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published in
Journal of Entrepreneurship in Emerging Economies
2017

DOI (link to publisher)
10.1108/JEEE-12-2015-0065

document version
Publisher's PDF, also known as Version of record

Decision-making and small business growth in Burundi

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Received 16 December 2015
Revised 8 April 2016
Accepted 12 April 2016

Abstract

Purpose – This paper aims to investigate the effect of decision-making, in terms of the effectuation and causation orientation of small business owners, on the growth of their small businesses in an uncertain environment: Burundi.

Design/methodology/approach – On the basis of primary data from a pre-study of 29 expert interviews, a questionnaire was developed and was filled in by 154 small business owners in Burundi's capital, Bujumbura. Subsequently, correlation analyses, a factor analysis and regression analyses were performed to test the hypotheses.

Findings – While, on the one hand, the findings show that small business owners who perceive the environment as uncertain are more effectuation-oriented than causation-oriented; on the other hand, the findings show that effectuation and causation orientations do not influence later small business growth. Therefore, other determinants for small business growth in an uncertain environment should be further explored.

Originality/value – This paper fills the research gap of decision-making in relation to small business growth from the entrepreneurs who are among the billion people who live in absolute poverty. On the basis of Western studies, effectuation might be more present in contexts of dealing with many uncertainties of future phenomena, and that it is often positively correlated with firm growth. In contrast, this paper shows that neither an effectuation orientation nor a causation orientation significantly affects small business growth in a context that can be assumed as highly uncertain.

Keywords Africa, Decision-making, Developing countries, Causation, Effectuation, Small business growth

Paper type Research paper

1. Introduction

Small business growth is considered to be the essence of entrepreneurship (Edelman *et al.*, 2010). The current study perceives "the entrepreneur as the owner of an enterprise" (Hébert and Link, 1989, p. 41). The owners of small businesses in emerging countries are important

This study was funded by the Dutch "Programma Noord-Zuid 2011-2014", previously De Van Coeverden Adriani Stichting (CAS) and Vereniging VU-Windesheim (VV), with the title "Combining Scientific Quality and Societal Relevance". Two key conditions of the funding were: (1) to collect primary data in Burundi; and (2) to conduct "capacity building" in Burundi, in terms of collaborating with a Burundian partner-university.

Journal of Entrepreneurship in Emerging Economies
Vol. 9 No. 1, 2017
pp. 35-64

2053-4604
DOI 10.1108/JEEE-12-2015-0065

because the growth of their businesses plays a crucial role for economic development (Acs *et al.*, 2008; Hal *et al.*, 2012). Many factors affect the growth of small businesses (Brenner and Schminke, 2015). However, there is a clear gap in the literature on how decisions are made in the uncertain contexts of emerging countries. Knowing how individuals make decisions helps us to understand how these decisions are related to small business growth, and how eventually small business growth can be part of economic development to alleviate poverty. A considerable number of those emerging countries are the so-called "Least Developed Countries" (LDCs), which are generally based on the African continent, and host a large part of the one billion poorest people from the world's population (Collier, 2007). Therefore, we considered that the uncertain context of Burundi is an appropriate setting from which to select our respondents. Burundi is an East African LDC, in the "Great Lakes" region of Africa (Edmonds *et al.*, 2009), and a member of the East African Community (EAC) (East African Community, 2014). In the current study, we rely on the criteria of the United Nations (UN), and, for the detailed specification of LDCs, we refer to the UN website (United Nations, 2014). In the research literature, the abbreviation "LDC" has also been used for entrepreneurship studies in Uganda (Eijdenberg and Masurel, 2013) and Rwanda (Eijdenberg *et al.*, 2015).

To explain small business growth, it is necessary to unravel the determinants, such as the decision-making orientations of the individuals concerned: the small business owners. Small business growth is a consequence of, among other factors, the exploitation of existing opportunities to produce a valuable output. In the process of opportunity exploitation, individuals make decisions in an uncertain environment to shape the future outcomes (Sarasvathy, 2008). With regard to the former, the uncertain environment, the literature has considered uncertainty as being inextricably linked with entrepreneurship (McMullen and Shepherd, 2006). With regard to the latter, shaping the future outcomes, Perry *et al.* (2011) state that, based on the entrepreneurship research on rational decision-making models, many researchers have considered that individuals display goal-driven behaviour when entrepreneurial opportunities are exploited (Bird, 1989). The goal-driven behaviour is referred to by Sarasvathy (2001) as "causation processes", which are at one end of the continuum that has "effectuation processes" at the other end. Effectuation is inherent to emergent (Mintzberg, 1978), or non-predictive strategy approaches (Wiltbank *et al.*, 2006), is actor dependent and is an excellent means to exploit contingencies (Sarasvathy, 2001). Causation is inherent to planned strategy approaches (Brews and Hunt, 1999; Mintzberg, 1978), and is an excellent means to exploit knowledge (Sarasvathy, 2001). As the first notions of effectuation and causation by Sarasvathy (2001), numerous scholars have contributed to the research stream, which has resulted in substantial empirical evidence (Mauer *et al.*, 2010). A substantial number of qualitative studies on effectuation and causation have been undertaken (Dew *et al.*, 2009; Harmeling, 2005; Harting, 2004; Sarasvathy and Dew, 2005); although it is sometimes difficult to capture the two constructs (Chandler *et al.*, 2007), a number of scholars have developed, and applied, scales of effectuation and causation in quantitative studies (Chandler *et al.*, 2011; Harms and Schiele, 2012; Moroz and Hindle, 2012; Perry *et al.*, 2011).

The current study aims to fill the research gap of decision-making in relation to small business growth from the entrepreneurs who are among the billion people who live in absolute poverty. By doing so, the current study makes two main contributions. First, building on the two previously mentioned studies by Read *et al.* (2009) and Brettel *et al.* (2012), we investigate effectuation and causation associated with small business growth, based on primary data. Second, our study is conducted in a context which can be perceived on the macro-level as "uncertain" by small business owners. This context is Burundi, an East

African LDC. The population of Burundi belongs to the "bottom-billion" (Collier, 2007): the poorest one-sixth of the world's population who have, in general, not benefitted from the world's economic growth of the past 30 years. Burundi occupies the 184th position out of the 185 countries on the list of countries ranked by gross domestic product (GDP) per capita from the World Bank (2014) and the 192th position out of the 195 countries ranked by GDP per capita from the Central Intelligence Agency (CIA) (Central Intelligence Agency, 2014b). Due to factors such as the extremely low GDP per capita, Burundi is like many other African countries, a "nontraditional context" (Kriauciunas *et al.*, 2011, p. 994) for researchers, which involves major difficulties for data collection (Kolk and Van Tulder, 2010). For this reason, "nontraditional contexts", such as Burundi, have often not been the subject of research. However, with one billion people on the planet living in absolute poverty and many of them living in such a "nontraditional context", it is important to understand how entrepreneurship can be a driver for economic prosperity.

Our notions of these entrepreneurs do not reach much further than descriptions in the literature, such as "small business owners" (Bewayo, 1995). These people make decisions on a daily basis. Uncertain contexts in Western countries are different from uncertain contexts in LDCs: the Burundian context has several macro-factors, such as its vulnerable economic and socio-political environment, which can bring about uncertainty for small business owners. These factors will, among others, be discussed in-depth in the methodology section. However, most of the literature on decision-making stems from Western countries on the basis of Western entrepreneurs (Brettel *et al.*, 2012; Chandler *et al.*, 2011; Sarasvathy, 1998, 2001). Hence, we do not really know how decision-making, in terms of effectuation and causation, works in uncertain environments in LDCs. In addition, an important contribution of this study is that it contributes further to the development of scales to measure effectuation and causation (Brettel *et al.*, 2012; Chandler *et al.*, 2011), and in uncertain environments in particular. The following research question will be answered:

RQ1. To what extent is the growth of small businesses in an uncertain environment determined by the owner's effectuation and causation orientation?

