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EXPLAINING THE CO-EXISTENCE OF EFFECTUATION AND CAUSATION



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ABSTRACT

Effectuation and causation have been described in the literature as occurring sequentially or simultaneously, but little research has examined when and under what conditions this occurs. We examine the co-existence of effectuation and causation based on 25 long interviews of executives working with innovation in the magazine industry. We find three patterns of co-existence, including simultaneous, sequential and situational dependence uses of effectuation and causation. Implications for future studies of effectuation, especially in regards to the corporate context, are discussed.

INTRODUCTION

Effectuation is a valued area of decision making research and practice, most notably in situations characterized by uncertainty (Chandler et al., 2011; Perry et al., 2012). An increasing amount of research supports effectuation as being used by entrepreneurs (e.g. Chandler et al., 2011) and by managers facing uncertainty (Brettel et al., 2011). In addition, research has also revealed interesting patterns relating to the antecedents (Johansson & McKelvie, 2012) and outcomes (e.g. Read et al., 2009a) of effectual decision making. While researchers generally find that effectual logic is suitable in situations of uncertainty – and causal logic in more predictable situations – they also suggest that both logics are used by the same decision makers (e.g. Read et al., 2009b; Sarasvathy, 2001; Wiltbank et al., 2009). However, few studies examine the conditions (when, how and why) the two logics are used in a combined fashion. The focus on the majority of scholarly work has been on the individual use of one of the logics, not the combination of both logics. Among the limited studies that do address this, the findings are inconclusive. For example, Harting (2004) suggests effectuation is used in the early stages of a project and causation at later stages while Johansson et al. (2012) find the opposite pattern. The latter study finds innovative endeavors in established firms often require legitimacy-building at an early stage, which is achieved by using a broadly espoused management (causal) logic such as conducting forecasting and market research; effectuation is used later in the process.

Based on these mixed results, we know relatively little about the timing issues related to the use of effectuation and/or causation processes and in particular the sequencing of these (Perry et al., 2012). In this paper, we extend the effectuation literature by examining the timing issues related to the use of both effectuation and causation. We explore how task orientation and situational circumstances explain the combined use of effectual and causal logics in established firms. In doing so, we build upon the extant literature suggesting the logics are complementary rather than competing (Chandler et al., 2011) and respond to calls for further research revealing the

conditions under which they are best used. The study shows common patterns of simultaneous; sequential and situational use of effectuation and causation and thus bring forward an important, yet explorative, contribution to the field of decision making under uncertainty.

THEORETICAL FRAMEWORK

Conceptually, effectuation is oftentimes treated as the invert from the linear, goal-driven and analytic approach taught at most business schools today, referred to by Sarasvathy as a causal logic (2001). It is however important to point out that effectuation and causation are not dichotomous variables, but can be combined and used at different occasions (c.f. Chandler et al., 2011, Johansson et al., 2012, Sarasvathy, 2001). Sarasvathy (2001, p.245) expresses this in the following quote:

“Both causation and effectuation are integral parts of human reasoning that can occur simultaneously, overlapping and intertwining over different contexts of decisions and actions.”

This statement rests upon the assumption that the choice of decision making logic fluctuates based on factors including the human capital of the decision maker (Sarasvathy, 2001) and the organizational environment (Simon, 1997). Since the theory of effectuation was first introduced (Sarasvathy, 2001), a number of studies have been conducted to expand and deepen the understanding of entrepreneurial decision making in different contexts. Despite its potential to explain entrepreneurial activity in established firms, only few attempts have explored how effectuation applies to managers in established firms when facing situations of uncertainty, including innovation work. These attempts include the study by Brettel et al. (2012) on R&D managers within high technology firms, and the study by Johansson et al. (2012) and Johansson (2014) exploring managers' approach to dealing with new media development in the Swedish and Finnish magazine publishing industry. Both studies confirm the presence of effectual as well as causal thinking and emphasize the need for managers to be able to balance the two in various situations.

