



That My Neighbor's Cow Might Live: Effectuation and Entrepreneurship Education in Croatia

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Abstract. Post-war Croatia has been characterized by high unemployment, a damaged infrastructure, stalled foreign investment and few government incentives for new business creation. It is in this context that a prominent local professor in Osijek, in the eastern part of the country, started a unique MBA program focused on entrepreneurship. The aim of the program was to give hope to some of the region's young people after years of struggle and lost time during the Balkan Wars. This paper provides an analysis of how the program came into existence by examining both the unique Croatian context and the process of effectuation. Because it highlights both of these aspects of the story – context and process – the model may serve as an example for the creation of other, similar initiatives in areas where economic development is sorely needed, and where entrepreneurship education may represent one way to boost regional economies.

Keywords: entrepreneurship education, effectuation, economic development.

1. Introduction

There is a well-known folk tale in Croatia that goes like this: A man had a neighbour with a very good cow, one that gave him a lot of milk. When the man had the good fortune one day to catch a golden fish, meaning that he could wish for anything he wanted, someone asked him, 'so now that you have caught the golden fish, what is your greatest wish?' And the man answered, 'my greatest wish is that my neighbour's cow will die..²

The story that forms the basis of this paper begins in 1991 when Serbian troops attacked the Croatian town of Osijek, after leveling Vukovar, only a few kilometres away. Dr. Slavica Singer stayed and witnessed the physical and emotional devastation the war had caused, particularly on the young people of Osijek, many of them her students at the University. She felt she had to do *something*, but she didn't know what. She read and she thought, she talked to many different people and she gathered ideas. Nearly a decade later, Dr. Singer,

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 2. Well-known folk saying in Croatia and the Balkans in general.

a professor of economics at the University of Osijek, launched the Graduate Program for Entrepreneurship, a Western-style, two-year MBA program focused on entrepreneurial innovation. Just after the program started, Dr. Singer summed up her long journey: 'It was like waiting for Godot. I am an old person, but these young people who had already lost nearly ten years of their lives could not afford to wait any longer'.

Through personal experience and historical accounts, we have been able to re-create the development of Dr. Singer's graduate program as it has unfolded to this point. From the outside looking in, the process often appeared chaotic, progressing randomly without rhyme or reason. Dr. Singer and her surrogates were scrambling, marshalling resources on an ad hoc basis, doing seemingly puzzling things at odd times. But somehow, the program began to take shape as processes and systems were put in place. That anything at all happened, that any progress whatsoever was made toward the program's eventual 'opening day', appeared to be a minor miracle, given the lack of structure and the seeming absence of any real strategic plan. However, if you 'rewind' the story and play it again, viewing it through the lens of entrepreneurial effectuation, the narrative begins to make sense.

Effectual reasoning in the context of entrepreneurship, recently brought to prominence by Sarasvathy (2001a) allows entrepreneurs like Dr. Singer to make decisions using the logic of 'non-predictive control' (Sarasvathy 2003b, 4) in highly uncertain environments (such as post-war Croatia). It helps entrepreneurship scholars to understand *how, in the absence of current markets for future goods and services, such goods and services get created*. (Shane and Venkataraman, 2000). However, in this particular case and many others like it, the definition of 'market' is expanded to include the space where effectual reasoning is used in the creation of *all* social artifacts – not just for-profit firms (Sarasvathy 2001a). In fact, effectuation often leads to the very creation of markets themselves. As Sarasvathy (2001a, 260) points out, 'creating a firm in an industry that does not yet exist calls for strategies very different from those used for penetrating a predefined and well-structured market'.

In order to understand how this program came into existence, it is important to examine both the Croatian context *and* the process of effectuation. The paper is organized as follows. First, I provide a brief literature review on entrepreneurship education and illustrate the lack of scholarly research on how entrepreneurship programs have been or may be created, particularly in environments where there has previously been no "market" for this type of education. Second, I detail my research methods and empirical analysis of the data. Next, I provide a description of the Croatian context and show how its particular characteristics make it an ideal backdrop for the theoretical analysis offered in this paper. Then, I lay out the basic framework of entrepreneurial effectuation in the creation and development of new social artifacts before presenting the results of the effectual reasoning analysis. Finally, in the discussion section, I draw out some lessons for others engaged in similar

institution building and examine promising avenues for further research in this area.

1.1. Literature Review: Entrepreneurship Education

The treatment of entrepreneurship education in the academic literature has followed a clear pattern of development. In the earlier days, when entrepreneurship was just beginning to be offered in western universities, typically as a “sideshow” in the overall management curriculum (rarely gaining the status of a stand-alone department), the focus of much of the entrepreneurship education literature was on documenting the increasing prevalence of entrepreneurship programs in universities (Vesper and MacMullan, 1988) in a few non-university contexts in the developing world (Brockhaus, 1991) or on rather general suggestions for how to improve the offerings (Hills, 1988). These suggestions were largely based on why and how entrepreneurship education is different than, and shouldn’t be placed within the functional framework of, general management education. (McMullan & Long, 1987).