In the next section, the relevant literature is discussed. This is followed by a section on our methodology. The findings are presented in the results section, and then interpreted in the discussion section, where the main research question is answered. The paper closes with the conclusion.

2. Literature background

2.1 Uncertain environment

The decisions which individuals make and the unknown outcomes they will have are among the basic assumptions in the entrepreneurship literature (Knight, 1921; Sarasvathy *et al.*, 2003). It has been stated that "uncertainty constitutes a conceptual cornerstone for most theories of the entrepreneur" (McMullen and Shepherd, 2006, p. 132). Furthermore, "uncertainty" has often been considered in the literature as "environmental", which is defined by Miles and Snow (1978, p. 195) as "the predictability of conditions in the organisation's environment". Often, environmental uncertainty is similar to, or a major part of, "the dynamism" of the industry's environment. Miller and Friesen (1983) describe environmental uncertainty in terms of three dimensions: dynamism, hostility and heterogeneity of the organisation's industry. Although there are other types of uncertainty, such as "effect uncertainty" and "response uncertainty" (McKelvie *et al.*, 2011), environmental uncertainty has often been addressed in entrepreneurship research (Song and Montoya-Weiss, 2001).

Environmental uncertainty has been discussed in the literature as an indicator of both the state of organisational environments and the individual's perception of the environment (Milliken, 1987). Concerning the former type (Child, 1972; Downey and Slocum, 1975; Starbuck, 1976) and the latter type (Tinker, 1976), we rely in the current study on the concept "state uncertainty" by Milliken (1987, p. 136). State uncertainty is when individuals "perceive the organisational environment, or a particular component of that environment, to be unpredictable" and implies "more specifically, that one does not understand how the components of the environment are changing". State uncertainty is driven by demographic, socio-cultural and market changes. With regard to the market changes, technology and customer demand uncertainties are often reported as "classic examples" of state uncertainty (McKelvie *et al.*, 2011). Despite the nature and degree of uncertainty, we believe that it is of key importance to gain insight into how uncertainty is perceived by the individual entrepreneur because this perception will influence the decision which will be made at the start of a business. We base nature and degree of the uncertainty on the country's economic and socio-political conditions.

Concerning the economic conditions, Kristiansen (2002) shows that East Africa, in particular, is making progress in terms of government liberalisation policy by expanding the free market and international trade, which has resulted in its economic development. However, Burundi is still one of the poorest countries in the world. The country's annual per capita income decreased from US$220 in 1990 to US$110 in 2002 (Bundervoet *et al.*, 2009); there was an estimated inflation rate of 16 per cent in 2012; and the dollar value of its imports is four times that of its exports (Central Intelligence Agency, 2014a). Furthermore, Burundi is ranked among the poorest countries of the world by the world's major financial institutions, such as the World Bank and the International Monetary Fund (IMF), and also the CIA (Central Intelligence Agency, 2014a; International Monetary Fund, 2014; World Bank, 2014).

Concerning the political conditions, Burundi was under German rule in the late nineteenth century, and in 1924 came under Belgian rule until independence in 1962 (Lemarchand, 1994). After gaining independence, Burundi experienced at least five episodes of civil war between two major ethnic groups: the Hutus and the Tutsis (Collier and Sambanis, 2005). The violence and wars have had a severe, negative impact on Burundi's economy (Ngaruko and Nkurunziza, 2000). During the time of the data collection, and, although still vulnerable, the country was attempting to revive its economy by stimulating small business entrepreneurship by means of, for example, so-called "business incubators" on the basis of development aid, and to restructure the bureaucratic processes for supporting entrepreneurs. These "business incubators" train and help people in the process of starting a small business [see, for example, the Burundi Business Incubator (Burundi Business Incubator, 2015)]. Nevertheless, Burundi's economy is still mainly agricultural and heavily dependent on coffee exports (Collier and Sambanis, 2005). Thus, we consider that small business owners in Burundi have a high likelihood of being uncertain about what actions might be taken by the relevant institutions in the environment (e.g. suppliers, competitors, consumers, the government); and/or the small business owners might be uncertain about the probability or nature of general changes in the relevant environment (e.g. socio-cultural trends, demographic shifts).

2.2 Decision-making under uncertainty

The discussion of the decision-making of individuals, in terms of effectuation and causation, started with an experimental study (Sarasvathy, 1998): a group of experts was exposed to certain problems and their decision-making was analysed in terms of the underlying logic between their thoughts and actions on these problems. On the basis of this study,

behavioural principles related to effectuation and causation were developed (Sarasvathy, 2001, p. 259). These behavioural principles could be used to differentiate between effectuation and causation among individuals in entrepreneurial contexts (Brettel *et al.*, 2012). When a decision maker has an effectuation logic, the start of a small business will be based on acquiring a given set of means; focussing on affordable loss; emphasising strategic alliances; leveraging environmental contingencies; and seeking to control an unpredictable future. On the other hand, a decision maker with a causation logic has a focus on a given set of goals, a focus on expected returns, an emphasis on competitive analyses and an exploitation of pre-existing knowledge, while trying to predict a risky future.

A causation orientation involves careful planning for acquiring the means (Goel and Karri, 2006). For example, a person intending to make furniture carefully selects and plans his means to accomplish that intention. In contrast, "effectuation processes take a set of means as given, and focus on selecting between possible effects that can be created with that set of means" ("means driven") (Sarasvathy, 2001, p. 245). "Means" are the entrepreneur's resources, skills and social network, all of which assist the entrepreneur to address the area of interest (Doyle Corner and Ho, 2010). Hence, effectuation orientation represents another approach, opposed to the causation practice in entrepreneurship research, that breaks away from the thought of pre-existing opportunities and markets (Løwe Nielsen and Heidemann Lassen, 2012), and therefore, effectuation and causation are two different approaches in the process of starting a new firm.

Concerning effectuation and causation in relation to business performance, Read *et al.* (2009) conducted a meta-analysis on new venture performance in relation to effectuation. However, Read *et al.* (2009) analysed effectuation mainly based on concepts closely related to the meaning of effectuation as "principle measures", taken from various studies which were conducted before the notion of effectuation was first developed by Sarasvathy in 2001. In their meta-analysis, Read *et al.* (2009) include a great variety of proxy measures which reflect the meaning of effectuation. For example, "education" (Begley, 1995), "human capital" (Chandler and Hanks, 1998) and "start-up and industry experience" (Lerner *et al.*, 1997) have been analysed by Read *et al.* (2009). Brettel *et al.* (2012) provided empirical evidence of effectuation and causation in relation to an alternative to business growth: the performance of research and development (R&D) projects. The outcome of the Brettel *et al.* (2012) study is, in short, that the decision-making orientations, effectuation or causation, each affect the R&D performance differently, depending on the level of innovativeness. Effectuation orientations are positively related to the performance of R&D projects when innovativeness is high; causation orientations drive the performance of R&D projects when innovativeness is low. In the current study, we build on the study of Brettel *et al.* (2012), as an example to capture the effectuation and causation construct.

2.3 Hypotheses

Our study of effectuation and causation in an uncertain environment, for which we use an LDC, is explorative. Hence, to hypothesise our thoughts on effectuation and causation and the correlation between effectuation and causation, on the one hand, and small business growth, on the other, we have to base our research on the few notable studies from those on effectuation and causation: studies on effectuation and causation related to small business growth, and studies on concepts closely related to the effectuation and causation principles in the setting of LDCs in general, and Burundi in particular. We discuss our hypotheses in two steps:

(1) we outline our rationale for why small business owners in an uncertain environment are more effectuation-oriented than causation-oriented; and

(2) we explain our thoughts on effectuation and causation principles related to small business growth.

