

The interplay of effectuation and causation in decision making: Russian SMEs under institutional uncertainty

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Abstract The institutional context of Russia and the recent regime of foreign trade sanctions makes it a natural laboratory to study change in decision making regarding the international activities of SMEs. This research explores how the increased institutional uncertainty is evaluated, enacted and responded to by SMEs that are heavily involved in relations with international suppliers. This longitudinal multiple-case study reveals that although firms simultaneously use both causation and effectuation in their decision making, an increase of institutional uncertainty boosts effectuation. The study shows that the intensity of both types of decision-making logic varies along the studied period in accordance to changing perceptions of institutional uncertainty. Also, the studied firms use effectuation logic differently enabling us to distinguish two types of effectuation with contrasting performance implications: opportunity-driven effectuation and survival effectuation.

Keywords Effectuation · Causation · Decision making · Institutional uncertainty · Russia

Introduction

Changing institutional conditions and the related uncertainty are usually considered harmful to business enterprises, especially to resource-constrained small- and medium-sized enterprises (SMEs) (Aldrich and Auster 1986; Welter and Smallbone 2011;

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Verreynne et al. 2016). While some firms struggle to survive in such conditions (Farashahi and Hafsi 2009; Shane and Foo 1999), others are able to exploit the associated imperfections entrepreneurially for their own benefit (Aggestam 2014; Sine and David 2003). Although the issues of strategic response to institutional processes (Oliver 1991) and organizational adaptation to changes in firms' business environment (Brunk 2003; Miles et al. 1978) have been extensively studied in previous decades, what differs in their approaches to the management of uncertainty and what helps some firms turn threats into opportunities has attracted scant research (Kalantaridis and Fletcher 2012). In this paper, we suggest incorporating an entrepreneurial theory of effectuation to explore how SMEs adjust their decision making and react to increased institutional uncertainty.

Although effectuation is after fifteen years of research still in a nascent phase of development (Arend et al. 2015; Read et al. 2016), it represents a considerable paradigmatic shift in understanding entrepreneurial behavior and decision making at the stage of starting new business and/or acting under high uncertainty (Dew et al. 2009a, b; Perry et al. 2012; Read et al. 2009; Sarasvathy 2001). Effectuation has been applied to understanding innovation processes not only in SMEs at the entrepreneurial level (Berends et al. 2014; Deligianni et al. 2015; Roach et al. 2016), but also in large companies at the corporate level (Brettel et al. 2012; Svensrud and Åsvoll 2012; Werhahn et al. 2015). The theory of effectuation has also expanded into the domain of International Entrepreneurship (IE) and has shown its potential to help explain the phenomenon of SMEs' internationalization (Andersson 2010, 2011; Chetty et al. 2015; Galkina and Chetty 2015; Kalinic et al. 2014; Sarasvathy et al. 2014; Schweizer et al. 2010). Based on the assumption that internationalization resembles entrepreneurship, these studies apply effectuation theory to explain the expansion from domestic to foreign markets. However, effectuation has not been used to examine so-called inward internationalization (Welch and Luostarinen 1988), exploring the decision making of entrepreneurial firms related to their international supply operations.

According to Sarasvathy (Sarasvathy 2001, 2008), effectuation and causation are constantly balanced in entrepreneurial action, and the same person can employ both logics interchangeably depending on the uncertainty of the circumstances. In line with this, further studies (Fisher 2012; Perry et al. 2012) have shown that causation and effectuation are not exclusive opposites or inversions of each other but can be balanced and co-exist simultaneously in entrepreneurial activities. However, the change from one logic to another, their paradoxical interplay and dynamics over time have received scant attention within effectuation research (Read et al. 2016).

To compensate these research deficiencies, the present study explores the dynamic interplay between causation and effectuation in SMEs' decision making on their foreign suppliers caused by regulatory shifts and increased institutional uncertainty. We conduct a longitudinal study of import-dependent SMEs from Russia and follow the process of change of their international suppliers; this change is triggered by the imposition of trade sanctions between Russia and 25 other countries imposed in spring 2014. Therefore, in our study we do not aim at comprehensive evaluation of Russian institutional environment; rather, we narrow our scope down to one aspect of this environment, namely, trade sanction. Consequently, we do not focus on the entire complex of decision making in our case firms but examine only those decisions that are

affected by the sanctions. Thus, we establish a link between changes in micro-processes and changes in macro-environment.

By adapting this processual approach (Langley 2009), the study aims to make several important contributions. First, we aim to contribute to effectuation research by exploring the dynamic interplay between and co-existence of causal and effectual logics in established SMEs, an area in effectuation studies that requires greater advancement (Dutta et al. 2015; Read et al. 2016; Reymen et al. 2015). Second, our study enriches the effectuation approach to IE (Andersson 2011; Gabriellsson and Gabriellsson 2013; Harms and Schiele 2012; Sarasvathy et al. 2014) because we show that not only the outward process of internationalization resembles entrepreneurship, and thus can be highly effectual (Galkina and Chetty 2015; Schweizer et al. 2010), but also that established inward international operations can involve a lot of effectual decision making. Third, this paper serves as a timely response to the calls to study institutional change from the micro perspective (Powell and Colyvas 2008; Scott 2010; Smets et al. 2012) and to understand the effects of institutional frameworks on entrepreneurial activities across emerging economies (Hafsi and Farashahi 2005; Kiss et al. 2012). Moreover, little research looks at firms' strategies under conditions of institutional change and upheaval (Farashahi and Hafsi 2009; Keister 2002; Newman 2000). In our study, we focus on Russian SMEs and their decision making in international supply operations under the recently introduced regime of economic sanctions. This focus also creates space for the empirical contribution, because knowledge on the international activities of Russian SMEs remains scarce in the IE domain (Mihailova et al. 2015; Shirokova and McDougall-Covin 2012; Volchek et al. 2013); moreover, the conditions of the recent sanctions regime have added even more blind spots to explore.

Theoretical background

The interplay between causation and effectuation

The theory of effectuation started to develop at the end of the 1990s and the beginning of the millennium (Sarasvathy 2001). This theory introduces effectuation as a means-driven non-predictive logic of entrepreneurial reasoning that is an alternative to goal-driven causal logic. Sarasvathy (2001, p. 245) stipulates that “causation processes take a particular effect as given and focus on selecting between the means to create that effect. 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.” To clarify this difference further, she also states that “causal problems are problems of decision; effectual problems are problems of design. Causal logics help us choose; effectual logics help us construct” (Sarasvathy 2008). Effectuation logic follows four principles – means-driven action, reliance on networks and strategic alliances, affordable loss, and leveraging contingencies – which are discussed in contrast to the four respective principles of causation, namely goal-driven action, reliance on competitive analysis, counting expected returns, and exploiting pre-existing knowledge (Sarasvathy 2001, 2008).

Although Sarasvathy (2001, p. 245) indicates that “both causation and effectuation are integral parts of human reasoning that can occur simultaneously, overlapping and intertwining over different contexts of decisions and actions,” effectuation studies have

not specifically focused on examining their simultaneity (Read et al. 2016). In the received literature, effectuation is mainly seen as a decision-making logic prevailing during the initial stages of business formation when the level of uncertainty about the venture, the product/service and the potential market is rather high (Sarasvathy 2001, 2008). Sarasvathy (2008) compares effectuation in entrepreneurship to the first and the second gears in a car, which are needed to start it. Further, along the next stages of business development, when the firm becomes more established and there is more certainty about its internal processes, management team, suppliers, customers, market infrastructures etc., and the goals of entrepreneurial activities become more articulated and certain, strategic goal-oriented reasoning becomes more relevant and the logic of decision making becomes less effectual (Sarasvathy 2008; Sarasvathy and Dew 2005). However, does it become causal? This transition and the dynamics of interplay between causation and effectuation is questionable, particularly in light of the study by Perry et al. (2012) who argue that causation and effectuation are not the opposite ends of a continuum but have an orthogonal, or independent, uncorrelated relationship. This means that one can be present without the other or both can be present at the same time with varied intensity.

There have been few studies empirically examining the co-existence of causation and effectuation and not seeing them as competing approaches. Thus, the case study by Fisher (2012) shows that despite the prevalence of effectuation and bricolage in the decisions and actions of entrepreneurs as they developed and created their new ventures, the entrepreneurs also used causation logic to some extent. Another study by Reymen et al. (2015) argues about the “hybrid” decision making that combines both causation and effectuation along the process of new venture development; they show that both logics can appear, reappear and co-occur with different degrees of intensity. Also, the perceived uncertainty explains the shifts in the dominance of one over the other. Although these studies provide valuable insights on the simultaneity of causation and effectuation, insufficient research is devoted to under what conditions does one logic dominate the other, and what is their optimal combination for effective performance (Arend et al. 2015; Perry et al. 2012; Read et al. 2016).

Effectuation approach in international entrepreneurship

The effectuation approach has been expanding into the IE research domain. The main rationale behind this inclusion is the similarity between the entrepreneurial process and that of internationalization, because both occur under Knightian uncertainty, goal ambiguity, and environmental isotropy (Schweizer et al. 2010). Johanson and Vahlne (2009) note that the effectuation model has much in common with the revisited Uppsala model.