As time went on and entrepreneurship appeared to be “here to stay” due to both increasing “enlightenment” on the part of university faculty and administration and increased market demand (Solomon and Furnal, 1991), the focus shifted to more nuanced analyses of the actual content and process of entrepreneurship education programs (Gartner & Vesper, 1994, Vesper & Gartner, 1997). The trend toward analyzing in greater depth both the content and role of entrepreneurship education continued with a number of studies looking at the overall vision for entrepreneurship education (a particularly interesting one, Jones-Evans et. al. 2000, suggested creating an “entrepreneurial analogue to the teaching hospital”), the role it might play outside of the university setting (Gray and Allan, 2002) and a more recent paper that suggests a shift in the measures of success for entrepreneurship education away from the number and quality of start-ups toward a change in the societal and intellectual attitudes toward entrepreneurship in the long run. (Galloway & Brown, 2002).

A number of large-scale quantitative studies have come out more recently that attempt to measure the effect of entrepreneurship education on intentions, attitudes and perceptions (DeTienne & Chandler, 2004; Galloway & Brown, 2002; Peterman & Kennedy, 2003 are examples). One of these (Galloway, et. al., 2005) explicitly states the serious limitations of quantitative studies in evaluating attitudes toward entrepreneurship and the economic environment, arguing that while a study of that sort may be able to suggest a generally positive impact from entrepreneurship education, and therefore implies that investment in entrepreneurship education is likely warranted, it does not allow for a more fine-grained examination of exactly what is having an impact on students, why and how.

Perhaps in response to this dearth of meaningful analysis of the actual content of entrepreneurship education programs, a pair of recently-published, and in my

view, thoughtful theoretical pieces (Honig, 2004; Shepherd, 2004) attempt to take a more rigorous look at course content and to tie specific elements of entrepreneurship courses much more closely to the larger body of existing theoretical literature in entrepreneurship. For example, Honig uses Sarasvathy's notion of entrepreneurial effectuation (2001) and a wealth of literature on business plans in entrepreneurship to argue that business plans are ubiquitous not because of their usefulness, but rather because of "normative isomorphism influencing nascent entrepreneurs to produce business plans." (Honig 2004:260). He also concludes that while a business plan is "meant to be a first step toward a specific process widely known as entrepreneurship. . . unlike the activity of entrepreneurship, it focuses primarily on ideas as opposed to actions." (2004:260). This conclusion is based on the work of Sarasvathy (2001) and others who propose that entrepreneurship is not the result of positive deductive rationality which is reflected in typical business plan approaches, but rather consists of an "inductive process by which various products, services, and ideas are examined, attempted, modified and delivered." (2004:260).

Shepherd, following up on an earlier piece on the emotions surrounding entrepreneurial failure (Shepherd, 2003), looks at the role of emotions and failure in the entrepreneurial classroom (Shepherd, 2004). He suggests specific – although untested – pedagogical approaches for introducing the emotions of failure into the classroom.

Both of these articles make serious attempts at merging theory, practice and actual observation of what entrepreneurs do, and how they behave. They represent a good start at a more rigorous approach to bringing theory and practice together in the entrepreneurial classroom.

However, I was unable to locate any studies that examine the actual creation of entrepreneurship education programs in environments where there has been no tradition of entrepreneurship education, where such programs did not exist at all. Nowhere in the literature could I locate a study that examines the process through which an entrepreneurship education program in such an environment arose in the first place, particularly in developing country contexts such as the one examined here. The project described in detail here, is an attempt to capture that effectual process through one unique case study.

2. Methods

This paper combines two well-established research methods: the case study and content analysis. A description of both of these methods follows here. In addition, the case study will be examined with regard to its unique contextual significance.

2.1. Case Study

The term ‘case study’ is used to describe many different vehicles from teaching instruments in an MBA classroom to the personal history of patients in clinical trials to short one-page anecdotes used for corporate training. I see the Croatian graduate program as a case study in the following sense:

Indeed to the extent that I dare risk a definition of the case study, I find compelling Stake’s statement that ‘case study is not a methodological choice, but a choice of object to be studied’ (1994:236). Case studies, therefore, are distinguished by the researcher’s interest in studying particular objects – or bounded systems.” (Locke, 2001, 16)

The Croatian program is a ‘bounded system’ that is ideal for a study of the process of entrepreneurship education. Specifically, once again referring to Stake (from Locke 2001, 16), he describes three types of case study:

The first type, the intrinsic case study, focuses on the uniqueness of a particular case; analysts are interested simply in understanding the case itself – this particular organization – for all its particularity and uniqueness. By contrast, in the second type of case study, instrumental cases, researchers are interested in a particular case because of the potential it has to offer in providing insight into a substantive issue or to advance theory.

This case is actually a blend of these first two types of cases that Stake describes. It is *unique*. There is no other large-scale organization devoted solely to teaching entrepreneurship in different geographic areas and in different types of schools as measured according to various parameters. The purpose of this project is to capture and give expression to this uniqueness. It is also *instrumental* in the sense that it has tremendous potential to provide insight into, and advance theory about, how to support the development of entrepreneurship through entrepreneurship education programs.