Concerning the first hypothesis, we know, from the little research that has been published on the impact of conflicts on Burundi's economy, that people in Burundi who have been exposed to violence show more altruistic behaviour towards their neighbours and are more risk-seeking. This behaviour can affect saving and investment decisions (Voors *et al.*, 2012). With regard to the uncertainty, as discussed previously, and, with some reservations concerning the definition of effectuation and causation, more risk-seeking behaviour can be perceived as effectuation-oriented: that is, "what someone is willing to lose in an unpredictable future", namely, "affordable loss" (Brettel *et al.*, 2012, p. 169). In sum, we hypothesise that, in an uncertain environment, the four causation ends of each the decision-making dimensions are relatively unattainable. Concerning the first dimension, setting goals in an uncertain environment is unrealistic, as the changing conditions in such environments imply that realistic goals at present may be unrealistic tomorrow. Concerning the second dimension, in uncertain environments, expected returns cannot be estimated, while it is more realistic to make such estimations in predictable environments. Third, in a risky environment, competitive market analysis is less useful as the competition changes more rapidly. Fourth, preference for acknowledging the unexpected is useful in an uncertain environment setting such as Burundi, as more unexpected events are likely to occur; the preference for overcoming the unexpected is of less utility in such setting. *H1* is, therefore, as follows:

H1. Small business owners who perceive the environment as uncertain are more effectuation-oriented than causation-oriented on the four orientation dimensions in terms of: means versus goals, affordable loss versus expected return, partnership versus competitive market analysis and preference for acknowledging versus overcoming the unexpected.

Concerning *H2* with regard to small business growth, the meta-analysis of Read *et al.* (2009) is one of the leading studies in terms of the number of observed prior studies. Read *et al.* (2009) show in a meta-analysis from 1985 to 2007, based on a sample of 9,897 organisations, that effectuation principles are mainly positively correlated with venture performance. However, the paper by Read *et al.* (2009) has been found to be subject to methodological shortcomings (O'Boyle *et al.*, 2014). With regard to empirical evidence from highly uncertain contexts in Western countries, other studies have shown that an effectuation-orientation leads to positive outcomes (Berends *et al.*, 2014; Brettel *et al.*, 2012; Garonne and Davidsson, 2010; Wiltbank *et al.*, 2009). Concerning empirical evidence from LDCs, Frese *et al.* (2007) investigated small business owners' action planning and business success in three African countries, including Zimbabwe, which is an LDC. The study by Frese *et al.* (2007) showed that elaborate and proactive planning was considerably related to business success. With regard to the effectuation and causation principles as discussed previously, the decisions which the small business owners made in the study by Frese *et al.* (2007) can be perceived as causation-oriented decisions. Frese *et al.* (2007) collected data across three different countries (South Africa, Zimbabwe and Namibia) with different cultural and economic characteristics, and among both "micro" and "small-scale business owners" in different sectors. Whereas the study by Frese *et al.* (2007) relies on the action planning and business success of a wide variety of small businesses in southern Africa, we rely more on the results of effectuation and causation on performance from the studies of Read *et al.* (2009) and Berends *et al.* (2014). Therefore, we hypothesise that:

H2. Small business owners who are more effectuation-oriented in an uncertain environment have higher business growth than small business owners who are causation-oriented in an uncertain environment.

Small business owners have, like every individual, three basic characteristics in common: they have a certain gender, they have a certain age and they have a certain degree of knowledge, conventionally obtained from education. Concerning gender, previous studies have shown that that female-owned small businesses perform worse than male-owned small businesses (Bosma *et al.*, 2004; Du Rietz and Henrekson, 2000; Fairlie and Robb, 2009). Therefore, *H3* is:

H3. Male small business owners in an uncertain environment are more likely to have a higher business growth than female small business owners in an uncertain environment.

Concerning age, it is known that age can be a positive determinant for performance (Delmar and Shane, 2004; Haynes, 2003; Stuart and Abetti, 1990). As experience comes with time, it can be assumed that experience is positively connected with age. Therefore, *H4* is:

H4. Older small business owners in an uncertain environment are more likely to have a higher business growth than younger small business owners in an uncertain environment.

Concerning education, studies have shown that the possession of knowledge that is obtained by finished years or obtained degrees, positively affects the outcomes of small businesses (Cooper *et al.*, 1994; Dimov and Shepherd, 2005; Gimeno *et al.*, 1997). Therefore, *H5* is:

H5. Higher-educated small business owners in an uncertain environment are more likely to have a higher business growth than lower-educated small business owners in an uncertain environment.

3. Methodology

3.1 Research design

As mentioned earlier, Burundi is an East African LDC, in the "Great Lakes" region of Africa (Edmonds *et al.*, 2009), and a member of the EAC (East African Community, 2014). In the current study, we rely on the UN criteria, and we refer for the detailed specification of LDCs to the UN website (United Nations, 2014). Burundi's capital and largest city is Bujumbura. French and Kirundi are Burundi's official languages, and English is widely spoken especially among higher-educated Burundians (Central Intelligence Agency, 2014a).

We conducted a qualitative pre-study and a quantitative main study (a similar approach in an East African LDC is conducted by, for example, Eijdenberg, 2016). The qualitative pre-study was to obtain an initial insight into effectuation and causation, uncertainty and small business growth from the experts' perspective and to shape the quantitative measurement instrument. The quantitative research tested the hypotheses.

3.2 The qualitative pre-study

The purpose of the qualitative interviews was twofold:

(1) to obtain information about effectuation and causation, uncertainty and small business growth, with experts on entrepreneurship in Burundi for this specific context; and

(2) to confirm the measurement instrument in the quantitative questionnaire.

We conducted semi-structured interviews on a sample of 29 respondents. The 29th interview was the point of minimal incremental learning because then phenomena were being reported repetitively (Eisenhardt, 1989; Glaser and Strauss, 1967). The 29 respondents included:

- six representatives and policy makers from the Burundi Promotion Investment Authority;
- six representatives from the three business incubators;
- seven small business owners who were recognised as "successful" by the representatives of the Burundi Promotion Investment Authority and the business incubators;
- four representatives from governmental institutions (the Burundian Chamber of Commerce and the Ministry of Trade, Industry, Postal Services and Tourism);
- two representatives from the financial sector, who were from one of Burundi's largest private sector banks and the World Bank; and
- three Burundian scholars with teaching and research experience on entrepreneurship in East Africa in general, and Burundi in particular.

The last interview, number 29, was with the Minister of Trade and Industry, Postal Services and Tourism, of Burundi. As the number of such "experts" is very limited in the local community in Burundi, a snowball sampling technique was used (Saunders *et al.*, 2009).

The first interview was conducted at the Burundi Promotion Investment Authority. The respondent in this first interview suggested other "experts" that we could interview. A "protocol analysis" was used, which means asking the interviewee to "think aloud", and the role as interviewer is limited to saying "Please continue talking" (Austin and Delaney, 1998). However, before establishing confirmation of the preliminary measurement instrument that was developed, an interview guide with three open research questions was designed. The three open questions covered each of the variables from the current study: effectuation and causation; small business growth; and environmental uncertainty.

The first question was on effectuation and causation. The interview started with an illustration of the metaphors used by Sarasvathy (2001, p. 245): the "cookbook" or "the curry in a hurry", and the interviewees were asked to choose the one which best suits the entrepreneurial decision-making of small businesses in Burundi. Second, the interviewees were asked about how people who have started a small business in Burundi perceive the environment as uncertain, in terms of the categories "low", "medium" and "high". Third, the interviewees were asked about which indicators are most appropriate to assess small business growth, in Burundi. Fourth, the interviewees were asked for the most appropriate sample on which the quantitative measurement instrument could be conducted, and what was required to conduct the quantitative measurement instrument efficiently in Burundi. Finally, the interviewees were presented with the original items from the literature on effectuation and causation, uncertainty and small business growth, and were asked to rephrase the items according to the Burundian context. The definitive items are presented in Table I. Each interview was tape-recorded, was conducted in English or French and had an approximate duration of about 25 min.