This idea gave birth to the stream of studies using effectuation to explain the phenomenon of IE. Thus, Schweizer et al. (2010) propose the entrepreneurial model of the internationalization process, which combines the revisited Uppsala model and the effectuation process. Later, Sarasvathy et al. (2014) suggest naming it the Effectual Uppsala model, and showed that there are far more similarities than differences between them. Describing the major differences, they say (2014, p. 80) that “first, the effectual process involves several cycles of interactions between stakeholders. Second, opportunities are not taken as given or exogenous to the process in effectuation”. Also, Galkina and Chetty (2015) integrate the theories through the concepts of networks and

commitments. They argue that what has been previously described as serendipitous, unintended and ad-hoc internationalization is rather a conscious choice on the part of entrepreneurs to explore and exploit internationalization opportunities effectually by forming networks with all and any interested stakeholders, and without prior knowledge about foreign markets. Likewise, Kalinic et al. (2014, p. 635) stipulate that “‘unplanned’ internationalization does not necessarily involve non-logical decision; but entrepreneurs can follow an effectual rather than causal logic.” Another study, by Chetty et al. (Chetty et al. 2015), shows that SMEs switch between causation and effectuation in their decision making on internationalizing; thus, they tend to be more causal when they select a foreign market (as it is a problem of selection) and more effectual when they decide on foreign market entry (a problem of design). Altogether, the effectuation studies in IE represent a promising research stream that creates provocative possibilities for the field to advance (Sarasvathy et al. 2014).

Institutional uncertainty in the context of Russian SMEs

The institutional-based view of the firm has been studying the interactions between institutional frameworks and business strategy and decision making (DiMaggio and Powell 1991; Oliver 1991; Peng et al. 2008; Scott 2014). This view has also diffused into entrepreneurship; and, according to Welter (2011, p. 166), “context is important for understanding when, how, and why entrepreneurship happens and who becomes involved” because historical, temporal, institutional, spatial, and social settings can aid or hinder entrepreneurial actions. Likewise, Busenitz et al. (2000) indicate that national differences are important in gaining knowledge about entrepreneurial phenomena by addressing not only cultural differences but also the broader construct of country institutional profiles including regulatory, cultural-cognitive, and normative dimensions. Bruton et al. (2010) argue that, currently, institutional theory has three major streams in contemporary entrepreneurship research: the first deals with the enabling and constraining effects of institutional settings on venturing activities; the second stream focuses on the legitimate methods of ventures’ operations; the third studies institutional entrepreneurship. However, institutional theory has not been used widely enough in IE (Volchek et al. 2013).

In this article, we understand an *increased institutional uncertainty* as a heightened level of unpredictability in terms of regulative, normative and cultural-cognitive elements of institutional environment. In particular, we focus on the part of institutional environment related to the introduction of sanctions; an increased institutional uncertainty at a particular period means that firms are less able to predict what will happen with regulative (how long sanctions will hold as regulative restrictions), normative (what will be the norm in their industry as a common way of coping with sanctions) and cultural-cognitive (is it good for the country to supply from abroad at all or from particular countries) institutions neither in the long-term nor in the short-term. This kind of institutional uncertainty can be characterized as structural (as opposed to parameter uncertainty when only some inputs are unknown) because the old *rules of the game* in the business environment have been knocked down, but new ones need time to emerge and institutionalize (Duncan 1972; Luo 2003). Such institutionalization of new rules of the game serve to reduce structural uncertainty by defining new boundaries of what kind of behavior is considered legitimate.

Hafsi and Farashahi (2005) argue that emerging economies, such as Russia in this article, represent a special case because their institutional frameworks are often comprised of unfinished and conflicting elements that contradict existing traditional institutions, create constant contentions at all levels, and lead to institutional voids. Radical regulatory punctuations (Haveman et al. 2001) create an atmosphere of instability and high uncertainty, and impose liabilities of “localness”, that is costs associated with surviving after exogenous regulatory shock and sudden state constraints on business operations (Perez-Batres and Eden 2008). The Russian institutional environment has been recognized as highly unstable and turbulent throughout the years following the collapse of the Soviet Union, and also during the more recent times of Putin’s presidency. For instance, Salmi (1996), Johanson (2004) and Hallén and Johanson (2004) show that the radical political changes and the shocking shift from planned to market economy forced Russian companies to rethink their chain of activities, find new customers and suppliers, and quickly learn new business competencies and skills. In the new millennium, even though the Russian economy exhibited some growth, the perceived level of turbulence and instability has not decreased for SMEs (Galkina and Kock 2014; Jumpponen et al. 2008). For instance, Astrakhan and Chepurenko (2003) stipulate that the main external constraints for Russian small businesses stem from the high level of bureaucracy, undeveloped and constantly changing legal regulations and taxation rules, and insufficient access to external finance. Similarly, Hunter (2003) talks about poorly defined property rights and undeveloped market institutions as the main hindering factors for entrepreneurship in Russia. Consequently, the number of Russian small entrepreneurial firms is stagnating if not decreasing, and the national economy is highly dominated by huge state-owned firms (Jumpponen et al. 2008; Kontorovich 1999). According to Jumpponen et al. (2008, p. 115), the natural response of Russian SMEs to this turbulent environment is either proactive strategic work and strong management or reactive drifting with “hope for the best”.

In line with this, Volchek et al. (2013) show that in this uncertain institutional environment it becomes challenging for Russian SMEs to pursue international opportunities, due to both cognitive and normative barriers. Thus, Russian entrepreneurs often have insufficient knowledge of foreign markets and the risks associated with international activities, due to the lack of educational and training programs for entrepreneurs. The normative barriers relate to the negative attitudes toward entrepreneurship as a career path in general, and the perceived normative distance between Russia and other potential countries for internationalization. Similarly, the study by Mihailova et al. (2015) emphasizes the primary role played by institutional factors in the internationalization of new ventures from Russia, and highlights the more complex nature of their impact. The study reveals that institutional factors are not only directly connected to the degree and scope of internationalization, but also shape their relationships with other factors specific to the entrepreneur, firm and industry, such as international experience, social networks, product innovativeness, and industry technological intensity. Likewise, Shirokova and McDougall-Covin (2012) underscores the importance of the domestic institutional environment to Russian SMEs undertaking international activities. Their findings show, for instance, that the significance of network relations with foreign partners is rather low, because Russian entrepreneurs usually have a rather limited number (if any) of foreigners amongst their entrepreneurial connections. Also, relations with Russian immigrants living outside Russia play no

significant role in the entrepreneurs' international activities. Another internationalization barrier for Russian SMEs, which relates to the non-domestic institutional context, concerns the generally negative image of Russian entrepreneurs held by foreigners, which forces the SMEs to demonstrate honesty and transparency in order to establish trustworthy business relations.

Overall, the Russian entrepreneurial climate can be characterized by the high level of instability and institutional uncertainty, which makes it rather unfavorable. In addition, the recently introduced and reinforced regime of trade and financial sanctions between Russia and 25 other countries¹ qualifies as regulatory punctuation (Haveman et al. 2001, p. 254), and has made the business climate for SMEs in the country even more unpredictable and turbulent. However, recently Russian government introduced special long-term development plans for twenty sectors of the economy with specific measures directed towards import substitution, thus decreasing uncertainty for industrial actors (Voloshin 2015). The federal government is trying to involve local administrations in taking an active part in the program facilitating inter-regional collaboration and match-making procedures. While state-owned enterprises have been partially forced, encouraged, and self-enforced to follow the major trend of import substitution in the Russian economy, private entrepreneurial businesses have also been encouraged by opportunities to fulfil the emerged unmet demand. Under these conditions, Russian entrepreneurs/managers whose firms are highly dependent on imports have experienced dramatic changes reflected in their business strategies and decision making (Năsulea et al. 2015; Tuzova and Qayum 2016). We now present an empirical study of Russian SMEs coping with this institutional uncertainty due to sudden regulatory shift, and show the change in their decision making regarding their relations with international suppliers.

Methodology

Rationale behind research strategy

At the outset, our research design implied a rather broad inductive exploration of the contemporary empirical phenomenon aimed at revealing how SMEs' decision-making changes in reaction to the imposed sanctions affecting their international business. We conducted a multiple-case study appropriate for the inductive and exploratory nature of our research goal (Eisenhardt 1989; Eisenhardt and Graebner 2007; Yin 2014). Initially, we had no intention to test any new propositions or hypotheses; rather, we aimed to investigate an empirical, highly context-specific, phenomena. The institutional context of Russia, especially in relation to the recent economic crisis and the introduction of the regime of trade and financial sanctions, has made it a natural laboratory to investigate how the changing institutional environment is evaluated, enacted, and responded to by entrepreneurs in charge. Thus, the turbulent and fast-changing business environment, with increased uncertainty, enables us to investigate how decision making related to international activities is affected. In addition, the adaptive design and open-ended

¹ The full list of the countries imposing the regime of sanctions on Russia can be seen at https://en.wikipedia.org/wiki/International_sanctions_during_the_Ukrainian_crisis

nature of the case study strategy (Yin 2014, p. 65) allowed for iterative theoretical and empirical choices and for reconsideration of the focus of the study; hence, the studied phenomenon and related context were “brought to light gradually in the investigation” (Fletcher and Plakoyiannaki 2011, p. 183). Additionally, while building our explanations from observed “patterns in events, activities, and choices over time” (Langley 2009, p. 409), we applied a process lens to our study in order to enable the examination of a phenomenon within its real-life continuous contextual reality (Blazejewski 2011; Gummesson 2000; Pettigrew 1990; Stake 1995; Yin 2014). The fit between applied methodology and chosen theoretical perspective (Edmondson and Mcmanus 2007) was also assured by a nascent stage of effectuation theory development (Arend et al. 2015; Perry et al. 2012; Read et al. 2016) and use of the case study approach in other studies incorporating effectuation into IE (Andersson 2011; Gabrielsson and Gabrielsson 2013; Galkina and Chetty 2015; Kalinic et al. 2014; Nummela et al. 2014; Sarasvathy et al. 2014; Schweizer et al. 2010).