This case serves as a vehicle to illustrate how a unique social artifact came into existence largely through effectual reasoning. Case studies are widely used in management education, law, and many other disciplines, although they have often been criticized mainly because of problems of generalizability. Yin (2003, Preface) states that the case study is often seen as a ‘weak sibling among social science methods’. However, he also points out that single cases are appropriate under the following conditions: 1) when it is an extreme or unique case, as Stake also points out, 2) when it is a critical case for testing a well-formulated theory, and 3) when it is a revelatory case previously inaccessible to scientific investigation. These conditions are briefly outlined here.

A Unique Case: The Graduate Program for Entrepreneurship in Croatia is unique in a number of dimensions. It is the first program of its kind in the country, and,

we would argue, the first program of its kind in the entire region of Southeastern Europe. 'Western-style' interactive business education simply did not exist in the country until Dr. Singer started this program. As argued long ago in a paper co-authored by the author of this paper, with reference to so-called 'small n' samples:

In a world of change, there are few examples of those leading the change. . . the researcher in entrepreneurship is studying the mutant, not the main species. Studying the mutant involves careful attention to precisely the nature and sources of the differences. (Stevenson and Harmeling, 1989, 9)

This can lead to what Stevenson calls the entrepreneur's 'unfair advantage'. This means looking for your own opportunities, not others'; it means asking the question, 'given who I am, whom I know and what I know, what are the unique opportunities I can identify in my own context that will allow me to create a product or service or a whole new market with the potential to grow'?

Critical Case for Testing Theory: The theory of effectuation in the creation of social artifacts is so new; very few empirical studies have been done to date. Sarasvathy (2001b) and colleagues (Sarasvathy and Kotha 2003) have indeed tested the theory, but they are the only ones who have done so. In addition, to the author's knowledge, there have been no studies on entrepreneurial effectuation in international settings, particularly in developing and transition economies with a much higher contextual uncertainty than exists in developed countries like the United States (Desai et. al. 2003).

A Revelatory Case: As Yin (2003, 10) writes, case studies, like experiments, are 'generalizable to theoretical propositions and not to populations or universes'. The case study does not represent the 'sample' of statistical methods where the goal is to 'enumerate frequencies', but rather the goal here is to 'expand and generalize theories'. The Graduate Program for Entrepreneurship in Croatia is a perfect case to test the theory of effectuation and its role in the creation of social institutions.

2.2. Data Collection and Content Analysis

Little has been written in the press, in academia or elsewhere on the development and implementation of the Croatian graduate program. Therefore, this paper relies on extensive interviews with the program founders, especially Dr. Singer, with whom the author conducted some 40 hours of total interviews, with students, and with the Director of Economic Development at the Open Society Institute of the Soros Foundation, which financed the start-up phase of the program. It also includes analysis of a previous case study written on Dr. Singer and the program by one of her former students. I agree with Sarasvathy (2003) that it is best to

follow Campbell's (1975) dictum that multiple sources of inference about a phenomenon are analogous to degrees of freedom in statistics. However, I had to generate my own data in this case given the lack of 'formal' literature on the program. Unable to get data from as many sources as I would have liked, it is my hope that careful questioning and rigorous data analysis more than compensate.

After interviews and data gathering were complete, all the data were read through several times to identify relevant semantic chunks for coding in the process of content analysis. The semantic chunk, which can range from a few words or a phrase to multiple sentences or even paragraphs, is the primary unit of analysis for hypothesis testing. The semantics chunks were identified and coded by the author and by an external coder who is highly knowledgeable on causal and effectual reasoning and who did not otherwise participate in the development of the case. Disagreements on the type of reasoning used were mediated by a third coder, also highly knowledgeable on causal and effectual reasoning.

All categories for coding come directly from Sarasvathy's 2003 model of effectual reasoning (they are described in more detail below). Chunks were first coded using the two main categories, effectual (EFF) and causal (CSL), and then by a number of sub-categories to best describe the rationale behind the particular example. These sub-categories are as follows: Under effectual reasoning, the sub-categories are: Affordable Loss, Commitments/Constraints, Exploitation of Contingencies, Control, and Means-Based Action. Under causal reasoning, the sub-categories are: Expected Returns, Competitive Analyses and Operating Strategies, Predicting an Uncertain Future and Goal-Driven Action). The Following is a brief description of the subcategories:

2.2.1. Effectual Reasoning

- *Affordable loss (LOSS)*: Emphasis on trials that commit minimal resources rather than placing large bets that would be devastating if unsuccessful; 'real-options' mentality of placing multiple irons in the fire at a relatively low level of commitment; a portfolio approach to products or services.
- *Commitment/Constraints (COM/CON)*: Emphasis on collecting pre-commitments from stakeholders as a way of reducing uncertainty; exploring the potential marketplace in an effort to turn possible competitors into partners; predominance of joint ventures versus going it alone; in general, this is the process whereby stakeholder commitments impose constraints on the shaping of the artifact while expanding resources to be used in its ultimate creation.