After the interviews had been conducted, the verbatim responses were analysed, by means of a qualitative content analysis (Lieblich *et al.*, 1998). In sum, the following results from the interviews were found. First, concerning effectuation and causation, only effectuation was reported 24 times, both effectuation and causation were reported four times, and only causation was reported one time. Second, concerning small business growth, the interviewees reported indicators that are related to financial statements: the number of

Variable	No. of item. *Dimension*. (Scale). *(E = effectuation, C = causation)*	Origin of the item
Demographics	1. Gender (Male/Female) 2. Age (Number) 3. Highest completed education (No education; primary school; junior secondary school; senior secondary school; university Bachelor's degree; university; Master's degree; Other)	Standard items
Small business growth	4. How did the number of employees of the business change from 1 January 2010 to 1 January 2013? (Strongly decreased; Decreased; Stayed the same; Increased; Strongly increased) 5. How did the business sales change from 1 January 2010 to 1 January 2013? (Strongly decreased; Decreased; Stayed the same; Increased; Strongly increased) 6. How did the value of the organisation's housing change from 1 January 2010 to 1 January 2013?[a] (Strongly decreased; Decreased; Stayed the same; Increased; Strongly increased) 7. Has your relative income compared with others increased between 1 January 2010 and 1 January 2013? (Not at all; A little; Somewhat; Much; To a great extent)	
Decision-making orientations	*Means versus goals* 8. At the start of my business, my business was specified on the basis of given means/resources *(E)* At the start of my business, my business was specified on the basis of given business targets *(C)* 9. The target of my business was vaguely defined in the beginning *(E)* The target of my business was clearly defined in the beginning *(C)* 10. Given means/resources have been the starting point for my business *(E)* Given business targets have been the starting point *(C)* 11. At the start of my business, the process converged towards a business target on the basis of given means/resources *(E)* At the start of my business, required means/resources have been determined on the basis of given business targets *(C)* 12. Rather given means than concisely given business targets have been the starting point for my business *(E)* A concisely given business target has been the starting point for my business *(C)* 13. At the start of my business, my business specification was predominantly based on given resources *(E)* At the start of my business, the business specification was predominantly based on given targets *(C)* 14. At the start of my business, given means have significantly impacted on the framework of my business *(E)* At the start of my business, given business targets have significantly impacted on the framework of my business *(C)* *Affordable loss versus expected returns* 15. At the start of my business, considerations about potential losses were decisive for the selection of this business option *(E)* At the start of my business, considerations about potential returns were decisive for the selection of this business option *(C)* 16. At the start of my business, business budgets were approved on the basis of considerations about acceptable losses *(E)* At the start of my business, business budgets were approved based on calculations of expected returns *(C)* 17. At the start of my business, the selection of the current business was mostly based on a minimization of risks and costs *(E)* At the start of my business, the selection of the current business was mostly based on analyses of future returns *(C)*	Adapted from Brettel *et al.* (2012)

(*continued*)

Table I.
The measurement instrument

Table I.

Variable	No. of item. *Dimension.* (Scale). *(E = effectuation, C = causation)*	Origin of the item
	18. At the start of my business, I mainly considered the potential risk of the business *(E)* At the start of my business, I mainly considered the potential odds of the business *(C)* 19. At the start of my business, decisions on capital expenditures were primarily based on potential risks of losses *(E)* At the start of my business, decisions on capital expenditures were primarily based on potential returns *(C)*	
	Partnerships versus competitive market analysis 20. At the start of my business, I tried to reduce risks of my business through internal or external partnerships and agreements *(E)* At the start of my business, I tried to identify risks of my business through thorough market and competitor analyses *(C)* 21. At the start of my business, I jointly decided with my partners/stakeholders on the basis of our competences *(E)* At the start of my business, I have taken my decisions on the basis of systematic market analyses *(C)* 22. At the start of my business, my focus was rather on the reduction of risks by approaching potential partners and customers *(E)* At the start of my business, my focus was rather on the early identification of risks through market analyses to be able to adopt my approach *(C)* 23. At the start of my business, to reduce risks, I started partnerships and received pre-commitments *(E)* At the start of my business, to identify risks, I focused on market analyses and forecasts *(C)*	
	Preference for acknowledging versus overcoming the unexpected 24. At the start of my business, I always tried to integrate surprising results and findings during the business process–even though this was not necessarily in line with the original business target *(E)* At the start of my business, I only integrated surprising results and findings when the original project target was at risk *(C)* 25. At the start of my business, my business process was flexible enough to be adjusted to new findings *(E)* At the start of my business, my business process focused on reaching the business target without any delay *(C)* 26. At the start of my business, new market findings influenced the business target *(E)* At the start of my business, new market findings did not influence the business target *(C)* 27. At the start of my business, the business planning was carried out in small steps during the business implementation *(E)* The business planning was basically carried out at the beginning of my business *(C)* 28. At the start of my business, despite of potential delays in business execution, I was flexible and took advantage of opportunities as they arose *(E)* At the start of my business, I first of all took care of reaching my initially defined business targets without delays *(C)* 29. At the start of my business, I allowed the business to evolve as opportunities emerged–even though the opportunities have not been in line with the original business target *(E)* At the start of my business, I have always paid attention to reach the initial business target *(C)* 30. At the start of my business, potential setbacks or external threats were used as advantageous as possible *(E)* At the start of my business, by the use of upfront market analyses, I tried to avoid setbacks or external threats *(C)*	
Uncertainty	31. At the start of my business, I considered the environment as a stable environment in which to start a business (Strongly disagree; Disagree; Not sure; Agree; Strongly agree) 32. At the start of the business, I felt no uncertainty (Strongly disagree; Disagree; Not sure; Agree; Strongly agree)	Items added after the interviews. Validated by the pilot test

Note: [a] In the questionnaire, we asked "How did the *gross* value of the organisation's housing change from 1 January 2010 to 1 January 2013?". By asking for the gross value, we aimed to obtain information from the respondent about the change in total worth of their housing, regardless personal debts, mortgages, amortization, value appreciation or value depreciation

employees, the business sales, the value of the housing and the income that the owner generated from the small business. Small business growth is often used as a proxy for venture performance (Brush and VanderWerf, 1992; Chandler and Hanks, 1993; Eijdenberg *et al.*, 2015; Fombrun and Wally, 1989; Tsai *et al.*, 1991). The most commonly used measure is sales growth, followed by employment growth and assets growth (Jansen, 2009). However, small business growth in LDCs, such as Burundi, mostly relies on the employment count because this is easiest to measure (Bigsten and Gebreeyesus, 2007; Mead and Liedholm, 1998; Nichter and Goldmark, 2009; Robson and Obeng, 2008): the majority of the small business owners are better able to recall the number of people that have been working for their business, as opposed to keeping track of the monetary measures of the business. Furthermore, we followed the advice from the interviewees to measure the number of employees, the business sales, the value of the housing and the income that the owner generated from the small business *over the past three years* from the moment that the questionnaire was administered with the small business owner. According to the interviewees, the rationale behind the three years was that the majority of these businesses have not been started far before three years ago: they might have failed, quit or continued as a different type of business. Third, concerning the uncertainty of the environment for entrepreneurship, 14 interviewees valued the environment as "medium uncertain", another 14 interviewees valued it as "highly uncertain" and only one interviewee valued the environment as "low uncertain". Fourth, the interviewees made suggestions on:

- finding a typical African sample on which to apply the quantitative measurement instrument; and
- local assistance during the research, concerning language translation and trust building.

3.3 Measures in the quantitative study

The quantitative questionnaire was developed using information from our qualitative research findings. Within this questionnaire, the socio-demographic information on gender, age and highest level of education was addressed first. Second, to measure small business growth, questions were asked on the relative change in the value of the sales, the number of employees and the value of the assets, and the relative change in the income of the small business owner compared with others over a certain period. Third, for the effectuation and causation orientation among small business owners, we used the scale of Brettel *et al.* (2012) to measure effectuation and causation, after considering other effectuation and causation scales, such as those of Chandler *et al.* (2011), Wiltbank *et al.* (2009) and Dew *et al.* (2009). Prior to the main quantitative study, we conducted a pilot test on ten small business owners. The pilot test showed that, among the other presented scales (Chandler *et al.*, 2011; Wiltbank *et al.*, 2009), the items from the effectuation and causation scale by Brettel *et al.* (2012):

- were easy to comprehend for the respondents from the sample;
- were the most consistent in translation from English to French and Kirundi;
- required minor adaptations to the scale originally developed for a specific sample; and
- captured the dimensions of the original description of effectuation and causation by Sarasvathy (2001).

