., 2016](#); [St-Jean, 2012](#)).

Combining innovativeness with business skills

One of the most salient paths in the model is the indirect effect of creative abilities on a small retailer's performance, running through cognitive business skills. This path pinpoints the necessity to combine entrepreneurial creative abilities and cognitive analytic business skills. Furthermore, a strong and direct relationship exists between creative abilities and cognitive analytic skills. This seems to have salient implications for the theoretical understanding of a small retailer's performance. Creative abilities can be seen as the input for effectively executing cognitive business skills, the latter again having a strong and direct impact on a small retailer's performance. In other words, innovativeness fuels the execution of business skills, with the effective activation of cognitive business skills having a direct positive effect on a small retailer's performance.

From a theoretical point of view the theoretical differentiation between creative abilities and cognitive analytic business skills has quite profound implications. It supports the scientific claim that when the Effectuation framework is studied in a small retail context, a differentiation into two different endogenous variables is justified. This seems to contradict the scientific claim originating from the Effectuation framework that all effectual behaviours can be identified as a cognitive and social strategic decision-making skill. This research seems to reveal that innovativeness, as an intra-psychological competency, should be distinguished from cognitive analytic business skills and social skills. This is relevant when any Human Resource Development or professional development programs are to be designed and implemented. An effective activation of complex work-related behaviours requires valid insights into key features ([Chandler et al., 2011](#); [Grégoire & Cherchem, 2019](#)). Entrepreneurs

need to identify specific qualities and skills when complex entrepreneurial behaviours are needed to cope with highly ambiguous and competitive environments (Alvarez & Busenitz, 2001; Chalofsky & Krishna, 2009; Chandler et al., 2011).

Business skills

Although the Effectuation framework conceptualises strategic decision-making skills into five different dimensions (labelled as principles), the confirmative factor analysis revealed strong statistical proof to embed business skills in one underlying dimension: *cognitive analytic business skills*. Although this might sound somewhat provocative, this theoretical conceptualisation of business skills is very much in line with the theoretical categorisation used in the work of psychology and human performance theory (Furnham, 2008, pp. 314–318; Arnold et al., 2005, pp. 275–276), and furthermore when studying the overall capacity in executing effectual behaviours (Hensel & Visser, 2020). Based on the claim that a future research agenda for studying the Effectuation framework should aim at an enhancement of the theoretical understanding of the underlying dimensionality, the considerations described above can be seen as a suggestion for developing models specifying the effect of Effectuation qualities and skills in specific entrepreneurial contexts. Moreover, this insight justifies the conclusion that the five-dimensional categorisation of the underlying dimensions of the Effectuation framework needs to be fine-tuned in a small retail context.

As hypothesised, the final model reveals strong support for the re-conceptualisation of risk-taking. Measures originating from the Effectuation framework proved to be highly valuable for assessing cognitive analytic business skills. The Effectuation framework identifies key cognitive skills in executing a well-scrutinised risk analysis, anticipating and reflecting on the affordability of future losses and generating innovative products/services without large financial investments (Hensel & Visser, 2020). All these business skills proved to have a strong positive impact on a small retailer's performance, supporting the re-conceptualisation of risk-taking offered by the Effectuation framework. This re-conceptualisation contrasts sharply with those offered by the EO framework. In the EO framework, risk-taking is defined as a general willingness to allocate large amounts of resources to specific strategic goals where the cost of failure may be high (Kajalo & Lindblom, 2015; Rauch et al., 2009). Moreover, the relevance of the contingency leverage principle in a small retail context is accentuated. The contingency leverage principle, often labelled as the lemonade principle, reveals that entrepreneurial frustrations and implementation problems should be considered as vital sources of information. This new information should be used to improve and redesign the emerging business model (Kuechle et al., 2016).

Inspirational networking

As previously explained, inspirational networking is key in the Effectuation framework. It identifies interactional social skills targeted at using the social network as a source of inspiration to test and redesign the (emerging) business model. The salient importance of the entrepreneurial quality of initiative is hardly surprising. Initiative is a key feature of the Big 5 domain dimension of extraversion (Barrick et al., 2001). Extraversion is a predisposition for an outperformance in all work environments characterised by frequent social interactions, which is a key feature in an entrepreneurial environment (Barrick, 2005). Moreover, extraversion and one of the sub-dimensions – sociability – proved to be highly relevant for effectively activating cognitive and social skills originating from the Effectuation framework (Hensel & Visser, 2020). All these insights identify the relevance of initiative for applying networking skills in the small retailer context.