- *Control vs. prediction (CNTL)*: Active efforts to shape demand for the product or service; efforts to make the marketplace more favourable for the firm, such as lobbying for regulations that would build entry barriers, or taking pre-emptive moves that would make competing with the firm unappealing. *Exploitation of contingencies (EXCON)*: Building in flexibility to change the direction of the product or service if a different but potentially better market is discovered in the process; continual scanning to determine if this is really the 'right' product or service to go with; leasing/renting versus buying.
- *Means-based action (MEAN)*: Emphasis on identifying means available, and then exploring what can be done with them.

2.2.2. Causal Reasoning

- *Expected returns (ER)*: Decisions based on estimates of the market revenues less projected operating costs; predictions of return, scenario and 'what if' analysis; decisions to pursue one project versus another based on calculations of likely market strength.
- *Competitive analyses and operating strategies (BEAT)*: Carefully identifying competitors in the market (note that this presumes a fairly clear idea of what the market is), developing strategies to counter competitors' advantages and exploit weaknesses.
- *Predicting an uncertain future (PRED)*: Models of market demand based on linear growth and historical trends; use of focus groups to gather market information; using projections as the basis of decision making; scenario analyses.
- *Goal-driven action (GOAL)*: Emphasis on formation of specific goals and then accumulating the resources and taking the actions necessary to reach those specific goals.

2.2.3. Time Frames

After the chunks were coded by category and sub-category, they were labelled according to the time frame in which they occurred, from 1-5 (1 = early market exploration, 5 = later stage positioning):

1. *Market exploration*: the time between when the initiative to do 'something' is identified and when the idea for the program is formed.
2. *Market definition*: from the time of the decision to focus on an academic program to the time of the decision to do the entrepreneurship program.
3. *Market segmentation*: from the time of the decision to do the entrepreneurship program to that of doing particular courses with particular professors, etc.
4. *Market targeting*: from the development of initial appeals to students until the launch of marketing initiatives to attract new students.
5. *Positioning*: decisions made after feedback from initial student groups begins to roll in. In a purely effectual setting, this may be long after sales (enrollments) have been made. In a purely causal setting, positioning will be likely to be decided before product launch.

2.3. The Bleak Context of Post-War Croatia

The plight of post-war Croatia is in many respects similar to so many other war zones (or post-war zones) throughout history, with its damaged infrastructure, high unemployment, lingering ethnic tensions and psychological scars. Yet, in other respects it is of course unique, as are all distinct cultural contexts with their own particular conflicts, languages, religions and traditions. Although it is difficult to separate the effects of the war from the general influence of economic transition throughout the entire region (Kovacevic, 2001), by the early 1990's, Croatia was left with hundreds of thousands of refugees, displaced persons, occupied territory, destroyed manufacturing facilities and severely-reduced market size. The standard of living fell to 40 per cent of what it was before the war began (Dezeljin, 1995). The total number of employed, working-age adults fell by 40 per cent, despite the fact that the number of people employed in small companies doubled (Kovacevic, 2001).

There are a number of possible reasons for this bleak predicament. First, there is a terribly inadequate system of higher education. Second, the culture is rife with *Schadenfreude*³ and suspicion of entrepreneurs and entrepreneurship; a recent survey by the Global Entrepreneurship Monitor found that the overwhelming majority of Croatians would not find it acceptable if their children were to become entrepreneurs, while a majority of Americans would be happy

3. *Schadenfreude* is a common term that means taking joy in other people's suffering as it is expressed in the opening quote of the article.

with entrepreneurship as a career for their children (GEM, 2000). Finally, there remain aspects of the 'socialist black hole' (Benic, 1999), in which virtually no small- and medium-sized companies had existed during socialism and the culture and political system did not yet support them, despite the changing economic and political situation. The question is, given this set of rather chaotic and unpredictable circumstances, how does one begin to get out of the 'vicious cycle' (Venkataraman 2004) and to reap the economic benefits of entrepreneurship? Dr. Singer's answer to this 'million-dollar question' was to create an entrepreneurship education program.

3. Effectuation

From a theoretical standpoint, the problem space for effectuation integrates the spaces identified by Knight (1921), March (1982) and Weick (1979), each of which is inaccessible to causal approaches. It is a space where prediction is not viable (Knight 1921), goals are not pre-determined (March, 1982), and the environment does not independently select the outcomes (Weick, 1979). Effectual rationality opens up a traversable path in this apparent wilderness by inverting the problem definition, solution process, decision principles and overall logic of causal rationality. (Sarasvathy and Kotha, 2003, 7).

Effectuation is a phenomenon that applies not only to the individual level – for example, to the individual entrepreneur—but also to the collective level – to a society or a culture. To date, effectuation has only been empirically investigated at the individual, and not at the collective level (the most important study of effectuation was Sarasvathy's 2001 study of expert entrepreneurs, described below). In this paper, I will combine the two frames of reference – the individual and the collective – by examining in depth Sarasvathy's model of effectual reasoning. This dual level analysis provides the basis of a model for others involved in similar institution building.