Fourth, the uncertainty scale on the dynamism of an entrepreneur's external environment from Miller and Friesen (1983) and two general items on uncertainty were included.

We adapted the items from the questionnaire on the four dimensions from Brettel *et al.* (2012, Table I, p. 169). The reasons for the choice and our adaptions of the effectuation and

causation scale of Brettel *et al.* (2012) will be discussed further in the methodology section. The scale from Brettel *et al.* (2012) is based on Sarasvathy's decision-making principles which differentiate between effectuation and causation. Brettel *et al.* (2012) starts with, "means versus goals", in which effectuation concerns creating a new small business outcome based on existing means, as opposed to causation that begins with pre-defined business targets and derives the required means on that basis. The second dimension, "affordable loss versus expected returns", represents how effectuation considers the potential risk of the business investment, whereas causation considers expected return. In the third dimension, "partnerships versus competitive market analysis", effectuation implies reducing the uncertainty by establishing partnerships and pre-commitments from self-selected stakeholders, whereas causation involves reducing the risk by competitive analysis. In the fourth dimension "preference for acknowledging versus overcoming the unexpected", effectuation involves dealing with unexpected events during the start-up phase of the business as a source of opportunity, whereas causation represents a linear process that seeks to reach the business plan target efficiently, without any surprises.

Table I contains the final measurement instrument and needs to be interpreted as follows:

- the first column presents the variables;
- the second column the items; and
- the third column the origin of the items.

Concerning the first column, there are four kinds of variables concerning: demographics; small business growth; decision-making orientations; and uncertainty. Concerning the second column, the "(*E*)" and "(*C*)" behind the decision-making items represent, respectively, the effectuation (*E*) and causation (*C*) items. Items which were not formulated with words that relate to the owner's decision-making *at the start of the business*, were rephrased by saying "At the start of my business" prior to the remainder of the item, to make them retrospective. Furthermore, the effectuation and causation items are measured on a six-point bipolar scale with only one answer-possibility. On this six-point scale, the values 1 ("high degree of effectuation"), 2 ("moderate degree of effectuation") and 3 ("low degree of effectuation") indicate the degrees of effectuation at one end of the continuum. The values 4 ("low degree of causation"), 5 ("moderate degree of causation") and 6 ("high degree of causation") indicate the degrees of causation at the other end of the continuum. Hence, the six-point scale does not have a "neutral" answer possibility. Concerning the interpretation of the six-point bipolar response possibilities, negative coefficients represent "more effectuation-orientation/less causation-orientation" and positive coefficients represent "less effectuation-orientation/more causation-orientation". Values of exactly 3.50 have a similar degree of both effectuation and causation. The questionnaire was presented in English, translated to French and Kirundi, and back, to prevent any translation omissions.

3.4 The quantitative research sample

The quantitative data collection took place in Bujumbura (the capital of Burundi). The questionnaire was filled in by 154 small business owners. The sample was based on an official list of firms, acquired from the Burundian Chamber of Commerce, to select the appropriate small business owners. The sector of mini-markets, "alimentation" shops and boutiques was chosen for our study. The motivation for the choice of this sector was because:

- in the interviews, the experts advised us to use this sector as it represents a typical Burundian type of business;

- the firms in this sector were officially registered at the Burundi Promotion Investment Authority; and
- there were sufficient small business owners in Burundi to ensure a basis for a statistical analysis.

The small business owners from the sample mainly sell, and sometimes produce, traditional food, drinks, groceries, small pharmaceutical products and sometimes a limited assortment of small handicraft items. Based on this list, we randomly selected the initial four small business owners in Bujumbura to administer the questionnaire. Then we used a snowball sampling technique because the many small business owners in Bujumbura were visibly clustered. The initial four small business owners were the starting point through which we approached other small business owners in Bujumbura.

Prior to the final data collection, a pilot test was conducted on ten small business owners to control for the comprehensibility, consistency and linguistic biases of the used items. The small business owners from the pilot did not indicate any problems with the content of the questionnaire. Prior to conducting the questionnaire with the small business owners, the importance of our research was verbally emphasised to the small business owners, and we promised to give them feedback from the results, if they requested this. There was a very high response rate (99.0 per cent) because the questionnaire was conducted with the small business owners by appointment, on the spot, and with local assistance. However, a few small business owners (1.0 per cent) refused to cooperate, most likely because of lack of time or suspicion about confidentiality.

In the sample of 154 small business owners, the majority of them were male (70.8 per cent), their average age was 36.7 years and most respondents reported having had senior secondary school as their highest education level (28.6 per cent). Concerning small business growth, we can conclude from Table II that the small businesses do grow, although the distribution of the small business growth items is dispersed. The change in the number of employees generally has stayed the same or has increased; the value of the sales generally has increased; the change in the value of the housing and the change in relative personal income compared with others are mainly divided between: has strongly decreased; has decreased; has stayed the same; and has increased. As can been seen in Table II, the small business growth items are measured on ascending five-point Likert scales.

4. Results

4.1 Scale refinements

To control for the intercorrelations of all items, we performed a correlation analysis. Table III provides the results from the correlation analysis. The numbers (#) correspond to the items that are numbered in Table I. From Table III, it can be concluded that we did not find strong signals for data disturbance by multicollinearity problems because no extremely high coefficients ($r > 0.90$) are found (Pallant, 2010).

The effectuation and causation construct consists of four dimensions (Brettel *et al.*, 2012; Sarasvathy, 2001). We used an exploratory factor analysis on all items to discriminate between the relevant and irrelevant items on the four dimensions. The exploratory factor analysis produced four factors which were identical to the four dimensions by Brettel *et al.* (2012). Items that did not fulfil the required properties, because of convergent and discriminant validity, were excluded from the final scale. From the 23 original items, 16 items were retained. The following items were removed: "At the start of my business, my business was specified on the basis of given means/resources (effectuation)" versus "My business was specified on the basis of given business targets (causation)"; "The target of my

Table II.
Small business growth: the scores

Item	Median	Mean	Standard deviation	Strongly decreased, (%)	Decreased, (%)	Stayed the same, (%)	Increased, (%)	Strongly increased, (%)
How did the number of employees of the business change from 1 January 2010 to 1 January 2013?	3.00	3.12	0.89	9.7	3.3	54.5	30.6	1.9
How did the business sales change over the past 3 years of operation?	5.00	4.47	0.73	0.6	2.0	4.6	35.7	57.1
How did the value of the organisation's housing change over the past 3 years of operation?	3.00	2.97	1.14	5.8	42.2	7.8	37.7	6.5
	Median	Mean	Standard deviation	Not at all, (%)	A little, (%)	Somewhat, (%)	Much, (%)	To a great extent, (%)
Has your relative income compared with others increased between 1 January 2010 and 1 January 2013?	2.00	2.24	0.86	13.6	61.1	14.3	9.7	1.3

Table III.
Correlations table (Pearson's correlation coefficient)