Case selection

We employed purposeful (criterion) case selection, coupled with a replication approach; the cases were selected for a specific reason and had a special significance to the study, while convergent evidence was sought (Fletcher and Plakoyiannaki 2011; Patton 2015; Stake 1995; Yin 2014). Serving the purpose of the study, the criteria for case selection were 1) private SME with fewer than 250 employees (The Federal Law of the Russian Federation 2007); 2) sufficient history and volume of international supply operations; 3) vulnerability to institutional changes and a need to rearrange the supply side of operations; and 4) willingness to participate in the study. The abovementioned case selection led to identification of four firms from four different industries (shipbuilding, import of food ingredients, import and retail of leather goods, and IT hardware distribution) for further analysis.

We started our data collection inductively approaching the contemporary empirical phenomena of how changes in an institutional environment caused by imposed sanctions influence decision making within focal firms. During our initial interviews with case companies, we did not stick to one particular theoretical perspective; however, after initial data analysis, we came to the conclusion that all our cases revealed substantial evidence consistent with the theory of effectuation. Our choice for this particular theory stays in line with previous research showing evidence of effectuation in turbulent contexts (Mainela and Puhakka 2009). Literal replication of the emergent pattern (i.e. increasing effectuation, albeit of different levels and character) in all our cases (Yin 2014) showed that the identified effect of increased institutional uncertainty on decision-making logic was not specific to a particular industry. At this point, we decided to narrow our research focus and perform a more nuanced and fine-grained analysis, relying on existing knowledge within effectuation literature.

The initial analysis of the data from four case firms showed that two of them were more pronounced and indicative due to their criticality (higher degree) of internal changes and at the same time had drastically distinct performance expectations at the moment of data collection. As a result, these two firms were selected for further analysis because they represented more illustrative

cases in terms of undergoing change, and contrasting cases in terms of anticipated performance implications (maximum variation sampling, cf. Patton 2015), thus making the phenomenon of interest transparently observable (Eisenhardt 1989; Eisenhardt and Graebner 2007; Pettigrew 1990) and eventually comparable (Patton 2015; Yin 2014). At this later stage of the case study project, we were particularly interested in conceptualizing longitudinal interplay between effectuation and causation in SMEs under conditions of increased institutional uncertainty and theorizing why effectuation might lead to different results. We withdrew the two other cases from the report for the sake of depth of further representation; they did not yield to the substance of the findings at that stage, while only providing mere (albeit valuable) replication at the previous stage. Thus, the study reported below represents two in-depth and contrasting cases of Russian SMEs that are deeply involved in relations with their foreign suppliers. Key characteristics of the case companies are summarized in Table 1.

Data collection

The sustained access to data was achieved using close social ties, such as family and friends. The reason for using these very personal connections was the high level of trust gained from the informants and their willingness to share their stories; it was important to assure rich and in-depth data, which might not be the case when talking to an unfamiliar researcher. This tactic of gaining access to data in a Russian context is also recommended by Johanson (2011, p. 515). We had monitored the case firms on a continuous basis since 2013 for the purpose of past studies; this information serves as secondary data for the present research (see Appendix 1), and imbues the study with an additional retrospective and longitudinal horizon.

Specifically, the primary data were collected through two rounds of semi-structured personal interviews with executives/managers of the participating firms (see interview guide in Appendix 2). The first round of interviews was conducted during April–May 2015, and the second, more specific, round during October 2015, with a period of approximately six months between them. Each interview lasted between 25 and 90 min, was recorded, and later transcribed.

Table 1 Key information on the case companies

	Company A	Company B
Industry	Shipbuilding	Food ingredients
Sector	Business to business	Business to business
Established	2004	1997
Number of employees	50 (increasing)	150 (volatile)
Export intensity ^a	5% (increasing)	10% (volatile)
Import dependency ^b	90% (decreasing)	100%

^a Defined as the share of foreign sales in total sales

^b Defined as the share of imported inputs in total intermediate inputs

We do not provide an interview guide for the second round of interviews because their format consisted of follow-up conversations tailored to each company based on specific first-round data. Further, the second round of interviews included discussions on particular decisions and changes within the firms, how the situation in the external environment had changed since the first round, and the current perceptions of the interviewees on the development of the firms and their business environment. Additionally, we addressed issues of performance implications and revisited a greater part of the issues from the first round of interviews for dynamic comparisons. We also accompanied the second-round interviews with the list of criteria for causation and effectuation developed by Fisher (2012) (see Table 3). Prior to the interviews, we asked respondents to match each criterion with three periods in time: before sanctions were introduced, the first year of sanctions, and their current situations. This list allowed us to grasp the dynamics of change in companies' behavior and decision making, and served as supplementary information to discuss during the interviews.

Due to the casual relations with the informants, it was possible to conduct a number of follow-up conversations, separated in time, in order to clarify information from interviews or get a more detailed picture of the cases (see Appendix 1); this introduced an element of abduction and sequential comprehension of the focal issue. Altogether, we conducted nine main interviews and ten follow-up interviews, accompanied by verifications via e-mail and internet chat conversations, which resulted in 585 min of audio recordings and 263 pages of text (Times New Roman, 12 point) that included interview transcripts, extracts from electronic messages, and notes from the interviews.

Primary attention was given to a period starting six months before the first sanction restrictions were introduced in the summer of 2014 and about a year thereafter. We were able to formalize our research stance only after the external shock took place. Thus, ex-post retrospective analysis has been applied to the periods before we stepped in, whereas real-time study was used to capture ongoing processes and related decision-making.

In order to avoid validity problems related to the separating of data collection from data coding (Miles 1979), we performed both data collection and interview transcription ourselves. Informants were made aware they were being recorded. All the interviews were conducted in Russian, the mother tongue for all the parties involved. Since both data collection and analysis were performed in the same language native to all the participants, we did not incorporate translations and back translations. In addition, we engaged in extensive discussions within our research team and with firms, trying to challenge each other's ideas, find confounding factors, and discuss rival explanations. For example, we looked for alternative explanations for consequences to performance, and our second round of interviews helped resolve this when we needed additional data and clarifications from case companies.

Being close to founders/managers of the selected firms was also important for the reliability of the responses from the interviewees. We triangulated the data received from the interviews with secondary sources (company webpages, reports, presentations, data from preceding studies), as suggested by Huber and

Power (1985) and Yin (2014). To verify the accuracy of the answers and additional insights, we sent all the interview transcripts back to our informants; additionally, we cross-checked factual data obtained from our interviewees with secondary sources.

Data analysis

In order not to dilute the richness of our data and to ensure the robustness of its analysis, we combined both manual and electronic methods, as suggested by Bazeley and Jackson (2013). The manual data analysis included within-case and cross-case displays, field notes, and comparative tables in order to find patterns and/or contrasting themes in the data (Miles et al. 2014). The electronic analysis was based on NVivo software. The themes identified in the literature served as a basis for descriptive codes, which were then identified in the transcripts. For instance, the codes included goal-oriented decision making, non-goal oriented decision making, uncertainty, institutional change, risk, network relations, etc. In addition, for triangulation, we incorporated some elements of quantitative data and their analyses into our otherwise qualitative study. This relates to Table 3 and counting the relative use (percentage) of causal and effectual logic in decision-making along the studied period. Although Table 3 facilitated our analysis, the qualitative data are of primary significance in the study. The next section presents the results of our study.

Limitations

Regarding the limitations of our research, it is based on the specific empirical context of Russia and the conditions of institutional turbulence; therefore, the application of our results to other national contexts may be limited and requires additional studies. Additionally, since our findings are primarily based on qualitative data, they can be generalized analytically, but not statistically. Regardless of measures taken to enhance the validity and reliability of our results, due to methodological merit, our interpretation remains suggestive rather than conclusive in nature. Threats to internal validity are also considered. The possibility exists that differences in decision-making logics and performance both stem from pre-existing firm- or industry-specific differences. This threat is partially mitigated by the nuanced approach, while asking interviewees to describe in a detailed manner their reasoning and influencing factors for particular decisions they made. Other ways of acting on this threat are dynamic comparison of firms prior to the introduction of the external factor (treatment variable), further continuous observation, and constant data triangulation.

In addition, using family and friendship ties for gaining data access may cause various biases. We were aware of these biases and minimized them through various techniques described above (more informants per case, follow-up interviews, data and researcher triangulation etc.). However, we made a trade-off towards better quality and richness of our interviews that in Russian context can be reached exactly through close and trustworthy relations between researchers and informants (Johanson 2011; Kuznetsova 1998).

Results

Company A

A former high-ranking naval officer established Company A as a privately-owned firm in 2004 in St. Petersburg, and since then he has been acting as its CEO. As a small company in the shipbuilding industry, Company A served mainly as a subcontractor for shipyards located in Russia and other post-Soviet states. The global shipbuilding market, characterized by higher customer power and demand saturation, enabled the firm to establish good partnering relationships with leading producers from Europe and the UK. Nowadays, the firm estimates its dependency on imports is as high as 90%, has a flat structure, and around 50 employees divided between two units – the main office and a small production workshop. The volume of exports in overall turnover has recently increased to 15%, whereas the figure was rather stable around 5% following incorporation of the firm.