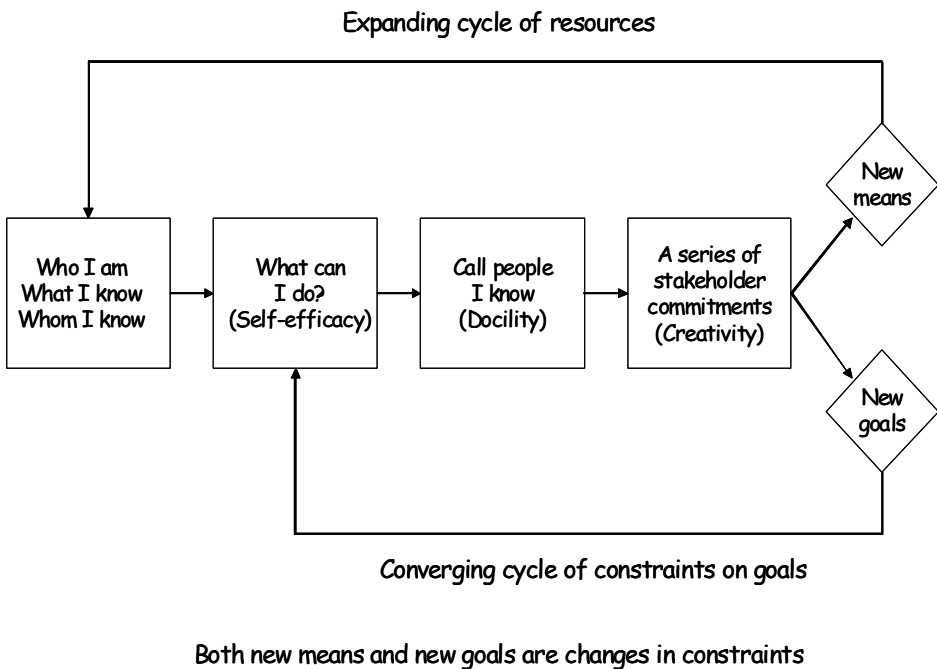
3.1. Effectual Reasoning

In her 2001 study, Sarasvathy found that effectual reasoning was the dominant model in expert entrepreneurs' decision-making processes (Sarasvathy, 2001b). Sarasvathy explains that effectual reasoning is 'based on an entirely separate logic than the logic behind causal reasoning. Causation models are based on the logic of prediction, i.e. *to the extent that you can predict the future, you can control it*. Effectuation, instead, is based on a logic of control, i.e. *to the extent that you can control the future you do not need to predict it.*' (Sarasvathy, 2001b, 4)

The basic outline of entrepreneurial effectuation is this: entrepreneurs start with 'who they are, what they know and whom they know,' (Sarasvathy, Dew, et. al, 2003, 27) and then employ the means available to them at any given moment,

gaining commitments from a building group of stakeholders, ruling in some possibilities, ruling out others, in a constant, non-teleological process of goal creation and revision. During the earliest stage, when the entrepreneur's array of ideas have yet to appear as a tangible artifact, it is not safe to assume that she begins her journey with some specific set of fixed, pre-determined goals (Kirzner, 1973; Shackle, 1966; Dew et. al, 2004; Harmeling 2004). As Sarasvathy (2001a, 261) writes, artifacts 'begin as gleams in the eyes of individuals' and are then constantly exposed to contingencies relentlessly directing events in one way or another, along paths not envisioned at the outset.

Figure 1: The cycle of effectual reasoning



Sarasvathy, Dew, Read and Wiltbank, 2003

The dubious assumption that fixed goals will inevitably be fulfilled in their original form, famously exposed by James March (1982), appears even shakier when faced with this reality: in order to do anything but dream, an entrepreneur must collaborate with others. A wealth of literature on entrepreneurship and social networks illustrates this basic fact of the entrepreneurial process (Hoang, and Antoncic, 2003, Aldrich and Zimmer, 1986, Powell, et. al, 1996 and Maurer and Ebers, 2006). To put an idea into practice, to create a social artifact of any kind, the entrepreneur must secure the commitments of others in the form of an ever-building group of stakeholders (Venkataraman 2002). She must constantly

work with these stakeholders – customers, financiers, employees, suppliers – to arrive at an always-changing set of new, converging goals while expanding her available resources – money, ideas, time, materials, etc. – in the process (for a full discussion of effectual reasoning, see Sarasvathy 2001a).