No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	1														
2	−0.20*	1													
3	0.17*	−0.08	1												
4	0.10	−0.05	0.02	1											
5	−0.14	0.12	−0.04	0.15	1										
6	0.06	−0.10	−0.06	0.21**	0.05	1									
7	−0.08	−0.07	−0.10	0.30**	−0.04	0.38**	1								
8	−0.07	−0.15	0.09	0.18*	−0.09	0.08	0.24**	1							
9	0.05	0.15	0.01	−0.09	−0.08	−0.21**	0.00	0.02	1						
10	0.01	0.02	0.12	0.06	0.01	0.12	−0.03	0.02	−0.11	1					
11	0.00	0.06	−0.13	−0.12	−0.14	−0.05	−0.08	0.12	0.16	0.08	1				
12	0.01	0.08	0.07	0.08	0.03	0.35**	0.12	0.10	−0.16*	0.40**	0.06	1			
13	−0.07	−0.06	0.15	0.07	0.13	0.20*	0.09	0.22**	−0.36**	0.29**	0.01	0.50**	1		
14	−0.06	0.03	0.03	0.17*	0.05	0.28**	0.10	0.07	0.01	0.42**	0.07	0.53**	0.33**	1	
15	0.10	0.10	0.08	−0.02	−0.12	0.08	−0.03	0.09	0.04	0.3**	0.11	0.33**	0.29**	0.30**	1
16	−0.03	0.18*	0.04	−0.01	−0.02	−0.12	−0.11	−0.60	0.25**	0.21**	−0.13	0.15	−0.18*	0.21**	0.39**
17	−0.07	0.01	−0.01	−0.01	0.09	−0.19*	−0.09	0.02	0.21**	0.25**	−0.03	0.08	−0.03	0.13	0.34**
18	−0.12	0.16*	−0.05	0.00	0.00	−0.07	−0.07	−0.02	0.25**	0.12	−0.09	0.15	−0.13	0.12	0.29**
19	−0.06	0.15	−0.06	0.10	0.15	−0.05	−0.05	0.02	0.21**	0.14	−0.07	0.20*	−0.08	0.11	0.33**
20	0.00	0.18*	−0.09	0.06	0.09	−0.06	−0.04	−0.25**	0.17*	0.23**	0.01	0.08	−0.16*	0.20*	0.08
21	0.01	0.10	−0.13	0.10	0.14	0.07	−0.01	−0.17*	0.23**	0.20*	−0.03	0.06	−0.25**	0.13	0.11
22	0.03	0.22**	−0.13	0.02	0.06	0.07	−0.01	−0.15	0.10	0.29**	−0.04	0.25**	−0.07	0.20*	0.16*
23	−0.01	0.14	−0.02	0.12	0.21**	−0.02	−0.18*	−0.09	0.30**	0.14	−0.06	0.03	−0.16*	0.19*	0.14
24	−0.10	0.11	−0.12	−0.07	−0.02	−0.20*	−0.11	0.15	0.30**	−0.36**	0.24**	−0.19*	−0.13	−0.21*	0.03
25	0.04	0.00	0.09	0.03	0.12	0.27**	0.02	0.12	−0.10	0.33**	0.05	0.46**	0.39**	0.37**	0.34**
26	0.04	−0.09	−0.05	0.04	−0.20*	−0.05	0.03	0.24**	0.14	0.01	0.23**	−0.05	0.07	−0.10	0.00
27	0.02	−0.01	−0.02	−0.12	0.07	−0.09	−0.20*	−0.03	0.17*	0.03	−0.24**	−0.10	0.01	0.11	0.10
28	−0.15	0.18*	−0.10	−0.03	0.14	−0.14	−0.12	−0.06	0.09	0.03	0.13	−0.02	−0.11	0.10	0.10
29	−0.10	0.16*	−0.07	−0.02	0.19*	−0.06	−0.11	−0.07	0.30**	0.03	−0.02	0.15	−0.04	0.19*	0.18*
30	0.08	0.03	0.01	0.06	0.12	0.10	−0.15	−0.11	0.18*	0.17*	−0.15	0.03	−0.08	0.10	0.02
31	0.05	−0.05	−0.19*	0.18*	0.09	0.10	0.04	0.12	0.00	−0.11	0.05	0.03	0.11	0.08	−0.02
32	0.03	−0.03	−0.11	0.00	0.04	−0.04	−0.01	−0.02	0.11	−0.05	−0.01	−0.03	−0.05	0.09	0.06

(*continued*)

Notes: * Correlation is significant at the 0.05 level (two-tailed); ** correlation is significant at the 0.01 level (two-tailed)

Table III.

No.	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
16	1																
17	0.63**	1															
18	0.72**	0.59**	1														
19	0.64**	0.52**	0.73**	1													
20	0.48**	0.32**	0.49**	0.46**	1												
21	0.48**	0.41**	0.51**	0.54**	0.66**	1											
22	0.39**	0.36**	0.39**	0.34**	0.55**	0.57**	1										
23	0.58**	0.43**	0.59**	0.43**	0.45**	0.53**	0.32**	1									
24	0.18*	0.20*	0.16*	0.14	−0.03	0.02	−0.12	0.23**	1								
25	0.03	0.11	0.05	0.04	0.01	0.13	0.21*	0.21*	−0.13	1							
26	−0.19*	−0.08	−0.09	−0.09	−0.05	0.01	0.02	0.02	0.15	0.10	1						
27	0.40**	0.40**	0.31**	0.27**	0.19*	0.22**	0.28**	0.42**	0.18*	0.19*	−0.02	1					
28	0.37**	0.34**	0.43**	0.37**	0.45**	0.53**	0.43**	0.46**	0.20*	0.10	0.05	0.32**	1				
29	0.50**	0.37**	0.55**	0.45**	0.41**	0.45**	0.37**	0.62**	0.19*	0.22**	0.02	0.46**	0.55**	1			
30	0.35**	0.20*	0.30**	0.30**	0.38**	0.38**	0.33**	0.51**	−0.05	0.15	−0.05	0.38**	0.40**	0.47**	1		
31	0.10	0.11	0.02	0.11	−0.01	0.04	0.01	0.14	0.14	−0.01	0.01	0.14	0.11	−0.08	0.06	1	
32	0.21*	0.20*	0.09	0.11	0.15	0.17*	0.16*	0.15	0.13	−0.10	0.00	0.18*	0.27**	0.16	0.12	0.43**	1

business was vaguely defined in the beginning (effectuation)" versus "The target of my business was clearly defined in the beginning (causation)"; "At the start of my business, the process converged towards a business target on the basis of given means/resources (effectuation)" versus "At the start of my business, required means/resources have been determined on the basis of given business targets (causation)"; "At the start of my business, in order to reduce risks, I started partnerships and received pre-commitments (effectuation)" versus "At the start of my business, in order to identify risks, I focused on market analyses and forecasts (causation)"; "At the start of my business, I always tried to integrate surprising results and findings during the business process – even though this was not necessarily in line with the original business target (effectuation)" versus "At the start of my business, I only integrated surprising results and findings when the original project target was at risk (causation)"; "At the start of my business, my business process was flexible enough to be adjusted to new findings (effectuation)" versus "At the start of my business, my business process focused on reaching the business target without any delay (causation)"; and "At the start of my business, new market findings influenced the business target (effectuation)" versus "At the start of my business, new market findings did not influence the business target (causation)". Concerning the internal consistency of the four scales consisting of 16 items: the Cronbach's alpha levels ranged from $\alpha = 0.74$ to $\alpha = 0.84$, which is above the sufficiency threshold of 0.70 (Hair *et al.*, 2006). The reliability levels of the retained items are presented in Table IV. Furthermore, we excluded the Miller and Friesen (1983) items, which preceded the general uncertainty items, from Table I. The reliability test on the Miller and Friesen (1983) items showed low Cronbach's alphas scores. Hence, we only included the two general items on uncertainty, which are measured on a five-point Likert-type scale.

4.2 The occurrence of effectuation and causation, and uncertainty

Concerning the occurrence of effectuation and causation, Table IV presents how the owners of small businesses from the sample responded to the scales for measuring their values on the four effectuation and causation dimensions, in terms of the medians, means and percentage distributions. Overall, we can conclude from Table IV that the respondents from the sample are more causation-oriented on the second, third and fourth dimension: here, the respondents have a higher value than 3.50, which represents the mid-point on the six-point scale.

To measure uncertainty, we exposed the small business owners to items measuring a degree of *certainty* on a five-point Likert scale. In Table V, the mean scores and standard deviations of the two general certainty items are presented. The results indicate that, measured on a five-point scale, the respondents from our sample perceived the environment a little more certain than uncertain (on average 3.38).