After the trade sanctions and Russia's import substitution program came into force, the firm had to rearrange its own supply portfolio. Previously established partnering relationships with world-leading producers from Europe and the UK were no longer available for most ongoing projects, and searching for reliable substitutes was not an easy task. Building new relationships with local suppliers and those from markets not affected by sanctions, such as China, was a new area for the company. One of the managers directly involved in supply illustrates this as follows:

A1: Through the years, we were intensively using our portfolio of established relationships, where everything was stable, predictable, and arranged according to a given plan of actions. Recent changes pushed us out of our usual comfort zone to a new world, where we have had to change our usual ways of doing business – as if we had just started, especially in dealing with new suppliers. Despite trying to maintain relationships with our established net of western partners, we often have to look for new suppliers elsewhere. (Project manager, first-round interview)

Below, one of our interviewees provides an example of emerging challenges in doing business with new suppliers from China:

A2: A couple of years ago, we occasionally met one Chinese supplier who boasted their capacity for building diesel generators. During that time, we, as well as others in our industry, didn't even consider ordering diesel generators anywhere else except from our Western partners, but in the current situation we decided to try this option. Before signing a big contract, we ordered a test model of a diesel generator and paid the first payment of 30%, which was \$13,000. When we signed this small contract, we knew that in the worst case, we would not have lost much. Afterwards, when we visited their premises to see this diesel generator, what we saw in practice was far from what we had expected; thus, we decided to shut down this cooperation. (Project manager, first-round interview)

By converting recently accumulated experience of dealing with suppliers from China into a simple articulated heuristic, the manager shows that the firm has learned from its experience:

A3: Chinese equipment, in contrast to any Western proposal, is cheaper, but does not carry the same exhaustive description. The Chinese are trying to play on the incompleteness of the information supplied on their equipment. But if it turns out that something does not fit your need, then they demand more money to fix it. The Chinese style of work is not the same as that of Europeans, and if you try to deal with them the way you do with Europeans, they deceive you. Now we understand common risks in working with Chinese suppliers and we have some methods, mainly based on greater control. (Project manager, first-round interview)

Meanwhile, Company A had a well-established relationship with one Chinese firm, and this partnership turned into a competitive advantage when, overnight, European suppliers became unavailable to everyone. Reduced uncertainty and a degree of trust embedded in this link helped increase volumes of orders from this supplier at a lower level of risk, and fulfil the unmet demand in the market. This link, leveraged at a time of utmost importance, created new opportunities for Company A:

A4: Recently we were able to snatch some additional orders due to our immediate ability to scale up deliveries from China, so we made extra profits. These additional profits allowed us to speed up the building of our new higher-capacity manufacturing plant and development of our own products with an increased level of localization. As a result of the current situation, we expect much higher returns on these investments. Despite not being able to estimate our future costs and returns, we have already secured some orders for developing products that are going to be ready in 2018. (CEO, first-round interview)

Moreover, our second-round interview revealed that Company A eventually developed its relationship with the Chinese supplier, and signed a joint-venture agreement concerning production of a cooperative technology solution at the company's newly developed facility. The CEO also pointed out a clear understanding of the limited window of opportunity to strengthen the company's competitive position:

A5: We need to be fast, because the sanctions will not last forever – we have to ride on the wave of import substitution further. Before sanctions are lifted, we have to take our chance to grab important serial projects and establish ourselves in the eyes of serious shipyards, showing that our solutions are not lesser than alternatives. When everyone will be able to use Western brands again, we hope to be able to compete with them. We should not lose the moment. (CEO, first-round interview)

Interestingly, the CEO's opinion concerning the longevity of the sanctions later changed:

A6: It's not crystal ball gazing. We now see that over the last one and a half years, both sides have not worked on a solution for lifting the sanctions, and it's only getting worse and worse. We are now well aware, and the West clearly expressed their position, that sanctions will not be lifted as long as Russia occupies the Crimea, but Russia is not going to return it. Thus, we shape our strategy accordingly by speeding up our own R&D and production processes by all means, developing sustainable business relationships with our new Chinese joint venture partner, and other new and currently-proven suppliers. (CEO, second round of interview)

Additionally, the CEO considered an alternative scenario as well:

A7: Anyway, even if the situation somehow miraculously begins to change in the direction of the lifting of sanctions, relationships in the industry have already changed dramatically, and the long-term plans of the government in relation to import substitution, one way or another, will continue to shape a demand in our industry. Western suppliers will not be able to simply return to the Russian market, given undermined relations and trust, while growing local production, including our own, will be the priority for our customers. Thus, our strategy is fully aligned with the long-term plans of the Russian government and current trends in the industry. (CEO, second round of interview)

Another issue of note is the reliance on the potential to develop new skills, knowledge, and competencies internally. This point is evidenced by the following quote from the CEO:

A8: Although we feel the need for new knowledge and skills, we strive to develop them within the company, within existing resources, without wasting time and money on additional training. We stimulate organic self-development of existing employees within the company. We don't know what kind of skills would be the most relevant in a few years, but I believe that at least some of our employees are able to learn and meet these demands. That is what we are paying for and it has proved effective when we most needed it. (CEO, first-round interview)

Later, in the next round of interviews, the CEO claimed:

A9: After probing several new suppliers, and a reasonably short trial and error learning period, I feel now that our project managers have become fully capable of searching for and dealing with new suppliers elsewhere. Yes, we had some troubles, but now it's becoming less problematic and more predictable. (CEO, second-round interview)

Thus, we can see that the firm acquired new knowledge and competencies learned through experience and internal self-development. In addition to active management and motivation of current human resources, new project managers with extensive experience in dealing with foreign suppliers were hired.

A10: Recently, due to redundancies and bankruptcies related to sanctions and termination of Western contracts, serious professional people have been available on the job market, and we were lucky to be able to invite some on board. We hired three experienced and technically savvy managers. It turns out that we have almost doubled our staff of project managers. (Project manager, second-round interview)

Company B

Company B is a medium-sized firm of 150 employees founded in 1997; it imports food ingredients (e.g., nuts, seeds, powders and starch, dried fruit, vegetable oils etc.) to Russia. The firm runs its own low-level production of snacks and confectionery based on the above-mentioned ingredients. About 10% of turnover stems from exporting these goods to some of the former Soviet republics. In Russia, Company B has offices in Kaliningrad, Moscow, St. Petersburg, Novosibirsk, and Krasnodar. It also has sales offices in Kazakhstan and Tadjikistan. The firm evaluates its dependency on foreign suppliers at 100%; before the trade sanctions were introduced in the spring of 2014, the suppliers were mainly in the US and European Union countries.

Following the introduction of the sanctions, the company continued its import business. However, to reduce costs, it had to close its production facilities in Kaliningrad and several transit warehouses there. By the time of the second round of interviews, it had also closed offices in Kazan and Krasnodar. The biggest changes relate to the change of foreign suppliers. For instance, the main supplier of almonds and peanuts was in the US. Under the sanctions regime, the firm could no longer buy from the US and had to find new suppliers in Iran and India. The search for new suppliers consumed a lot of energy and time, and the quality of goods at a similar price from these companies is poorer. Currently, Company B is dealing with constant complaints about the quality of the ingredients it delivers. For instance, all the peanuts plantations in India are infected with clump virus; but there are no other countries from which Company B can buy in the volume that needs. In addition, the shipping infrastructure (e.g., ports, legal documentation, sanitary inspections, etc.) are not sufficiently developed to handle such large order lots from Company B. Only one year after the sanctions were introduced, the company started getting some established regular deliveries by sea and rail (the regular shipping time for a delivery is about 3 months). Besides these difficulties, Company B is also experiencing complications in importing goods that are not prohibited by sanction regulations. For instance, starch imported from Germany, Poland, and the Czech Republic is constantly liable to additional inspections, which increases the time and costs involved in shipping. These numerous changes in business regulations resulted in a situation of high instability and uncertainty for Company B. One of the top managers described it as follows:

B1: Now we're surviving, and the situation is very unstable. Before, we enjoyed stability, because we had established contacts and a number of good contracts with big factories. We recently lost several contracts with buying firms because

we just didn't have the goods to deliver. We have considerable drops in turnover because we don't have suppliers that can sell us the volume that we want. (Logistics manager, first-round interview)

After more than a year of operating under the new regulations, she reflected on the situation in a slightly different way:

B2: Before the sanctions, our business was stable, and no one expected serious changes, so we didn't modify any area of our business. There was inertia, so trade, and the whole business, moved with this inertia. When sanctions were introduced, everyone around us was panicking... so were we. Our company froze all activities for several weeks. We didn't understand what was going on and how to act; we were afraid that during these several weeks we would lose everything. We stopped all purchases; this was the decision of our top management, because they were panicking. (Logistics manager, second-round interview)

B3: Although the situation is very bad for business now, and in some recent months we have achieved zero profit, I think this crisis caused by sanctions has had a positive impact – it has forced the company to 'shake itself up', clench fists, and start doing something new – in contrast with the previous 'sleepy' period. (Logistics manager, e-mail conversation verifying the second-round interview).