The entrepreneur starts with her own resources, as referenced in Figure 1 above. These are who she is (the unique characteristics that make up her personality), whom she knows (her network of social contacts) and what she knows (the technical or other knowledge she has accumulated). In starting a venture through the effectual process, she then takes action as implied in the step that asks ‘what can I do?’ in the figure above. This could also be described as entrepreneurial self-efficacy. Inevitably, one action the entrepreneur can take is to tap into her social network by bringing aboard stakeholders in the budding venture. These stakeholders can be suppliers, financiers, collaborators, or just potential customers with input as to the development of products or services. ‘Docility’ refers to human beings’ abilities of persuasion. In the case of a developing entrepreneurial venture, docility – the ability to be persuaded – would likely be greater as the perceived experience of the persuader increases: picture, for example, a supplier who has a particular expertise in widget manufacturing persuading a budding widget-maker to choose one kind of machinery over another. As the effectual entrepreneur continues to bring more stakeholders on board, the venture develops with an expanding pool of resources – or ‘means’ – and a converging set of goals. Both new means and new goals are changes in constraints on the venture.

Certain aspects of effectuation have been explained in different words by different scholars in different contexts. Venkataraman (2002, 46), looking through the lens of stakeholder theory, writes that the ‘seeds of potential conflicts between stakeholders are sown right at the inception of the firm’ and that the entrepreneurial venture owes its very existence to stakeholders’ ‘fundamentally different expectations and interpretations about the future’. This sounds very close to the process of goal convergence through stakeholder commitment that takes place in entrepreneurial effectuation. Lindblom (1979, 519) has written on the futility of ‘synoptic analysis’ in policy making, favouring instead ‘disjointed incrementalism’. He asserts that synopsis, or complete pre-analysis of a problem, is impossible given the divergent values and motivations of the participants in the negotiation. His disjointed incrementalism sounds a lot like the means-driven, stakeholder-shaped process of effectual decision-making.

The idea of sticking to fixed goals or completing a ‘pre-commitment’ synoptic analysis is further exposed as a masquerade in highly uncertain environments. In a relatively stable, i.e., ‘predictable’ environment, causal reasoning might be expected to take a larger role, and earlier in the process. If I know that I am going to get the permit I need to open my shop because that’s the way it has always been, and that’s the way it is likely to be in the future, then I can ‘plan’ on getting the permit. But if I know that ‘anything can happen’ i.e., the

permit office might be closed on any given, random day, at the whim of the bureaucrats who work there, or the law on the distribution of permits might change, or the woman whose job it is to get me the permit might decide she wants a little bit on the side in order to come through, then I can't plan on anything. I have to use any means available at the moment, in other words, I have to use effectual reasoning. Of course, the use of 'any available means' in such uncertain environments carries moral/ethical implications as well. For more on the intersection of entrepreneurial innovation and ethics in changing contexts, see Harting, Harmeling and Venkataraman 2005).

As a final note, I want to make clear that I am not hypothesizing (nor does this case study show) that entrepreneurs *always* use effectual reasoning. Rather, I believe (and this case study will show) that entrepreneurs may *tend* to use effectual reasoning in *many* circumstances, particularly in contexts of high uncertainty and particularly in the earlier stages of the venture's development. However, effectuation is clearly used in addition to, and not instead of, causal reasoning (Sarasvathy 2001a).

4. Results of Effectual Reasoning Analysis

I chose the following hypotheses – regarding the use of effectual (vs. causal) reasoning in the creation of the program overall, and the use of effectual (vs. causal) reasoning according to time frame, or stage of program development – in order to provide a simple, general test of effectual reasoning, particularly in uncertain environments. The results follow here:

Hypothesis # 1: Overall, the founders of the Graduate Program for Entrepreneurship in Osijek will predominantly use effectual (vs. causal) reasoning.

The founders appeared to use effectual reasoning 65 per cent of the time throughout the process, from origin of concept to development and implementation of the program.

Hypothesis #2a: Reasoning in the initial stages of program founding – when uncertainty and goal ambiguity are highest – will be likely to be even more highly skewed toward effectual reasoning.

During the first time-phase, defined as the market exploration stage, between when the initiative to do 'something' is identified and when the idea for the program is formed, effectual reasoning was used 89 per cent of the time. Here is a short narrative, to illustrate some of the highlights of this phase, with the sub-category shown in parentheses following:

When Dr. Singer saw the destruction and devastation of the war, she knew she had to 'do something' but she did not know what that 'something' would be (CNTL). She felt that recent events in Eastern Europe had opened up an 'enormous pool of energy and enthusiasm to do something on our own' (EXCON). She set out to 'just try to understand what is entrepreneurship' because she 'saw that all the big companies actually ceased to function during the war and we saw that people were without jobs and it would be extremely difficult to start those big companies again' (EXCON).

According to Piotr Korynski, who eventually became the economic development director of the Open Society Institute (OSI) of the Soros Foundation, Singer started to talk to humanitarian organizations, including OSI, in an effort to convince them to 'start an economic development program in general, not specifically one for her purposes. She just thought that economic development was one of the most efficient ways to help people' (CNTL). In addition, Singer knew that if such programs were started, they would eventually be able to fund some sort of educational program she might one day start (CNTL). 'Mr. Soros came to agree with Dr. Singer that economic development was indeed a good idea and that he should start the program. She was as usual very direct and very vocal and she persuaded Mr. Soros that this was a good idea' (COM/CON).