The relationship between inspirational networking and the success criterion is, however, a complex one. The final model reveals an indirect effect of inspirational networking through two manifest variables, two entrepreneurial qualities: 1) frequent social initiative, and 2) lower appreciation of the social network as a source of inspiration. Although the appreciation of the social network as a source of inspiration is a key measure of capacities in inspirational networking, its direct impact on a small retailer's performance is negative. The negative impact seems to imply the following: High(er) individual appreciation of the social network as a source of inspiration can easily imply a higher susceptibility and conformity to widely shared group perspectives and visions. Such a high(er) sociability and conformity can seriously hamper or mitigate creative abilities in the decision-making process, especially in ambiguous and complex work environments (Bono & Judge, 2004). Research by Dyer, Gregersen and Christensen (2008) pinpoints the necessity to generate innovative and creative visions to cope effectively with the increasing ambiguity and complexity of an entrepreneurial environment.

The generation of creative and innovative visions again demands intellectual autonomy (Baum et al., 2014, pp. 15–18; Dyer et al., 2008). Major support for this line of reasoning is based on the fact that intellectual autonomy is a key concept in the EO framework (Kajalo & Lindblom, 2015). Moreover, intellectual autonomy is a key competency in entrepreneurship (Baum et al., 2014; Dyer et al., 2008, pp. 15–18). Consequently, it seems justifiable to conclude that the theoretical considerations explained above support the insight that inspirational networking in a small retailer's context demands intellectual autonomy.

Practical implications

The results of this study offer evidence-based insights in entrepreneurial qualities and business skills that enhance the strategic decision-making process in the small- or micro-retailer's context. The relevance of a deeper understanding of activating effectual behaviours in the context of small retailers is pinpointed by studies showing that an entrepreneurial effectiveness is positively impacted by reflexivity on personal qualities, by timely individual activation of competencies, and by applying business expertise (Erken et al., 2016; St-Jean, 2012; Zhao & Seibert, 2006). The model offers strategic opportunities for double loop learning. This is based on the understanding that the model offers specific qualities and skills to the small independent retailers, aiming to improve their skills and competencies in the strategic decision-making process. Double-loop learning implicates that a deep learning or deep reflection is conducted whilst executing specific complex professional skills. Single-loop learning can be differentiated from double-loop learning because of its limited focus, in this case designing and implementing a competitive response. Researchers revealed that double-loop learning has a significantly higher effectiveness when compared to single-loop learning (Jha-Thakur, Gazzola, Peel, Fischer, & Kidd, 2009).

Limitations and suggestions for future research

An important limitation is the cross-sectional design. Future research, using a longitudinal research design, could enhance our understanding whether indeed an improvement of skills and qualities could positively impact the successfulness and effectiveness of a small retailer. Another limitation, next to the relatively small sample size, is the use of self-judgements as a performance measure. This methodological choice increases the chance of sample bias. This means that the judgement bias aligned with the self-ratings of innovative qualities, business skills and capacities in innovative networking could also influence the performance ratings. However, as previously explained, this can be refuted by arguing that in the literature solid support can be found for the use of performance indicators

addressing an internal focus, especially because they are closely allied to a high(er) self-efficacy. As explained earlier, the social construct self-efficacy is closely related to a sales performance. Moreover, in response to this limitation, it can be argued that a structural equation methodology is theory based, not data based (Van de Schoot et al., 2012). This means that models developed by structural equation analyses mainly check the underlying theoretical assumptions, not the statistical associations. However, future research could reveal whether cross-validation of the applied success criterion with an external judgement could deliver additional support for the validity of the applied measure of a small retailer's performance. Another important suggestion for future research is the analysis of whether an enhancement of innovative entrepreneurial capacities leads to a significant improvement in effectuating a competitive response in a small retail context. Such research results could emphasise the relevance of designing effective human resource development programmes in a small retailer's context.