The CEO also confirmed that the firm was acting under conditions of high uncertainty, which meant it was unable to make plans and estimate future returns:

B4: Before, we had some plans and estimates. But now we don't have old contracts, and this situation does not allow for long term forecasts about profit. The forecast and estimates are possible when a firm knows from where it would get its supplies. I think now, planning does not exist at all in our company. We just know how much we would lose if our business shuts down; we don't have any goal that we're aiming for. (CEO, first-round interview)

The second-round interviews provided some more clarification on planning and budgeting at Company B:

B5: When sanctions were introduced, we didn't know how to proceed; we didn't have thought-through plans. Before, we did budgeting for a one year period. After the sanctions, we couldn't plan at all; now we do it every month. Although the future is still unclear and we cannot estimate profit, we at least have a strict control over our spending. (CEO, second-round interview)

Company B had tried different options and new strategies to survive in this turbulent environment (e.g., various attempts to find new suppliers, cutting costs by closing production lines, personnel redundancies, and closing some transit warehouses), but they have not been successful to date. The following quote from an interview with one of the top managers illustrates this situation:

B6: *We cannot use our old knowledge anymore. The old experience with our foreign suppliers will not help us because we need to make decisions under conditions that we didn't experience before. We still have good entrepreneurial spirit and energy, but we need new skills. We have already tried so many options... It is not right just to run, but one needs to run to the right direction. In our company, we have run in several directions and gone nowhere, in the end. We just lost the strength with no result. I am very worried!* (Logistics manager, first-round interview)

This evidence of continued experimentation is also found in the second round of data collection:

B7: *Now we're trying to experiment and diversify our business, not to put all the eggs into one basket; we are changing from being an almost 100% importing company to having some exporting; we're developing our export to Europe because operations are paid in Euros, and with the current exchange rate we earn better profit.* (CEO, second-round interview)

Our data also shows a change in the perception of the level of institutional uncertainty that occurred during the year operating the business under changed regulations. The first-round interviews demonstrate the following:

B8: *When sanctions were introduced, we had hysteria at the top management level. Some of them felt that everything was over and were ready to shut the whole business down. It was just a simple panic. The company fired several sales managers, but now we're hiring new ones just after three months after the last one left. All the decisions were based on emotions, with no rational basis, no calculations.* (Logistics manager, first-round interview)

The second round of data collection shows slightly different opinions:

B9: *After the sanctions, the business didn't stop completely; we still have operations with foreign suppliers running, but with new ones. I cannot now say that anything has changed dramatically, compared to the first months of sanction regime and the present situation... we have coped with that shock, accepted it, and continue to live, one way or another... The panic is over, but we don't have optimistic thoughts either. Our business is under constant stress, we've just become used to it. It is a bad stability, but at least it is a stability. I can compare it with running. Usually, when one starts running fast, heart rate is high, and then it stabilizes and decreases. Right now, we are still running as hard as we can.* (CEO, second-round interview)

B10: *As for relations with new suppliers, I can say that they are getting stable. But I cannot say we have workable relations. Although we're buying from them, one supplier is not punctual and the other has low quality; sometimes we need to switch from one to another.* (Logistics manager, second-round interview)

Analysis and discussion

Increasing effectuation

The interviewees from both firms talked about the previous period of relative stability, known ways of running the business, and an orientation towards established long-term relations with international suppliers (Quotes A1, B1, B2); this finding is supported by the secondary data. However, the introduction of trade and banking sanctions dramatically changed the rules of the game and increased the level of institutional uncertainty creating extreme conditions. Both firms were forced to terminate or reshape relations with existing foreign suppliers and find new ones. These findings together with Fisher's (2012) list of criteria for causation and effectuation that accompanied our second round of interviews (see Table 3) demonstrate the dynamics of co-existence and interplay between the causal and effectual logic of decision making in both firms.

Although both companies provided evidence for increased effectuation after the sanctions regime was introduced, we see that their approach to evaluation, enactment and response to the situation was different. While for Company A this effectuation represented an opportunity-seeking strategy and, in fact, the company turned institutional changes into new opportunities (means) and an enhanced competitive position, for Company B effectuation became a strategy to defend available means and survive.

Changing to increased effectuation, they took different approaches to developing their sets of available means. For instance, motivating the self-learning abilities of existing employees at the time of change (A8), Company A was able to develop new knowledge and skills (What I know) internally (A9). This knowledge and competencies assisted the firm in the further proactive process of searching for new suppliers (Whom I know) (A1). While the firm could not predict what kind of knowledge and competencies would be the most relevant in a few years' time, it tried to control the future by securing the development of its human capital. In due course, using an emergent contingency on the jobs market, which suddenly freed up a number of technically savvy managers with international experience, the firm was able to bring some new, valuable means on board (A10). Furthermore, in parallel to its usual line of business, Company A tried to invest further in its own production and research, developing the additional promising identity of a local producer (Who I am; A5). According to the CEO, this kind of identity is highly valued these days and will be a priority in the future (A7).

After the introduction of trade sanctions, Company B also experienced an increasing intensity of effectuation and higher reliance on non-goal oriented decision making (B4, B5). Regarding its effectual means, it underwent some changes in identity (Who I am) because it closed production facilities and became an import-only operation; in addition, it decided to place more emphasis on exports (B7). The company also realized that its reliance on old knowledge and competencies (What I know) was no longer enough, but had not obtained the necessary new skills yet; it failed to gain sufficient expertise to operate under changing conditions or did not realize what new skills were necessary under new circumstances (B6). This comparison allows us to develop the following propositions:

Proposition 1a (P1a) Under conditions of changing institutional environment, firms undertaking opportunity-seeking effectual strategy are more likely to *gain newly*

relevant knowledge and competencies earlier than firms undertaking survival effectuation strategy that can be late or even fail.

Proposition 1b (P1b) Under conditions of changing institutional environment, firms able to *gain newly relevant knowledge and competencies earlier* exhibit enhanced performance compared with firms that fail or are late to gain.

While changing from causation to effectuation, both companies maintained their strong *reliance on network relations*, which is in line with Chandler et al. (2011) who argue that the use of partnership and strategic alliances is relevant to both causation and effectuation. Under changing institutional regulations, both firms were forced to network and switch to new international suppliers. However, similar to the findings by Bingham and Halebian (2012), Company A was able to learn from several unsuccessful attempts with certain suppliers (A3) and take a step forward to find and establish a number of reliable business relationships (A9). For Company A, the previously established strategic relationship with one Chinese supplier, which had never been significantly important before, became an invaluable competitive advantage at the point of the sudden institutional change (A4), and further a joint-venture partner. Moreover, Company A was willing to keep (to reserve in the set of available means) some of its best suppliers (such as their new joint-venture partner) on its shortlist in case the sanctions were to be raised (A6). This allowed Company A to be flexible and benefit from instability by responding to it rapidly and effectively. Meanwhile, for Company B, the process of establishing relations with new suppliers was lengthy and problematic; as the data show, it was not satisfied with the quality of ingredients or the volumes the new suppliers could deliver (B1, B10). Unlike Company A, Company B did not have a reserve of suppliers it could switch to in case of sudden change (what if scenario). Hence, when sanctions were introduced, it was unable to switch quickly to new relations. It was also restricted in its network choices and had to accept low quality goods. This analysis leads to the next propositions:

Proposition 2a (P2a) Under conditions of changing institutional environment, firms undertaking opportunity-seeking effectual strategy are more likely to *have a reserve of potential international suppliers at hand* compared with firms undertaking survival-seeking effectuation that do not have a reserve.

Proposition 2b (P2b) Under conditions of changing institutional environment, firms that *have a reserve of potential international suppliers at hand* are more likely to exhibit enhanced performance compared with firms locked in to a limited number of current suppliers.

Proposition 3a (P3a) Under conditions of changing institutional environment, firms undertaking opportunity-seeking effectual strategy are more likely to be *able to change partners faster* than firms undertaking survival-seeking effectuation.

Proposition 3b (P3b) Under conditions of changing institutional environment, firms that are *able to change partners faster* are more likely to exhibit enhanced performance compared with firms that fail or are late to change.

Both firms provided evidence that they were not able to forecast future returns or make at least some estimates of future profit (A4; B4, B5); instead, they followed the *affordable loss* principle. The story of Company A buying the test model of a diesel generator illustrates the principle of affordable loss in action (A2). The company was ready to bear an acceptable level of risk and pay for strategic opportunities on the supply side with future value that was impossible to estimate. Despite the outcome in which the risk was realized and the firm lost some money, they were prepared for that contingency and the amount was affordable. Another example of affordable loss is the entrepreneur's conscious decision to tolerate downside risk during a *reasonably short trial and error learning period* (A9). In contrast, Company B did not invest in opportunities and learning, but pessimistically could estimate only how much it would lose should the whole business close down. Based on this analysis, we suggest the following propositions:

Proposition 4a (P4a) Under conditions of changing institutional environment, firms undertaking opportunity-seeking effectual strategy are more likely to *pay an affordable amount to invest in emerging opportunities and learning* than to *consider exiting the business at affordable cost* as survival-seeking effectuators do.

Proposition 4b (P4b) Under conditions of changing institutional environment, firms that are able to *pay an affordable amount to invest in emerging opportunities and learning* are more likely to exhibit enhanced performance compared with firms that *consider exiting the business at affordable cost*.

Both companies accepted that under new institutional conditions they were no longer able to use the pre-existing old knowledge and competencies in their international operations (A8; B6); instead, they had to *leverage contingencies*, try new ways of running their business, be open to unexpected events, learn from them, and generate new skills.