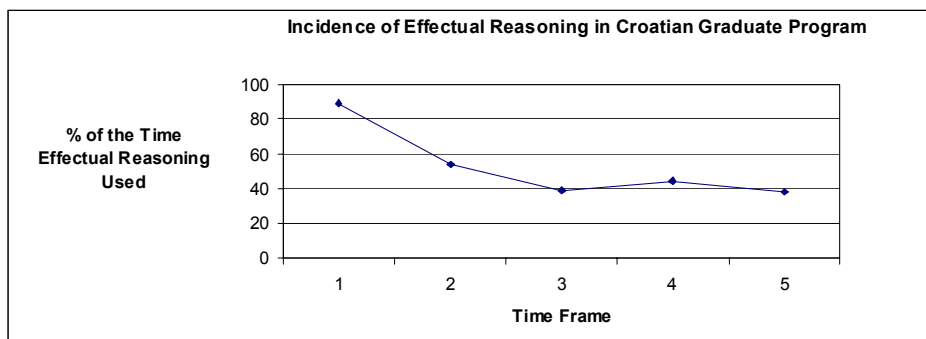
Singer eventually decided that the educational program should be a graduate program that would do two things: 'first, it would form a group of young people willing to enter an academic career to be able to teach later in both graduate and undergraduate programs and second, it would prepare people to start some business, to go into self-employment, to start businesses by themselves' (CNTL).

This narrative continues along the same lines up until the second time-phase, when the founders converged on the idea of establishing a graduate program for entrepreneurship at the university. As mentioned above, effectual reasoning represented nearly 90 per cent of the identified semantic chunks in the earliest stage of creation.

Hypothesis #2b: When causal reasoning is used, it will likely to be used in later-stage development, when the program has actually begun and goals become clearer. This represents the move from a more 'entrepreneurial' to a more 'managerial' mode.

Indeed, the 35 per cent of the time that causal reasoning was used was heavily skewed toward later-stage development, when the basic concept of the program had already been established; in other words, when an expanding group of stakeholders had begun to converge on a narrowing set of goals.

Figure 2: Use of effectual reasoning according to time frame



Hypothesis #3: As time progresses, the formation of the Program will show decreased evidence of goal flexibility [operationalized as EXCON, the exploitation of contingencies] and increased evidence of causal reasoning in the form of goal-driven action.

To the extent that the founders acted effectually in the first stage, for over a third of the time it was to exploit available contingencies, and this subcategory was only 1 of 5 total choices. As the venture progressed beyond the first stage, those elements of causal reasoning observed represented almost entirely (90 per cent) goal-driven actions, versus prediction or competitive analyses.

Once the founders had converged upon the idea of a graduate program for entrepreneurship, they began to use causal reasoning to a greater extent. This seems logical; as goal ambiguity decreases, causal reasoning in the form of goal-driven action is likely to increase. The following quote from Piotr Korynski summarizes the use of causal (goal-driven) reasoning in the later-stage development:

We sat around and said, ‘ok, what do we need and what should we do now’? We knew we had to assemble a team of professors, we decided on a tentative plan to have the program follow the business development process, we decided we needed to pick and choose professors to teach certain courses we had designed and we decided where we would get them. . .

The author finds it noteworthy that 90 per cent of the total identified observations of causal reasoning represented the sub-category of ‘goal-driven action’ rather than those of ‘expected returns’, ‘competitive analysis’ or ‘prediction’, the other three sub-categories under causal reasoning. One possible explanation is that these other sub-categories *assume the pre-existence of markets*, and are therefore unlikely to be useful or relevant until the market is actually established. In this case, as was mentioned earlier, there was no established market for entrepreneurship graduate programs in Croatia or anywhere else in the region and, therefore, there were no ‘returns’ to be expected,

no historical patterns upon which to base predictions of the future and no real competitors to analyze.

Hypothesis #4: After the initial stage, observed incidents of effectual reasoning will shift away from exploitation of contingencies and toward means-based action and control.

While exploitation of contingencies in the initial stages of the project represented 34 per cent of the total identified observations of effectual reasoning in time=1, it did not come up again *at all* until time=5. In time=2-4, means-based action and control represented 80 per cent of the instances of effectual reasoning. Essentially, after the end of the very initial stage, as she began to develop the program in earnest, Dr. Singer looked around and identified the available means she had to work with, and she set about to control her environment in order to make it as favourable as possible to the development and growth of her program.

For example, Piotr Korynski explained how she employed some of the existing faculty in her program: 'Slavica was smart enough to involve the Dean from the beginning and then she just sort of started picking younger professors who were on the faculty who were open-minded, people she liked a lot, people who were able to change or people with the right technical abilities' (MEAN). And he explained how they tried to influence the decisions of the University's Senate on a law that would affect the school becoming an independent entity, separate from the economics faculty, but within the university: 'When the law changed recently, we submitted the final proposal to get the Senate to vote on whether or not the university would accept Slavica's school as an independent institution. As of now, Slavica has spoken to every single member of the Senate and the vote stands at 50/50 with a couple undecideds' (CNTL).