References

- Alvarez, S. A., & Busenitz, L. W. (2001). The entrepreneurship of resource-based theory. *Journal of management*, 27(6), 755–775.
- Arnold, J., Silvester, J., Cooper, C. L., Robertson, I. T., & Patterson, F. M. (2005). *Work psychology: Understanding human behaviour in the workplace*. Harlow: Pearson Education Limited.
- Bandura, A. (1993). Perceived self-efficacy in cognitive development and functioning. *Educational Psychologist*, 28(2), 117–148.
- Bandura, A. (2001). Social cognitive theory: An agentic perspective. *Annual Review of Psychology*, 52(1), 1–26.
- Barrick, M. R. (2005). Yes, personality matters: Moving on to more important matters. *Human Performance*, 18(4), 359–372.
- Barrick, M. R., Mount, M. K., & Judge, T. A. (2001). Personality and performance at the beginning of the new millennium: What do we know and where do we go next? *International Journal of Selection and Assessment*, 9(1–2), 9–30.
- Baum, J. R., Frese, M., & Baron, R. A. (2014). Entrepreneurship as an area of psychology study: An introduction. In J. R. Baum, M. Frese, R. A. Baron (Eds.), *The psychology of entrepreneurship* (pp. 33–50). London: Psychology Press.
- Beaver, G. (2003). Small business: Success and failure. *Strategic change*, 12(3), 63–68.
- Berisha, G., & Pula, J. S. (2015). Defining Small and Medium Enterprises: A critical review. *Academic Journal of Business, Administration, Law and Social Sciences*, 1(1), 17–28.
- Bollweg, L., Lackes, R., Siepermann, M., & Weber, P. (2019). Drivers and barriers of the digitalization of local owner operated retail outlets. *Journal of Small Business and Entrepreneurship*, 32(2), 1–29.
- Bono, J. E., & Judge, T. A. (2004). Personality and transformational and transactional leadership: A meta-analysis. *Journal of Applied Psychology*, 89(5), 901–910.
- Brettel, M., Mauer, R., Engelen, A., & Küpper, D. (2012). Corporate Effectuation: Entrepreneurial action and its impact on R&D project performance. *Journal of Business Venturing*, 27(2), 167–184.
- Chalofsky, N., & Krishna, V. (2009). Meaningfulness, commitment, and engagement: The intersection of a deeper level of intrinsic motivation. *Advances in Developing Human Resources*, 11(2), 189–203.
- Chandler, G. N., DeTienne, D. R., McKelvie, A., & Mumford, T. V. (2011). Causation and effectuation processes: A validation study. *Journal of business venturing*, 26(3), 375–390.
- Demko-Rihter, J., & Ter Halle, I. (2015). Revival of high street retailing—the added value of shopping apps. *Amfiteatru Economic Journal*, 17(39), 632–645.
- Dew, N., Read, S., Sarasvathy, S. D., & Wiltbank, R. (2018). Microfoundations for new market creation: Differences between expert entrepreneurs and expert managers. *International Review of Entrepreneurship*, 16(1), 1–28.
- Dias, S. E. F., Iizuka, E. S., & Boas, E. P. V. (2019). Effectuation theoretical debate: Systematic review and research agenda. *Innovation and Management Review*, 17(1), 41–57.
- Dyer, J. H., Gregersen, H. B., & Christensen, C. (2008). Entrepreneur behaviors, opportunity recognition, and the origins of innovative ventures. *Strategic Entrepreneurship Journal*, 2(4), 317–338.
- Erken, H., Donselaar, P., & Thurik, R. (2016). Total factor productivity and the role of entrepreneurship. *The Journal of Technology Transfer*, 43(6), 1493–1521.
- Furnham, A. (2008). *Personality and intelligence at work: Exploring and explaining individual differences at work*. London: Routledge.
- Futterer, F., Schmidt, J., & Heidenreich, S. (2018). Effectuation or causation as the key to corporate venture success? Investigating effects of entrepreneurial behaviors on business model innovation and venture performance. *Long Range Planning*, 51(1), 64–81.
- Greenhalgh, P. M., Johnson, L., & Huntley, V. (2019). An investigation of the impact of 2017 business rates revaluation on independent high street retailers in the north of England. *Journal of Property Investment and Finance*, 37(3), 241–254.
- Grégoire, D. A., & Cherchem, N. (2019). A structured literature review and suggestions for future Effectuation research. *Small Business Economics*, 1(1), 1–19.
- Grimmeau, J. P., & Wayens, B. (2016). Les causes de la disparition des petits commerces [Reasons causing a strong despair amongst small retailers] (1945–2015). *Courrier hebdomadaire du CRISP*, 1(16), 5–114. doi:10.4000/belgeo.19736.
- Grimmer, L., Grimmer, M., & Mortimer, G. (2018). The more things change the more they stay the same: A replicated study of small retail firm resources. *Journal of Retailing and Consumer Services*, 44(1), 54–63.
- Hallsworth, A. G., & Coca-Stefaniak, J. A. (2018). National high street retail and town centre policy at a cross roads in England and Wales. *Cities (London, England)*, 79(1), 134–140.
- Harms, R., & Schiele, H. (2012). Antecedents and consequences of Effectuation and causation in the international new venture creation process. *Journal of international entrepreneurship*, 10(2), 95–116.