For Company A, decision making is concentrated in the hands of the founding entrepreneur and his opportunity-driven logic of reasoning, which resulted in a rather consistent strategy dependent on internal learning and probing new suppliers. Supplementary profit from new orders opened up fresh entrepreneurial opportunities to invest in in-house production; thus, reserving these additional orders creates even more options for the future (A4). Hence, the founder of Company A acted as a real effectuator who “prefers options that create more options in the future rather than those that maximize returns in the present” (Sarasvathy 2001, p. 252). Another vivid example of leveraging contingencies is when the entrepreneur in charge of Company A was able to exploit a temporary jobs market failure and hire several both technically qualified and internationally experienced project managers, rare and valuable employees, which are never available on the market or are recruited by larger players (A10).

Notably, Company A's examples of leveraging contingencies show how the firm was able to exploit the temporarily absent impact of *liability of smallness* (Aldrich and Auster 1986), as neither the orders nor highly qualified employees they were able to snatch during the time of disturbance would be available to smaller players in the industry. While smaller players are usually not legitimate actors and are thus out of the picture (e.g. as a contractor to large shipyards, as an employer of scarce, valuable personnel), under critical conditions they may appear to be the only available option. If they are able to supply a proper

solution by delivering satisfactory products and being a suitable employer, then they gain needed legitimacy in the form of a track record of accomplished deliveries, remarkable employees, and eventually increased size.

Company B also tried several solutions to ensure the survival of its business (B6), and experimented with placing more focus on exporting (B7); however, these were diverse, sometimes contradictory and multidirectional, and did not lead to a successful solution. As one of the managers reported, the company just exhausted its energy and strength for no gain (B6). From this analysis, we derive our penultimate proposition:

Proposition 5a (P5a) While *leveraging contingencies*, firms undertaking opportunity-seeking effectual strategy are more likely to *engage in consistent actions over time evolving into converging strategy*, whereas firms undertaking survival effectual strategy are likely to *make diverse, contradicting and unrelated business decisions*.

Proposition 5b (P5b) Under conditions of changing institutional environment, firms that are able to *engage in consistent actions over time evolving into converging strategy* are more likely to exhibit enhanced performance compared with firms that *make diverse, contradicting and unrelated business decisions*.

Table 2 summaries the proposed differences between the two types of effectual strategy.

Increasing causation

The data collected during the second round of interviews (see Table 3 and quotes A6, A7, A9; B7, B8, B10) provide evidence that along with the decreasing use of effectuation, both case companies experienced an increase in their causal decision making. Approximately a year after the dramatic institutional change, Company A has been able to shape a clear vision of the near future and their new competitive position in it, given their proclaimed (dynamic) capability to acquire update skills and competencies that are highly relevant today (Song et al. 2016; Teece 2007). Accordingly, the firm has been able to align its strategic priorities in accordance with developing trends in the industry and the imposed plans of the government.

As for Company B, it maintained the survival approach to running its business; however, the radical changes in the foreign trade regulations were no longer perceived as a shock (B8). Company B managed to establish somewhat ‘stable’ relations with new international suppliers, although they were only just becoming functional. We suggest that the reasons for this re-causation relate to the cognitively perceived level of uncertainty, namely its decrease. Although the sanction regulations did not dissipate but were getting even stricter with every round, the studied entrepreneurial founders/managers no longer treated this institutional turbulence as severe disturbance, and their tolerated level of uncertainty increased. In other words, the companies got used to operating in this stress and became immune to it. This finding adds to Sarasvathy’s (Sarasvathy 2001, 2008) idea that effectuation is a highly cognitive concept because its basis lies in entrepreneurs’ own perceptions of what they are, what they know and who they know. In line with Reymen et al. (2015), we argue that not only Knightian uncertainty but also its perceived level is an important cognitive factor that influences

Table 2 Contrasting the two types of effectuation

Effectuation principle	Effectuation as an opportunity development strategy	Effectuation as a survival strategy
Means-driven logic	Who I am: developing new identity in parallel to the old one What I know: understanding that the old knowledge and competencies are not enough; gaining new knowledge internally by means of employees Who I know: rich 'reserve' of partners that can be used in what-if scenario; not all previously established partners became completely unavailable	Who I am: some change in identity What I know: understanding that the old knowledge and competencies are no longer applicable; however, insufficient acquisition of new knowledge and competencies Who I know: problematic switch to new suppliers; the change of partners is forced
Reliance on networks	Maintaining relationships with old partners where possible; loss of some old partners; network restructuring and proactively probing new partners; the variety of potential partners is big; proactive search for new partners; fast change to new partners	Loss of old partners, change to new partners is slow and problematic; limited number of potential new suppliers, which restricts choice
Affordable loss	Inability to estimate future returns; investing as much as a firm can afford to lose in exchange for new learning and opportunities	Inability to estimate future returns; considering exiting the business at affordable cost
Leveraging contingencies	Trying various business decisions to exploit emerging opportunities; however, these actions are still consistent, not contradictory, and follow one envisioned direction	Experimenting and trying various unrelated and sometimes contradictory decisions that in the end do not result in any successful solution for the overall business

the dominance of either effectual or causal behavior. However, we can also add that this dominance depends on whether entrepreneurs/managers create or discover opportunities. Thus, decision making in the opportunity-creation context is bound tightly to effectuation (as it is a problem of design), while opportunity discovery and recognition are more inclined to causation (as it is a problem of selection) (Fisher 2012; Sarasvathy 2008).

Based on the interview data, we identified three distinctive periods according to changing levels of perceived institutional uncertainty in both firms. Further, these periods were scrutinized in follow-up discussions with companies' representatives and proved valid in describing their perceptions of changing environment. We show that the increasing use of causation in period 3 (Table 3) stems from the need to use traditional forms of strategic planning in situations when Knightian uncertainty turns to assessable risk (Alvarez and Barney 2007) or in other words when structural uncertainty turns to mere parameter uncertainty (Duncan 1972; Luo 2003). Likewise, this finding is also supported at the level of particular decisions, as we were able to identify that in many cases opportunities explored with effectuation were further exploited in a causal manner. For example, a recent joint-venture agreement between Company A and Chinese supplier is highly formalized, strategically planned, and controlled;

Table 3 Matching the data to the theoretical criteria of causation and effectuation

	Criteria for behavior and decision making ^c	Company A			Company B		
		Period 1 ^a	Period 2	Period 3	Period 1	Period 2	Period 3
		Causation	Vv ^b xx xx xx Vv Vv xx 12 33.3%	Vv xx xx Vv Vv Vv Vv 22 61.1%	Vv Vv Vx Vv Vv Vv Vv 31 86.1%	Vv Vv Vv Vv Vx Vx Vv 29 80.6%	xx xx x Vx Vx xx xx 6 16.6%
Causation intensity:	Intensity score (out of 36 points)	Intensity level (per cent)					
Effectuation	Experimentation: - Developed multiple variations of a product or service in arriving at a commercial offering - Experimented with different ways to sell and/or deliver the product or service in arriving at a commercial offering - Changed the product or service substantially as the venture developed Affordable loss: - Committed only limited amounts of resources to the venture at a time Flexibility: - Responded to unplanned opportunities as they arose - Adapted what they were doing to the resources on hand Pre-commitments: - Entered into agreements with customers, suppliers, and other organizations Effectuation intensity: Intensity score (out of 28 points) Intensity level (per cent)	Vv Vx Vv Vv Vv Vv Vv 22 60.7%	Vv Vv Vv Vv Vv Vv Vv 27 96.4%	Vv Vv Vv Vv Vv Vv Vv 22 78.6%	Vv Vv Vv Vv Vv Vv Vv 13 46.4%		

^a Periods: before March 2014 (before the sanctions regime); Period 2: April 2014–March 2015 (first year of sanctions regime); Period 3: April 2015 to present (more than a year of sanctions regime)

^b V – strong agreement with a criterion (2 points), v – less strong agreement (1 point), x – disagreement (0 points); first of two symbols in each cell – opinion of a founder/CEO, second – opinion of a manager

^c The theoretical criteria are based on studies by Fisher (2012), Chandler et al. (2011) and Sarasvathy (2001)

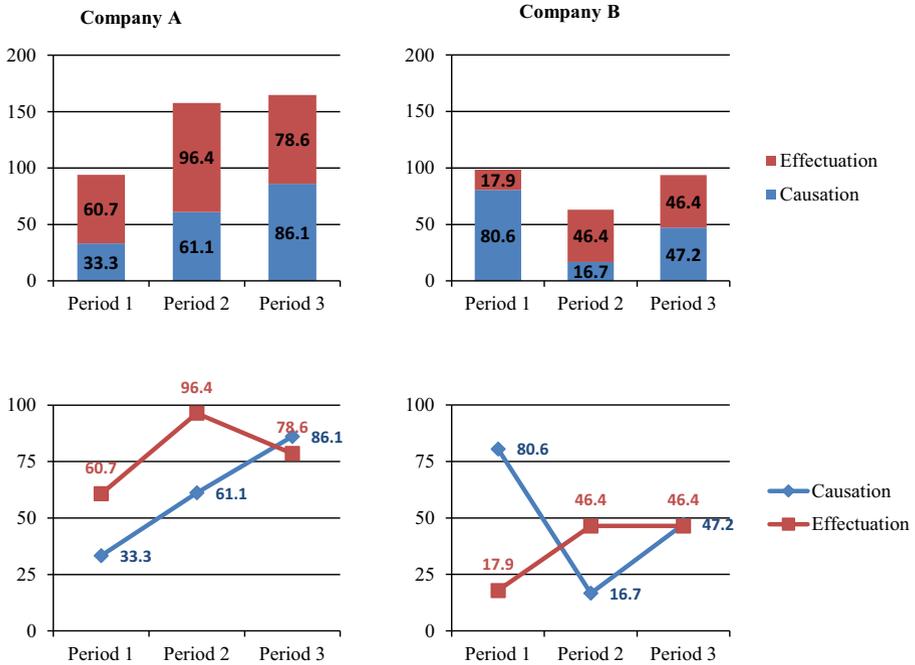


Fig. 1 Interplay and coexistence of effectuation and causation in case companies

however, when the firm got to know their current partner, their relationships were largely effectual.