5. Implications for Future Research

A number of potential areas for future research arise from this unique case study, among them a more fine-grained examination of the potential role of entrepreneurship education in developing economies and chaotic environments such as post-war Croatia. In this section, I will briefly outline this and other potential areas for future research.

The first area for research that arises from this case is an examination of effectuation in highly uncertain environments. In these contexts, such as post-war Croatia, effectual reasoning may be effective in 'getting things done' particularly at the beginning stages of venture creation, when goal ambiguity is at its highest. A number of questions for future research emerge, such as, To what extent does effectual reasoning correlate with highly uncertain environments? Do entrepreneurs, in developing and transition economies with underdeveloped infrastructures and unpredictable legal, political and regulatory systems, rely

more heavily on effectuation both at the beginning of their ventures and throughout development and growth than do their counterparts in the United States and Western Europe?

A second area for examination is causal reasoning in the absence of markets. To the extent that causal reasoning is employed in the absence of established markets, it will be likely to be highly skewed toward goal-driven action rather than expected returns, competitive analyses or prediction. These three other elements of causal reasoning assume the pre-existence of markets, and are therefore likely to be less useful until the market is actually established. Specific areas for examination are illustrated by the following questions: In the absence of established markets, are there elements of expected returns, competitive analyses or prediction that are still useful? If so, when and how? Do entrepreneurs use other similar markets, products or services as 'proxies' to aid in prediction, or in the analysis of competition or expected returns? Or do they largely rely on heuristics or intuition?

A third area for future research is the general field of entrepreneurship education in developing and transition economies. The preceding analysis leads to the conclusion that tailored, contextual entrepreneurship education is superior to programs that import content, experts and methods. Mirroring the logic of effectuation, entrepreneurship education should take into account who the entrepreneur is, what she knows and whom she knows. Opportunity can only be understood and analyzed in context, not in the abstract. However, to date little empirical work has been done, in actually measuring the relative effectiveness of different entrepreneurship education programs (in terms of learning, career path/opportunities, etc). This would be an area ripe for future research as more and more programs are established and begin to graduate more students in developing and transition economies.

A final area for future research would be extending entrepreneurship education beyond the walls of business schools and into the broader civil society. In the United States and Western Europe, the market economy and all the cultural and societal norms that come with it are taken for granted. In other regions, such as the Balkans and the rest of Eastern Europe, this is clearly not the case (Desai, et al. 2003). Therefore, in order that entrepreneurship education have the desired effect of fostering regional economic development, it may be necessary to extend it to fields outside business.

This idea is increasingly being explored by entrepreneurship scholars. One writes, 'The traditional focus of entrepreneurship education on business, and new venture management in particular, provides an inadequate basis for response to societal needs. Moreover, the pervasive ideology of the 'heroic' entrepreneur can be seen as a dysfunctional when viewed against the needs of a wider community' (Gibb, 2002, Abstract). Just as effectuation includes the creation of all social artifacts, and not just for-profit enterprise, so entrepreneurship education might come to be understood as valuable to a broader range of organizations and institutions in all societies struggling to create a better future for their people.

As new entrepreneurship education models come to be developed, case study research on 'non-traditional' applications of entrepreneurship education might shed light on the linkage between cultural and social norms, tangible and intangible infrastructure for entrepreneurship, traditional entrepreneurship education programs and the desired 'outcome' of regional economic development.

In summary, the case of Dr. Singer and her Graduate Program for Entrepreneurship in Croatia provides a very interesting and useful model for others engaged in similar institution building, and opens up a number of promising areas for future research in the fields of entrepreneurship education and regional development.

6. Conclusion

The main aim of this project was to understand the creation and development of an entrepreneurship education program in Croatia through Sarasvathy's model of effectual reasoning, and to offer this model as a useful starting point for others engaged in similar institution building. The author recognizes that this is only one case study, and that there are always limitations in that no two environments or contexts are alike. However, the very model of effectuation itself, with its central idea that all entrepreneurial endeavors are created from the starting point of "where people are" at any given point in time and with the particular resources available to them at that moment, makes this such a powerful example. Therefore, although this is only one case, its theoretical underpinning in effectuation renders it in a sense universal for its illustrative potential.

By using a unique case study, the author was able to determine how, when and why both effectual and causal reasoning were used, which specific subcategories of each type of reasoning were used and when, and what particular lessons emerge from this case. It was determined that effectual reasoning was used far more than causal reasoning overall, and particularly in the earlier stages of the project where uncertainty was highest and fewer stakeholders had been brought on board to impose constraints on program goals.

In addition to helping us understand how effectuation might be a useful lens through which to view the development of programs like hers, Dr. Singer's experience clearly shows the need for regional entrepreneurship education with attention to the specific contexts where it is offered and emphasis on relevant stories and realistic role models.

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