- Hensel, R., & Visser, R. (2020). Does personality influence effectual behaviour? *International Journal of Entrepreneurial Behaviour & Research*, 26(3), 467–484.
- Hooper, D., Coughlan, J., & Mullen, M. R. (2008). Structural equation modelling: Guidelines for determining model fit. *Electronic journal of business research methods*, 6(1), 53–60.
- Hunt, S. D. (2019). The ethics of branding, customer-brand relationships, brand-equity strategy, and branding as a societal institution. *Journal of Business Research*, 95(1), 408–416.
- Jackson, V. P., & Stoel, L. (2011). A qualitative examination of decoupling, recoupling and organizational survival of rural retailers. *Qualitative Market Research: An International Journal*, 14(4), 410–428.
- Jha-Thakur, U., Gazzola, P., Peel, D., Fischer, T. B., & Kidd, S. (2009). Effectiveness of strategic environmental assessment—the significance of learning. *Impact Assessment and Project Appraisal*, 27(2), 133–144.
- Jiang, Y., & Riling, C. C. (2019). Opening the black box of Effectuation processes: Characteristics and dominant types. *Entrepreneurship Theory and Practice*, 43(1), 171–202.
- Jones, C., & Livingstone, N. (2018). The 'online high street' or the high street online? The implications for the urban retail hierarchy. *The International Review of Retail, Distribution and Consumer Research*, 28(1), 47–63.
- Kajalo, S., & Lindblom, A. (2015). Market orientation, entrepreneurial orientation and business performance among small retailers. *International Journal of Retail and Distribution Management*, 43(7), 580–596.
- Katayama, A., Kawasaki, K., & Taniguchi, M. (2019). Proposed Method of Finding Specialty Shop Districts and Their Actual Situation—Nationwide Distribution and Sales Trends. *JSCIP*, 75(1), 38–46.
- Kickert, C., & Vom Hofe, R. (2018). Critical mass matters: The long-term benefits of retail agglomeration for establishment survival in downtown Detroit and The Hague. *Urban Studies*, 55(5), 1033–1055.
- Kilduff, G. J., Elfenbein, H. A., & Staw, B. M. (2010). The psychology of rivalry: A relationally dependent analysis of competition. *Academy of Management Journal*, 53(5), 943–969.
- Kuechle, G., Boulu-Reshef, B., & Carr, S. D. (2016). Prediction-and control-based strategies in entrepreneurship: The role of information. *Strategic Entrepreneurship Journal*, 10(1), 43–64.
- Lin, F. J., & Ho, C. W. (2019). The knowledge of entry mode decision for small and medium enterprises. *Journal of Innovation & Knowledge*, 4(1), 32–37.
- Litz, R. A., & Pollack, J. M. (2015). Interfirm Rivalry between Small Hardware Stores and "Big Box" Retailers: Market Commonality and Product Mix Similarity as Antecedents to Competitive Response. *Journal of Small Business Management*, 53(2), 436–449.
- Litz, R. A., & Rajaguru, G. (2008). Does small store location matter? A test of three classic theories of retail location. *Journal of Small Business and Entrepreneurship*, 214(1), 477–492.
- Madry, P. (2016). La vacance commerciale dans les centres-villes en France [Commercial vacancies in city centers in France]. *Les Cahiers de l'Institut pour la ville et le commerce*, 1(1), 1–58.
- Mansoori, Y., & Lackeus, M. (2020). Comparing effectuation to discovery-driven planning, prescriptive entrepreneurship, business planning, lean startup, and design thinking. *Small Business Economics*, 54(3), 791–818.
- Megicks, P., & Warnaby, G. (2008). Market orientation and performance in small independent retailers in the UK. *The International Review of Retail, Distribution and Consumer Research*, 18(1), 105–119.
- Murphy, G. B., Traylor, J. W., & Hill, R. C. (1996). Measuring performance in entrepreneurship research. *Journal of Business Research*, 36(1), 15–23.
- Piñero-Chousa, J., López-Cabarcos, M.A., Romero-Castro, N. M., & Pérez-Pico, A. M. (2020). Innovation, entrepreneurship and knowledge in the business scientific field: Mapping the research front. *Journal of Business Research*, 115(1), 475–485.
- Quin, S., McDonald, O., Millington, S., Ntounis, N., Parker, C., Skinner, H. et al. (2019). Written evidence submitted by the Association of Town and City Management, with the Institute of Place Management and the Bid Foundation [HST 060].
- Rauch, A., Wiklund, J., Lumpkin, G. T., & Frese, M. (2009). Entrepreneurial orientation and business performance: An assessment of past research and suggestions for the future. *Entrepreneurship theory and practice*, 33(3), 761–787.
- Rosenbusch, N., Rauch, A., & Bausch, A. (2013). The mediating role of entrepreneurial orientation in the task environment—performance relationship: A meta-analysis. *Journal of Management*, 39(3), 633–659.
- Sarasvathy, S. D., & Dew, N. (2013). Without judgment: An empirically-based entrepreneurial theory of the firm. *The Review of Austrian Economics*, 26(3), 277–296.
- Sarasvathy, S., & Dew, N. (2008). Effectuation and over-trust: Debating Goel and Karri. *Entrepreneurship Theory and Practice*, 32(4), 727–737.