Proposition 6 (P6) Under conditions of increased institutional uncertainty, the positive impact of effectuation on performance is contingent upon subsequent causation when uncertainty decreases.

Figure 1 below is a visual representation of the dynamic interplay of effectuation and causation along the identified periods. The percentages showing levels of effectuation and causation within identified periods are based on the questionnaire responses from two interviewees (CEO/founder and responsible manager) at each of the case companies.

Conclusions and implications

This study reveals that although firms simultaneously use both causation and effectuation in their decision making, an increase of institutional uncertainty boost effectuation. The study shows that the intensity of both types of decision-making logic varied in accordance to changing perceptions of institutional uncertainty. Also, the study illustrates variant applications of effectuation with

distinct performance implications, allowing us to distinguish two types of effectuation, namely opportunity-driven and survival-seeking effectuation. The results of our study offer novel theoretical insights for moving effectuation theory forward, and provide managerial and policy implications. In this section we discuss how our findings correspond to some of the directions for future effectuation research suggested by Arend et al. (2015) and Read et al. (2016).²

Theoretical contributions

Our two contrasting cases address not only *what* effectuators do and *how* they act under conditions of high uncertainty but also the “*Why*” of effectuation (Arend et al. 2015). We provide evidence on why under condition of increased institutional uncertainty decisions and actions of opportunity-seeking effectuation are more adequate than those of its alternative, survival-seeking effectuation. In fact, our example of survival-seeking effectuation questions the assumption of effectuation theory that all entrepreneurs can be successful effectuators (Arend et al. 2015). We show that some of them succeed in/through effectuation, and some try but struggle to survive. In this regard, the example of opportunity-seeking effectuation shows “*how to move them from cannot to can*” (Arend et al. 2015, p. 646), and helps move effectuation from a theory explaining entrepreneurial behavior to a theory explaining differences in performance (Perry et al. 2012). In this regard, our derived propositions focus on the micro processes mediating the relationship between effectuation and performance of a firm under conditions of increased institutional uncertainty.

Both Arend et al. (2015) and Read et al. (2016) admit that effectuation needs inductive process-based research that would enable the continuous investigation of patterns and changes in decision making from causation and effectuation and vice versa. In response to this, our study explores the process of interplay between causal and effectual strategies. Although Reymen et al. (2015) have also focused on the process of interchange and the co-existence of both logics, our study complements their findings by offering real-time data (a limitation of Reymen et al. 2015), two types of effectuation and the context of institutional uncertainty (other than the technological dimension as in their study). Besides, we demonstrate the co-existence of the two logics in established firms and in relation to their international activities. We also go beyond the study by Fisher (2012) and reveal whether, in what combination and under which circumstances the concurrent use of both logics can be more advantageous.

Our process-based study can serve as a basis for further inquiries in the effectuation stream. For instance, scholars may compare effectual activities of entrepreneurs at the stage of business formation with the effectual activities

² Although Read et al. (2016) brush away many points of criticism of effectuation presented by Arend et al. (2015), some suggestions for moving effectuation forward offered by Arend et al. (2015) remain unanswered (and thus treated as relevant) by Read et al. (2016); moreover, we assert that certain advancements suggested in these two articles are akin.

appearing further along firms' life-cycle. Similarly, they could compare stages when causation dominates effectuation. This kind of study could perhaps show whether the same firm can experience different effectuations and causations depending on its stage of development. Another process based study may also track how an entrepreneur's of a firm's identity unfolds throughout the entrepreneurial effectuation process similar to the study by Nielsen and Lassen (2012), but in the context of established firms facing uncertainty.

In addition, effectuation has been criticized for remaining self-referred with limited diffusion into broader scientific discussion (Arend et al. 2015). In response to this, the present study contributes to the development of effectuation research by extending its boundaries into areas other than entrepreneurship alone, namely IE in this paper. After Johanson and Vahlne (2009, p. 1423) stated that effectuation is fully consistent with their revisited Uppsala model, they gave the green light for many scholars to use effectuation to explain outward internationalization processes (Andersson 2011; Gabrielsson and Gabrielsson 2013; Galkina and Chetty 2015; Harms and Schiele 2012; Kalinic et al. 2014; Mainela and Puhakka 2009; Sarasvathy et al. 2014; Schweizer et al. 2010). We adopt a different perspective and demonstrate that effectual decision making can be employed also in inward internationalization by established firms, due to the high uncertainty related to restructuring relations with international suppliers. This view offers a useful link to the broader discussion in International Business on international partner selection (Hitt et al. 2000; Varis et al. 2005) and global value chains (Azmeah and Nadvi 2014; Buciuani and Mola 2014), and thus helps IE become less marginalized (Coviello et al. 2015; Galkina 2013).

Also, the findings of our research provide contributions to the institutional theory by showing how institutional change and uncertainty on a macro-level are realized and acted upon on a micro-level of mundane everyday decision making of individual business founders and managers. Hence, our study informs the practice approach to institutional change (Powell and Colyvas 2008). Precisely, our focus on the interplay of causal and effectual logics as a decision-making mechanism of responding to institutional change can help to understand co-existence of deliberately intended actions and emergent adaptations to institutional dynamics (Plowman et al. 2007; Battilana et al. 2009). For instance, our results can be taken further to explore so-called situated improvising, the experimental mechanism of coping with institutional complexities and uncertainties (Smets et al. 2012).

Further, our findings can be advanced to connect effectuation research to a broader field of strategic management literature. Analyzing our cases, we found that the behavior and decision-making logic of our case companies after the introduction of sanctions (Table 3 and Fig. 1) largely lead the firms to match different types of organizations as classified by Miles and Snow (Miles et al. 1978). Company A, with a high level of causation and immense level of effectuation, achieved elevated competitive positions in the market. The story of company A during this critical period clearly reflects the strategic orientation of the *prospector*, as according to Miles and Snow organizations of this type

thrive in changing business environments that have an element of unpredictability, and succeed by exploring environmental change in search of new opportunities (Miles et al. 1978; Parnell 2013; Song et al. 2016). Contrastingly, company B was not able to reach a satisfactory strategic stance, with insufficiently increased effectuation and sharply decreased causation. The lack of a systematic strategy, and belated and inconsistent decisions, placed the stagnating firm into the *reactor* category with the consequence of poor performance in the second period. In the third period, both firms started to place more emphasis on efficiency, bringing in more features of the *defender* and *analyzer* organizations by the Miles and Snow typology (Brunk 2003; Miles et al. 1978). Accordingly, advancements from the strategic management and strategic entrepreneurship literature on how to achieve better performance for different types of organization may further augment effectuation research (e.g. DeSarbo et al. 2005). Additionally, as far as our study provides some evidence that the structural uncertainty drives effectuation, while the parameter uncertainty might be addressed with causation, it may trigger an interesting direction for further research on decision making under various types of uncertainty.

Managerial relevance

Our analysis suggests that opportunity creation and discovery accomplished through effectuation alone does not lead to enhanced performance only if combined and secured by causation associated with opportunity exploitation. We suggest that under conditions of increased institutional uncertainty firms should not have either causal or effectual decision making dominating one over the other (like in Company B) but rather use both logics equally. This would imply reliance on pre-existing knowledge and competences but constant obtaining new ones; maintaining the existing workable relations but pro-active networking, learning about foreign partners and “reserving” new relations into the stock of potential means; investing in emerging opportunities and leveraging contingencies but being consistent and developing non-contradictive decisions. These practical implications indicate that our findings serve not only a descriptive but also prescriptive purpose, which is, according to Arend et al. (2015), a considerable step forward for effectuation research. When the classic approach suggests that during critical downturns in the economy, organizations should improve their internal efficiency through cost reductions, more planning and control over business operations (Brinckmann et al. 2010; Delmar and Shane 2003), effectuation advocates for market-making activities contingent upon external change and co-created opportunities. While we admit that the latter type of behavior is neither normatively suggested for everyone nor always possible, we have shown that under conditions of increased institutional uncertainty and with a certain set of capabilities, a firm may viably sustain and improve its chances of survival and strengthen its competitive position. Thus, we show that the two decision-making logics are complementary to each other serving different entrepreneurial processes.