In this study we put particular focus on the “different contexts of decisions and actions” part of the above quote. This includes looking further into the role of type of uncertainty: state, effect and response (Milliken, 1987); type of innovation: incremental or radical innovation (Henderson and Clark, 1990); and underlying motivations, such as institutional pressure (Beckert, 1999), perceived autonomy (Hornsby et al. 2002) or reducing risk (Brews and Hunt, 1999). We also analyze the decision making patterns regarding timing and sequencing, and look for the reasons behind the logic used. Given the lack of previous research in this area and the inconsistent findings in the extant literature, we deliberately adopted a more exploratory approach to this research. This involved allowing the data to speak to our research topic rather than developing a priori hypotheses.

METHOD

Data collection and sample

We chose a qualitative approach for this study for several reasons. First, qualitative research is suitable for studying the “how” and “why” questions of entrepreneurial decision making which we are interested in (Eisenhardt, 1989; Miles & Huberman, 1994). This is especially true as we are adopting a more exploratory approach to our study. Second, the qualitative approach enables us

to gather data of rich detail which is especially suitable when searching for sequential patterns and underlying motivations of decision making approaches (Miles & Huberman, 1994; Yin, 2009). Third, qualitative research is useful for theory building Eisenhardt and Graebner (2007); which is the aim of this study and also helps to underline the notion that our study is primarily exploratory in nature.

Contextually, this study is situated in the magazine publishing industry. This particular industry is currently experiencing high general levels of uncertainty during the overall digital transformation of the media industry, which has increased in intensity over the past 10 years. Magazine publishers compete not only with new types of magazines, websites, and mobile applications, but also with completely new types of formats including books, events, TV programs, courses, etc. As such, it offers an appropriate context to study entrepreneurial decision making. In an effort to understand the decision-making processes on a more general level, and outside their national or corporate culture boundaries, we interviewed decision-makers in three different units of a single large media corporation situated in three different countries: Russia, Hungary and the Netherlands. A snowballing approach was used to identify information-rich cases (cf. Patton, 2002). This allowed us to find innovative magazine executives in these three units. Data were collected via semi-structured interviews covering the development processes of recent innovation projects. Each interview lasted between 60-90 minutes. The interview questions covered the development processes of some of the latest innovations, and explored such issues as the drivers for the project (goals vs. means); the financial perspective taken (incomes vs. costs); reducing the risk of new ventures (planning vs. commitments); and reaction to unexpected things (existing capabilities vs. flexibility, new opportunities). The interviews were informal and followed the leads of the interviewees varying the wording and the order of the questions to allow us to focus on their actual day-to-day experiences. We conducted 25 interviews in total. All of the interviews were tape-recorded, with the permission of the interviewees, and transcribed for analysis.

Data analysis

According to Miles and Huberman (1994), coding is equivalent to analysis in qualitative research. For the purposes of this paper, the data analysis was conducted in three consecutive phases: First, each interview was analyzed as an independent case using a theory-driven thematic content analysis (cf. Auerbach & Silverstein 2003) approach. The software NVIVO was used in the coding and analysis phase throughout. The coding frame included Sarasvathy's (2008) classification of the four main elements of effectuation (starting with means; affordable-loss; pre-commitments and leveraging contingencies) and the causal conceptual counterparts (goal orientation; maximizing returns; business planning and competitive analysis and using existing means to achieve pre-determined goals). Second, we proceeded by coding *when in the process* the logic was applied (early, mid, late or at given mile stone); *what* type of innovation project was underhand (radical or incremental); the *situational circumstance* (level and type of uncertainty); the *occurrence of switch* between logics; finally, *why* as in the underlying motivation for engaging in a particular type of decision making logic was coded (e.g. *to receive legitimacy or due to perceived autonomy*). Third, the notions of the individual interviews were taken together and common patterns were searched for in the whole dataset in an effort to develop current theory further. This part of the analysis was data-driven and resulted in the table presented in the next section. Using NVIVO allowed us to cross-examine the text sections or sequences being coded with causal together with effectual principles next to the codes pointing at the context in that particular section or sequence.