- Sarasvathy, S. D. (2001). Causation and Effectuation: Toward a theoretical shift from economic inevitability to entrepreneurial contingency. *Academy of Management Review*, 26(2), 243–263.
- Stajkovic, A. D., & Luthans, F. (1998). Self-efficacy and work-related performance: A meta-analysis. *Psychological bulletin*, 124(2), 240–261.
- Stajkovic, A. D., & Luthans, F. (2003). Behavioral management and task performance in organizations: Conceptual background, meta-analysis, and test of alternative models. *Personnel Psychology*, 56(1), 155–194.
- St-Jean, E. (2012). Mentoring as professional development for novice entrepreneurs: Maximizing the learning. *International Journal of Training and Development*, 16(3), 200–216.
- Van de Schoot, R., Lugtig, P., & Hox, J. (2012). A checklist for testing measurement invariance. *European Journal of Developmental Psychology*, 9(4), 486–492.
- Venkataraman, S., Sarasvathy, S. D., Dew, N., & Forster, W. R. (2012). Reflections on the 2010 AMR decade award: Whither the promise? Moving forward with entrepreneurship as a science of the artificial. *Academy of Management Review*, 37(1), 21–33.
- Verhoef, P. C., Kannan, P. K., & Inman, J. J. (2015). From multi-channel retailing to omni-channel retailing: Introduction to the special issue on multi-channel retailing. *Journal of retailing*, 91(2), 174–181.
- Wang, G., & Netemeyer, R. G. (2002). The effects of job autonomy, customer demand- ingness, and trait competitiveness on salesperson learning, self-efficacy, and performance. *Journal of the Academy of Marketing Science*, 30(3), 217–228.
- Zhao, H., & Seibert, S. E. (2006). The big five personality dimensions and entrepreneurial status: A meta-analytical review. *Journal of Applied Psychology*, 91(2), 259–271.