4.3 The correlations between effectuation and causation versus uncertainty

To test *H1*, we performed a correlation analysis on effectuation and causation, on the one hand, and the perceived level of certainty, on the other. Table VI shows the results from the correlation analysis. We labelled the effectuation and causation dimensions in Table VI according to the elaboration in *H1*, namely, "means versus goals"; "affordable loss versus expected return"; "partnership versus competitive market analysis"; and "preference for acknowledging versus overcoming the unexpected". All correlation values in Table IV are in the expected direction: when the respondent's perception of the environment is certain, then the respondent is more causation-oriented. One effect is not significant; two effects are indicative (a Pearson's correlation coefficients of 0.15 for "affordable loss versus expected return", and a Pearson's correlation coefficients of 0.13 for "partnership versus competitive market analysis"); and one effect is significant (a Pearson's correlation coefficients of 0.20 for "preference for acknowledging versus overcoming the unexpected"). Indicative effects are

Table IV.
Effectuation and causation: the scores

Effectuation[a]	Causation
Means versus goals: Median = 3.00, Mean = 3.17, Standard deviation = 1.26, Cronbach's alpha on retained items of the dimension = 0.74	
Given means/resources have been the starting point for my business: 65.6	Given business targets have been the starting point: 34.4
Rather given means than concisely given business targets have been the starting point for my business: 95.1	A concisely given business target has been the starting point for my business: 4.9
At the start of my business, my business specification was predominantly based on given resources: 95.7	At the start of my business, the business specification was predominantly based on given targets: 4.3
At the start of my business, given means have significantly impacted on the framework of my business: 61.0	At the start of my business, given business targets have significantly impacted on the framework of my business: 39.0
Affordable loss versus expected return: Median = 4.40, Mean = 4.23, Standard deviation = 1.32, Cronbach's alpha on retained items of the dimension = 0.84	
At the start of my business, considerations about potential losses were decisive for the selection of this business option: 42.9	At the start of my business, considerations about potential returns were decisive for the selection of this business option: 57.1
At the start of my business, business budgets were approved on the basis of considerations about acceptable losses: 35.7	At the start of my business, business budgets were approved based on calculations of expected returns: 64.3
At the start of my business, the selection of the current business was mostly based on a minimization of risks and costs: 28.6	At the start of my business, the selection of the current business was mostly based on analyses of future returns: 71.4
At the start of my business, I mainly considered the potential risk of the business: 92.2	At the start of my business, I mainly considered the potential odds of the business: 7.8
At the start of my business, decisions on capital expenditures were primarily based on potential risks of losses: 25.3	At the start of my business, decisions on capital expenditures were primarily based on potential returns: 74.7

(*continued*)

Table IV.

Effectuation[a]	Causation
Partnership versus competitive market analysis: Median = 4.33, Mean = 4.05, Standard deviation = 1.32, Cronbach's Alpha on retained items of the dimension = 0.81	
At the start of my business, I jointly decided with my partners/stakeholders on the basis of our competences: 26.6	At the start of my business, I have taken my decisions on the basis of systematic market analyses: 73.4
At the start of my business, my focus was rather on the reduction of risks by approaching potential partners and customers: 37.0	At the start of my business, my focus was rather on the early identification of risks through market analyses to be able to adopt my approach: 63.0
At the start of my business, to reduce risks, I started partnerships and received pre-commitments: 92.2	At the start of my business, to identify risks, I focused on market analyses and forecasts: 7.8
Preference for acknowledging versus overcoming the unexpected: Median = 4.25, Mean = 4.21, Standard deviation = 1.16, Cronbach's alpha on retained items of the dimension = 0.75	
At the start of my business, the business planning was carried out in small steps during the business implementation: 37.7	The business planning was basically carried out at the beginning of my business: 62.3
At the start of my business, despite of potential delays in business execution, I was flexible and took advantage of opportunities as they arose: 31.2	At the start of my business, I first of all took care of reaching my initially defined business targets without delays: 68.8
At the start of my business, I allowed the business to evolve as opportunities emerged–even though the opportunities have not been in line with the original business target: 22.1	At the start of my business, I have always paid attention to reach the initial business target: 77.9
At the start of my business, potential setbacks or external threats were used as advantageous as possible: 35.1	At the start of my business, by the use of upfront market analyses I tried to avoid setbacks or external threats: 64.9

Note: [a] The values of effectuation and causation in both columns are percentages

Table V.
Perceived certainty: the scores

Measure	(1) At the start of my business, I considered the environment as a stable environment in which to start a business	(2) At the start of my business, I felt no uncertainty	Average of the items (1) and (2)
Median	4.00	3.00	3.50
Mean	3.73	3.03	3.38
Standard deviation	0.79	1.0	0.90
Strongly disagree, (%)	0.6	6.5	3.6
Disagree, (%)	5.2	23.4	14.3
Not sure, (%)	28.6	37.0	32.8
Agree, (%)	51.3	27.3	39.3
Strongly agree, (%)	14.3	5.8	10.0

Table VI.
Correlations between effectuation/causation and certainty (Pearson's correlation coefficient)

Variable	Means versus goals	Affordable loss versus expected return	Partnership versus competitive market analysis	Preference for acknowledging versus overcoming the unexpected
Certainty. *High values on this scale represent a higher perception of the environment to be certain*	0.01	0.15*	0.13*	0.20**

Notes: *Correlation is significant at the 0.10 level (two-tailed); **correlation is significant at the 0.05 level (two-tailed)

often used in research with samples of less than $N = 500$ (Dalla-Vorgia *et al.*, 1992; Morrison *et al.*, 1996); in our study: $N = 154$. In sum, "affordable loss versus expected return" is significant at the 0.10 level ($p = 0.06$); "partnership versus competitive market analysis" is significant at the 0.10 level ($p = 0.098$); and "preference for acknowledging versus overcoming the unexpected" is significant at the 0.05 level ($p = 0.01$). Hence, *H1* is accepted.

4.4 The effects of effectuation and causation on small business growth

In this section, we test the other hypotheses. We controlled for the sample size, multicollinearity, singularity and outliers (Pallant, 2010), and for the normality, linearity, homoscedasticity and constant variance of the errors terms (Hair *et al.*, 2006). All assumptions were met. To control for the effects from socio-demographics and certainty, we conducted a multiple regression model of three blocks: the first block consists of the effects from age, gender and highest completed education. Subsequently, certainty was added to the regression model in the second block. Finally, the effectuation and causation dimensions were added to the regression model in the last block. For the measurement of small business growth, which is the dependent variable, four items in the third column and second row of Table I were used. Table VII shows the results of the regression analyses on small business growth. Table VII is organised as follows: first, the adjusted R^2 values are presented. This statistic provides a better estimate of the population when small samples are involved, as opposed to the R^2 (Tabachnick and Fidell, 2007). Table VII contains one negative adjusted R^2 value for the model with the dependent variable "How did the number of employees of the business change from 01-01-2010 to 01-01-2013?". A negative adjusted R^2 value might occur in regression models with many independent variables in combination with low values of the

Regression model block	Predictor variable	How did the no. of employees of the business change from 1 January 2010 to 1 January 2013?	How did the business sales change from 1 January 2010 to 1 January 2013?	How did the value of the organisation's housing change from 1 January 2010 to 1 January 2013?	Has your relative income compared with others increased between 1 January 2010 and 1 January 2013?
1	Adjusted R^2	−0.01	0.01	0.00	0.00
	F(df)	0.51 (3,150)	1.44 (3,150)	0.83 (3,150)	1.20 (3,150)
	p	0.67	0.23	0.48	0.31
	β Gender	0.09	−0.12	0.05	−0.08
	β Age	−0.03	0.10	−0.09	−0.10
	β Highest completed education	0.01	−0.02	−0.07	−0.10
2	Adjusted R^2	−0.01	0.01	−0.01	−0.003
	F(df)	0.67 (4,149)	1.33 (4,149)	0.62 (4,149)	0.90 (4,149)
	p	0.61	0.26	0.65	0.47
	β Gender	0.08	−0.12	0.50	−0.08
	β Age	−0.02	0.10	−0.09	−0.10
	β Highest completed education	0.02	0.001	−0.07	−0.10
	β Certainty	0.09	0.08	0.002	−0.003

(*continued*)

Table VII.
Regression models

Table VII.