RESULTS

Our empirical results reveal interesting patterns relating to task orientation and situational issues. While the joint existence of effectuation and causation is already acknowledged in the effectuation literature (Brettel et al., 2012; Wiltbank et al., 2009) our study provides more insights on how this balance can be manifested in practice. When examining how and why the causal and effectual principles are used in general, before looking into its interrelatedness some general patterns are revealed. For example, causal thinking is primarily manifested in the form of financial considerations, market research and notably in the early stages of the development projects. These decision making approaches were often characterized by a need to obtain legitimacy in the organization in order to be given permission to proceed and receive internal funding. Effectual logics were also applied at early stages of innovation, often in the shape of creative ideas coming from the existing means of people in the editing team. This was often done at a stage where large projects required approval of upper management, where the management requested causal-like justification and metrics. However, effectual principles was required in helping to move the process forward given uncertain future circumstances particularly with regards to effect and response uncertainty pertaining to market needs and reactions.

While one underlying reason for acting effectually appears to be perceived autonomy from managerial control, there is also a general view that this is the “only” way to do it. In other words, decision making heavily espousing effectuation did so due to what they perceived as a natural fit. Perhaps not surprisingly, those preferring causal principles offered the same justification for the choice of causation. Hence, part of the explanation for the choice of logic may be personal preferences or business values and ethics – although this was not particularly studied here. Within causal logic, activities with regards to planning and forecasting were viewed as more or less standard procedure in all types of innovation activities as well as in the ongoing content production process. An exception includes smaller projects that falls within the responsibility of the editor-in-chief. Here there is no internal pitching needed in general. But the editor can go about working on the project the way he/she wishes. Most work then followed an effectual process, where existing means are transformed and the product co-produced together with self-selected stakeholders (Saravathy, 2001). Table 1 provides an overview of how and when the effectual and causal logics are combined.

DISCUSSION AND IMPLICATIONS

In this paper, we examined why, how and when causal versus effectual logics were applied in the context of innovation in established magazine publishing firms. Our empirical results, based on the analysis and cross-logic comparisons of qualitative interviews, reveal interesting patterns that helps better inform our understanding of the co-existence of effectual and causal logics in a corporate setting. First, there seem to be a general preference towards using causation or effectuation more than the other logic, for almost the same reasons: to reduce risk and because simply being perceived as the right way to go about. This paper do not delve into the antecedents of such preference, but previous studies suggest it is likely a combination of human capital factors and organizational factors, with a dominance towards the organizational factors (McKelvie & Johansson, 2012).

Second, our study supports the idea of effectuation (in particular starting with means) as an early stage tool to reduce uncertainty, especially effect and response uncertainty with regards to market needs and reactions (McKelvie, DeTienne & Chandler, 2014), but also in order to act quicker. This suggests an important temporal component to the use of effectuation. Third, the

fact that the affordable-loss principle is used to avoid needing to connect in upper management, tells a different story about effectuation in the corporate context compared to the start-up context (Sarasvathy, 2001). Again, choosing an affordable-loss logic enables a speedier (and more autonomous) process that circumvents stage-gate type of approval from other managers within a hierarchical organization. At the same time, there is also a pressing need to report return on investments, fulfil stated goals and follow stated plans. These are important components of effectuation and causation logics individually; their combination to satisfy other stakeholder concerns in relation to affordable-loss (effectuation) and maximizing returns (causation) illustrates part of the co-existence.

Fourth, our findings show how effectual and causal logics are used sometimes near-simultaneous; sequentially and in specific, single, decision making situations. Here, perhaps the sequential pattern is most interesting, as it purposefully illustrates the different needs along different stages in an innovation process. Fifth, we also find that effectual and causal approaches are used differently at the organizational level and the individual level. This means that while causal processes is carried out at an organizational level, individual decision makers may at the same time choose to adapt to this process or to use effectual principles in parallel.

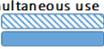
While these findings offer some preliminary evidence as to the nature and conditions of the co-existence of effectuation and causation, we are only beginning to scratch the surface of these issues. We have begun to identify some of the issues related to each of the three patterns of co-existence that we find. For instance, in the simultaneous model, we find that these uses are governed by circumstances related to organizational practices, business context and individual preferences. In contrast, the sequential model more clearly is based on the fact that different factors come into play in different phases of a project.