Policy implications

At a time of overall economic hardship, exacerbated by a weaker currency together with trade and financial sanctions, government may serve to prevent firms engaging in panicky behavior and incompetent strategic adjustments. Despite of the ongoing global trend towards free-markets, many governments around the world keep intervening local business in a variety of ways (Bremmer 2010), and literature on industrial policy provides an affirmative answer on whether governments can help to develop firms and industries (Lazzarini 2015). Russian government has been utilizing both vertical (e.g. industrial targeting and national champions) and horizontal (i.e. related to overarching business environment) industrial policies, while vertical emergency measures serve as a “helping hand” in critical times (ref.). According to recent World Bank report, measures taken by Russian government and Central Bank proved more effective comparing to other oil-dependent countries; however, recovery of Russian economy is contingent upon sustained improvements in the investment climate and deep structural reforms that will be able to boost private investments and FDI (World Bank 2016). While there is little consensus on the role of government in development of private business in Russia, the more recent studies have shown some evidence that the state and business have found a common ground (Frye et al. 2009; Yakovlev 2015). An interesting empirical study on investment decisions in various regions of Russia suggests that it is exactly the reduced level of regulative uncertainty is able to increase incentives of firms to invest (Levina et al. 2016) and thus points towards reduction of uncertainty in the business environment as a viable industrial policy for Russian government. The changing conditions in the shipbuilding industry, described by representatives of Company A, were increasingly monitored, planned, governed and controlled by the government, thus providing the essential assurance for further strategizing at the firm level. Despite a slight delay, the government was able to plan further development of the industry, thus reducing firm-level perceptions of uncertainty in the market. While we may expect that firms in other countries could be more reluctant to accept (potentially intrusive) state interventions due to different expectations regarding state-firm relationships, under conditions of institutional uncertainty governments may still serve to reduce institutional uncertainty, perhaps, in more culturally acceptable ways. Relative to our cases, specific support in identification and selection of potential suppliers as both of our case companies had problems in finding new suppliers when they most needed those. Further, additional training and consultancy related to business culture would have reduced the losses (albeit affordable) and enhanced efficiency of the supplier selection process. Furthermore, according to our propositions, under conditions of increased institutional uncertainty policy-makers could be helpful in 1) facilitating matchmaking events, inter-regional and international trade missions, connecting local and available international producers with local actors on the demand side (P2a and P2b). Additionally, as firms require new knowledge and competencies relevant to the current situation (P1a and P1b), the government may develop specific measures encouraging and facilitating organizational learning.

Appendix 1 Data collection and sources of information

	Company A	Company B
Semi-structured interviews	11.5.2015: 40 min; project manager 25.5.2015: 30 min; project manager 25.5.2015: 30 min; CEO 18.10.2015: 50 min; project manager 1.11.2015: 25 min; CEO	15.4.2015: 45 min; CEO 1.5.2015: 90 min; logistics manager 19.10.2015: 45 min; logistics manager 24.10.2015: 50 min; CEO
Non-structured follow-up interviews and discussions to verify information from the interviews and follow up questions	20.5.2015 Follow-up meeting to verify transcript from the preceding interview and discuss current news from the shipbuilding industry - Shipbuilding Forum in Moscow (25 min) 27.5.2015 E-mail exchange to verify transcript of the recent interviews followed by Skype conversation with project manager about current news from the shipbuilding industry - assessment of the industry prospects (10 min) 6.6.2015: informal discussion with project managers about current situation in the firm (15 min) 12.7.2015: informal discussion with project managers about current consequences of new development plan for the industry (20 min) 22.10.2015: follow up e-mail and Skype call with project manager (20 min) to verify information from the interview 3.11.2015: Skype call with CEO to clarify responses on the list of criteria (15 min)	8.7.2015: informal discussion with CEO and 2 sales managers (about 15 min each); 12.09.2015: informal discussion with CEO (25 min) 20.4. 2015; 2.5.2015; 12.7. 2015; 9.8.2015; 10.8. 2015; 5.10.2015: messages through Skype chat with logistics manager 13.5.2015; 31.8.2015; 20.9.2015; 20.10.2015: messages through Skype chat with CEO; 20.10.2015: Skype conversation with logistics manager (12 min) to verify information from the interview; 2.11 2015: Skype conversation with CEO (23 min) to verify information from the interview
Onsite company visits	25.5.2015: duration 90 min	8.7.2015: duration 90 min
Work experience	10.1.2014–1.4.2014	-
Secondary data	January 2013 – survey data collection from the company for preceding study; 19.5.2013 – an interview (60 min; project manager) – preceding study; 9.4.2015 – extensive discussion on economic situation as experienced by business representatives from five industries including shipbuilding (60 min), followed by preparation of concluding document (2 pages) and research proposal May 2015; October 2015: Archival data (information from website, reports and brochures provided by the firm); Onsite company visit: 19.5.2013 (preceding study)	October 2013: 3 semi-structured interviews for the preceding study; May 2015; October 2015: Archival data (information from website, reports and presentations provided by the firm); Onsite company visit: 14.7.2013 (preceding study)

Appendix 2 Interview guide

The focus of this interview is on the changes in decision making regarding your firm's supply side operations. We are interested in how changes in the external institutional environment (sanctions) affect the internal logic of decision making. While we are expecting clear answers to our questions, the most valuable information for us is your personal experience and rich illustrative examples. Feel free to ask your own questions during the interview and suggest other relevant points for discussion.

1. Background information:

- a. Age of firm
- b. Number of employees
- c. Number of founders
- d. Area of business
- e. B2B, B2C, B2G
- f. Does your firm have any sales in/to foreign markets?
- g. Could you please describe a typical transaction of your company from the beginning to the moment of sale/delivery of goods to the end user?

2. International activities

- a. When did your firm make its first sale to a foreign country?
- b. What is your share of exports in total sales volume?
- c. Where do you sell your products/services except Russia? (CIS, Europe, Asia, North and South America, etc....)

3. Business environment

- a. How would you describe the political situation in Russia throughout the history of your company? How did political factors affect your company?
- b. How would you describe the economic situation in Russia throughout the history of your company? How did economic factors affect your company?
- c. How would you describe the regulatory environment in Russia throughout the history of your company? How did regulatory factors affect your company?
- d. What other external factors have been affecting your business in this period? What has changed since then in relation to your business in the external environment?
- e. How would you describe the current political situation? What current political trends are influencing your firm? Do you experience any change within your firm related to current political trends?
- f. How would you describe the current economic situation? How does the current economic situation affect your firm?

- g. How would you characterize recent regulatory changes in Russia? What particular regulations are the most important for your firm?
- h. How would you characterize in three words the period before sanctions were introduced? And the current period (starting from 2014)?

4. How goal-driven logic changes to means-driven logic.

- a. What has been achieved by your company in the years from 2008 to 2014?
- b. What are the current goals for the company? Any recent changes in this respect?
- c. What changes have occurred in your company since 2014?
- d. Would you characterize your way of running the business (procedures, routines, people to contact etc.) as more or less established (generally accepted)? Any recent changes in this respect?
- e. Could you compare the degree of predictability in your business before the recent crisis and now?
- f. Do you have a business plan? Did you have it before?
- g. Did you draw up any forecast/set of scenarios that your firm could rely on?
- h. What is the planning horizon for the company?
- i. Do you rely on planning or is it more like reacting to an emergency situation?

5. How competitive analysis changes to reliance on partnership and then back?

- a. How would you currently assess your dependence on foreign suppliers? Have you recently experienced any changes in this respect?
- b. What are your basic criteria for the selection of your suppliers? Any recent changes in this respect?
- c. Is there any difference in how you make decisions regarding your suppliers in the past and now?
- d. Could you please tell me about your first international supply contracts? How did your firm find potential suppliers?
- e. How did you chose suppliers in the previous years (before sanctions)?
- f. What has changed since then?
- g. Did you conduct any marketing research in the past (before sanctions)?
- h. Did you have a network of established partners (suppliers and customers)? Do you still have them?
- i. With the sanctions regime, did you have to change to other suppliers? Can you describe this change?
- j. How did you search for new suppliers to choose from after the introduction of trade sanctions?
- k. What are your main challenges when changing your suppliers?

- l. How did your old partners react to their dismissal and change to new partners? Are you still in touch with them? Are you trying to maintain at least some sort of relationship? How?
- m. Who suffered the most due to the imposition of sanctions in your market?
- n. Could you find new supply alternatives, which are not worse in parameters than those from your previous suppliers?
- o. If the sanctions were to be lifted soon:
 - would you keep some of your new suppliers for longer-term relationships. Why (not)?
 - would it be possible to change back easily to your previous suppliers? Why (not)?

6. How counting on expected returns changes to affordable loss?

- a. Did you make any estimation of your returns before the introduction of sanctions?
- b. Can you do it now? Can you estimate your profit?
- c. What are the main risks you can see to your business in the current situation? How is this risk estimated, managed and controlled for?
- d. What are the risks in dealing with new suppliers? Do you have any interesting stories to tell about taking risks while working with new suppliers?
- e. Could you compare the level of risks in dealing with your old and new suppliers?
- f. Have you had any experience of your old suppliers' inability to execute the contract before? Do you have any risky ventures with some of your new partners? What are the consequences for your firm if the risk is realized on your supply side? What would you do if your new supplier fails to deliver the contract?
- g. What opportunities can you see for your business in the current situation? How would you estimate potential profits from realizing these opportunities? Do they have any countable monetary value? What are the consequences if your firm fails to realize and monetize these opportunities?

7. How exploiting pre-existing knowledge changes to leveraging contingencies?

- a. Could you once again list these new opportunities for your business related to the new regime of sanctions?
 - a. To address these new opportunities, can you rely solely on your previous knowledge?
 - b. Do you feel any need for organizational changes to address these emergent opportunities?
 - c. Would you agree that in order to address these emergent opportunities your firm requires new skills and competencies that have not been in such demand in the past?
 - d. What do you think, what competitive advantages are now at the forefront?

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