Regression model block	Predictor variable	How did the no. of employees of the business change from 1 January 2010 to 1 January 2013?	How did the business sales change from 1 January 2010 to 1 January 2013?	How did the value of the organisation's housing change from 1 January 2010 to 1 January 2013?	Has your relative income compared with others increased between 1 January 2010 and 1 January 2013?
3	Adjusted R^2	−0.01	0.02	0.11	0.04
	F(df)	0.88 (8,145)	1.43 (8,145)	3.34 (8,145)	1.69 (8,145)
	p	0.54	0.19	<0.05	0.11
	β Gender	0.08	−0.12	0.06	−0.10
	β Age	−0.04	0.09	−0.09	−0.09
	β Highest completed education	0.02	0.003	−0.11	−0.10
	β Certainty	0.10	0.060	0.02	0.04
	β Effectuation versus causation dimension: Means versus goals	0.12	0.09	*0.36***	−0.11
	β Effectuation versus causation dimension: Affordable loss versus expected return	−0.03	−0.16	*−0.20**	−0.05
	β Effectuation versus causation dimension: Partnership versus competitive market analysis	0.13	0.05	0.11	0.14
	β Effectuation versus causation dimension: Preference for acknowledging versus overcoming the unexpected	−0.12	0.19	−0.04	−0.25*

Notes: * Significant at the 0.05 level (two-tailed); ** significant at the 0.01 level (two-tailed)

standardized Beta coefficients (β) of the effects from the independent variables on the dependent variables. Second, the results from the F-test (F) are presented with the degrees of freedom (df). Third, the p-values of the model as a whole are presented. When the p-values of the model as a whole are significant, then this is presented as "< 0.05", "< 0.01" and "< 0.001"; otherwise, the exact value of the non-significant p-value of the model as a whole is given. Finally, the βs of the independent variables are presented (Hair *et al.*, 2006).

Block 3 in Table VII shows that only three of the 32 possibilities in the four regression models are significant. Two of these significant effects are in a direction contradicting our expectations:

(1) there is a significant negative effect from "affordable loss versus expected returns" on small business growth (β Effectuation versus causation dimension: Affordable loss versus expected return $= -0.20$, $t(145) = -1.98$, $p < 0.05$: "How did the value of the organisation's housing change over the past 3 years of operation?"); and

(2) there is a significant negative effect from "preference for acknowledging versus overcoming the unexpected" (β Effectuation versus causation dimension: Preference for acknowledging versus overcoming the unexpected $= -0.25$, $t(145) = -2.46$, $p < 0.05$: "Has your relative income compared with others increased between 01-01-2010 and 01-01-2013?").

However, the last-mentioned effect involves an insignificant F value (F(df) = 1.69(8,145), adjusted $R^2 = 0.04$, $p = 0.11$) of the overall regression model. Thus, there is no model fit. There is only one effect in the expected direction, which is a significant positive effect on small business growth from "means versus goals" (β Effectuation versus causation dimension: Means versus goals $= 0.36$, $t(145) = 4.57$, $p < 0.01$: "How did the value of the organisation's housing change over the last 3 years of operation?"). Hence, we find no support for *H2*. From Table VII, it can be seen that none of the Betas from the socio-demographics have significant values. Hence, we find no evidence to support any of the socio-demographic *H3*, *H4* and *H5*.

5. Discussion

This paper started with the intention to follow and combine the calls of different scholars to further develop and provide more empirical evidence on effectuation and causation (Perry *et al.*, 2011; Chandler *et al.*, 2011). We aimed to answer *RQ1*. With regard to our research question, we can conclude from the results that the effectuation-oriented small business owners perceived more uncertainty than the causation-oriented respondents, but also that the effects from the effectuation and causation orientations on small business growth are more or less absent.

The confirmation on *H1* is in line with our expectations and the literature (Løwe Nielsen and Heidemann Lassen, 2012; Sarasvathy, 2001). Concerning *H2*, in contrast to the literature findings as discussed previously, the hypothesis test showed that the influence of the decision-making orientations on small business growth was more or less absent. This can be caused by a variety of factors, excluded from this study, that *do* have an influence and outweigh the decision-making orientations as antecedents of small business growth. These factors can either stem from the small business owner or from the external environment, or from both combined.

In addition to the current literature, we have tried to fill the research gap of decision-making in relation to small business growth from the entrepreneurs who are among the billion people who live in absolute poverty. By doing so, we enlarged the research scope on effectuation and causation both for the literature and the methodology. Concerning the

literature, we confirm that, on the one hand, entrepreneurs in an uncertain environment are likely to be more effectuation-oriented than causation-oriented. Effectuation is more present in dealing with spheres of human action, and especially when "dealing with the uncertainties of future phenomena". For a more detailed understanding of effectuation and causation, we refer to Table I in Sarasvathy and Dew (2005, p. 390), which is also used by Read *et al.* (2009, p. 576) as the "basic principles of effectuate thought". On the other hand, neither effectuation orientation nor causation orientation significantly affects small business growth. Our findings are surprising because previous studies from Western countries have shown that the effectuation orientation of entrepreneurs is often positively correlated with firm growth (Brettel *et al.*, 2012; Read *et al.*, 2009). In addition, our study is one of the first to deliver empirical evidence from primary data on effectuation and causation in a non-Western country, namely, the East African LDC Burundi. Concerning methodology, we have tested the applicability of a recent effectuation and causation scale (Brettel *et al.*, 2012) that comes from a Western context in a non-traditional context (Kriauciunas *et al.*, 2011).

For future research, it is important to note that the setting of this study, Burundi, should be considered on its own merits. Although we tested the relationship of effectuation and causation, on the one hand, and small business growth, on the other, in an uncertain environment, for which purpose we adopted Burundi, other scholars are encouraged to study effectuation and causation in other uncertain environments as well, to enlarge the possibilities for generalisability and cross-country comparisons. Another recommendation for future research is to take the difference in perceptions into account, which can cause contradictions in the results. At least in our study, both uncertainty and effectuation and causation can be perceived differently by the experts and the small business owners. One reason for the different perception might be that our experts were generally older, higher-educated and had substantial working experience; and the small business owners were generally younger, lower-educated and often had little working experience. Another reason might be that the difference in perception is culturally determined. Therefore, both uncertainty and effectuation and causation should be considered as more nuanced constructs. Finally, the results of the current study might have been shaped by its sample, in terms of the size, the sampling method, the characteristics, the research method, the period of the study and the location of the fieldwork.

6. Conclusion

To answer *RQ1* of this study, primary data in an uncertain environment were collected from a qualitative pre-study and a quantitative main study. While previous studies have shown that effectuation entrepreneurship positively correlates with business growth (Read *et al.*, 2009; Berends *et al.*, 2014), our study shows that effectuation and causation orientations have more or less no effect on small business growth.

The research results do not support the "positive correlation" which has been reported by previous researchers. However, as the results of the current study have been shaped by the sample, the results from previous studies could have been shaped also by the sample. In other words, no predictable relationship has been uncovered. More profoundly, it is purely an academic invention to assume a predictable causal link between effectuation orientation and small business growth because the latter is largely the result of many things rather than a single factor, i.e. the small business owners' decision-making orientation, as "arbitrarily" specified by the measurement instrument. Therefore, the concept of effectuation and causation should be perceived as very context-dependent. Finally, the methodologies which are used in the current study, such as the correlation analysis, have rendered useful information. However, a non-academic public, such as the small business owners from the

current study themselves, might have difficulties to understand the methodologies which are used. Therefore, for the sake of both research and practice, alternative methodological approaches, for example, an ethnographic approach; focus groups; and in-depth interviews, could be used to know which is the best approach to decipher effectuation and causation orientations in non-Western contexts.

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