Our approach to this research was notably exploratory. We adopted this due to the limitations in the extant research in regards to the conditions and nature of the co-existence of effectuation and causation. Most pressing among these limitations is the lack of theoretical reasoning in describing the usage patterns of types of decision making logic. This approach is one limitation to our study, but also allows for novel theory building. For instance, this allowed us to ask in-depth questions related to timing and sequencing that other methods might not capture. Nevertheless, as part of this approach, we acknowledge that our focus on one industry and certain national units within one firm provides limitations to generalization in regards to national culture, industry differences, and a variety of firms. Further research, adopting a more systematic approach in multiple contexts might be fruitful.

Together, the findings contribute to the growing literature on entrepreneurial decision making and effectuation in two ways. First, we examine the decision making logic of innovative managers by describing how and in which situations they employ both causation and effectuation. This is important to the effectuation research as the literature has only observed that these two logics appear, but tended to focus on one over the other. Further, it examines the issues of time in effectuation research, which opens for further theorizing. Second, we add to the so far limited knowledge of effectuation in an established firm context, and are thus able to better understand how task, situation, and organizational factors affect the choice of decision making approach in innovation projects. The start-up context has dominated in effectuation research; this may overlook many organizational constraint and need issues that dominate corporate entrepreneurship thinking.

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Table 1. Co-existence of effectual and causal logic.

	Near-simultaneous use of logic 	Sequential use of logic 	Situational dependence 
Patterns found	<p>Means (E) & Planning (C). E.g. experience-based ideas are generated while at the same time continuous market research is carried out. Goals (C) and pre-commitments (E): Self-selected partners are sought having a particular goal in mind regarding end product. Maximizing returns (C) and affordability (E): E.g. The amount invested is limited, yet expectations on returns are set. Planning (C) and leveraging contingencies (E): E.g. setting up a business plan but adjust when unexpected things happen.</p>	<p>Means (E) ==> Planning (C) ==> Means (E) ==> Experimental process (E) ==> Reporting back on goals and plans (C) E.g. starting with an intuitive belief based on experience - proceeding with collecting information through market research - then making a business plan - finally (if approved) an effectual process starting with means and continuing with experimental activities begins. Finally, the results are reported back.</p>	<p>Smaller projects are related to the use of effectual principles. Larger and or complex projects demand increased internal funding and blessings from upper management which implies causal principles. Incremental innovations generally origins from existing means such as making new combinations of existing content. Projects that are close to the interests of an advertiser are linked to an effectual pre-commitment approach.</p>
Why - motivation	<p>To legitimize projects in the organization and get internal funding. Also, as evidence from market research is needed to convince advertisers to invest.</p>	<p>To legitimize projects in the organization and get internal funding. Also, as evidence from market research is needed to convince advertisers to invest and to secure trust from management that you are able to deliver.</p>	<p>As some situations call for causal while some call for effectual logic. E.g. If the projects can be run at the editorial team level without asking for more internal funding, mainly effectual logic is used.</p>
Illustrative quote	<p>"Well, there is done a lot of market research, we do a sort of monitor every four weeks (...) but...I always think... you are running behind the truth. We have to be in front of this. So this is more for marketing, and more for explaining why things work or not, but if you need this to make your magazine, I don't think you're a good chief editor. I think then you make what the people really want, and you also have to make what the people don't know that they want." (Editor in chief at Dutch special interest magazine)</p>	<p>"So, it's also about intuition and believing and patience and making good quality and things like this. And, of course, you have to look if there are enough people who are interested in this subject, and are there enough diabetes people in the Netherlands for making such a thing or do I have to make a magazine about blood pressure. There you need to get starting with figures, but then, the second step is making fantastic content and believing in it, and trying, try, try and make errors." (Editor in chief at Dutch womens magazine)</p>	<p>"The first thing - it should be profitable, if not this year then next year or the other year, so the investment should be paid back, in certain time. It depends whether it's a big investment or a small one, if it's only a small one, then I'm competent to decide on the project or the whole budget. If it's not, then you know the bigger the investments the higher the decision-making level." (Editor-in-chief at Hungarian special interest magazine).</p>