Business Opportunities Prototypical Dimensions in Recognition and Decision Stages of the Entrepreneurial Process

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ABSTRACT

Entrepreneurship's research field focuses on how, by whom and by what means business opportunities are discovered, evaluated and exploited (Shane & Venkataraman, 2000; Baum, Frese, Baron & Katz, 2007). In this study we intend to understand how individuals use the business opportunity prototype (Baron and Ensley, 2006), in different stages of the entrepreneurial process: recognition and decision stages.

We used a methodology based on scenarios and on the dimensions of the business opportunity prototype. The study is experimental with a design 2 (scenario A and B) X 3 (business' characteristics: customer's problem solving; cash flow; manageable risk).

Results allowed to understand how individuals use the prototype in two stages of the entrepreneurial process. Both in business opportunity recognition and decision to launch a venture stages, *risk* plays a fundamental. Following, in recognition stage *money* and *profit* are something very considered. However when it comes to actually launch the venture (decision making) *customers* occupy individuals' attention.

These results bring important contributions on how individuals recognize business opportunities and how they evaluate their characteristics according to a prototype framework.

INTRODUCTION

A crucial aspect to understanding entrepreneurship involves the analysis of the environmental characteristics entrepreneurs have to deal with when recognizing, evaluating and exploiting business opportunities. For some time now, entrepreneurship research has been focused on the study of individual differences, with the view that they would explain the phenomenon of entrepreneurship, and has neglected variables associated with information surrounding individuals that may constitute business opportunities (Shane and Eckhardt, 2003).

Business opportunities play a leading role in entrepreneurship but there are still some theoretical gaps regarding the process of recognizing them (Shane and Eckhardt, 2003; Shane and Venkataraman, 2000; Venkataraman, 1997). Assuming that cognitive theory plays a fundamental role in explaining this process (Baron, 2004), this work aims to fill some of these gaps and explore the cognitive processes associated with recognizing entrepreneurial business opportunities.

The entrepreneurial process

Baron and Shane (2005) propose an explanatory model for entrepreneurship. The authors consider that the process begins with the recognition of business opportunities. This recognition occurs when individuals identify potential for creating something new through the observation of complex patterns of events in the environment. In our opinion an initial and very superficial assessment of the business implementation probability has to be made at this stage in order to proceed. In the next stage, individuals decide to pursue the business idea and gather the resources needed initially. This stage is characterized by leaving the realm of "idea" to move towards some activity itself. After the actual decision-making to exploit the opportunity, the first action is to bring together information, human and financial resources and draw up a business plan. The

business is launched only after the resources have been assembled. At this stage, important action and decisions are made such as choosing legal form of the business, service development and the definition of roles within the organization. It is at this stage that businesses often die because it is very complex and not always fully understood by entrepreneurs launching their first businesses. When the business launch is successful one should not think that the whole process is finished. The business launch begins a new phase of the process where it is essential to choose an effective management strategy. The final stage occurs when the business founders strategically prepare their exit in order to harvest the rewards.

The analysis in the present study will focus on the first two stages of the entrepreneurial process (figure 1) since they better represent individual-level variables. Specifically, we intend to understand how individuals use the business opportunity prototype dimensions, identified by Baron and Ensley (2006), in both stages which are fundamental to understanding the next stages of the process.

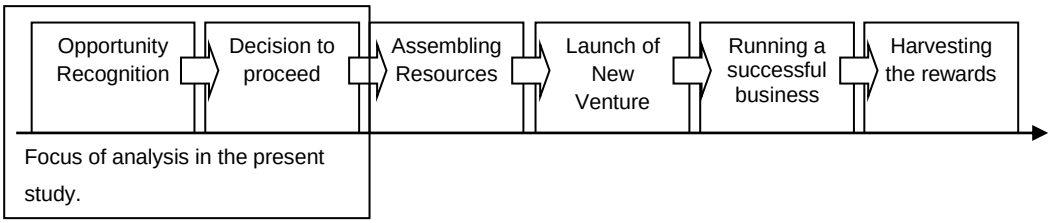

Figure 1: Entrepreneurship: a Process Perspective (adapted from Baron and Shane, 2005).

Explaining business opportunities recognition according to cognitive theory: "connect the dots" perspective

Baron (2006) considers that (1) opportunities arise from complex patterns of changing conditions – technological, economic, political, social and demographic changes that previously did not exist; (2) opportunity recognition is due to individual cognitive structures – mental constructions developed by individuals during life experiences. These structures organize information stored in memory making it useful at given times. They also work as templates that allow individuals to interpret connexions between events that are, at first sight, unrelated. They provide cognitive basis to "connect the dots" between events in a changing pattern that suggests a business opportunity.

Prototypes are essential cognitive structures to this process. They mentally represent categories of objects and the common salient features that are often combined in an object. Applying this model to business opportunity recognition is to say that individuals compare ideas of new products or services to their prototype of *business opportunity*, a mental structure that individuals have built up during their life experiences. If a match is possible individuals will recognize and categorize it as a business opportunity (Baron, 2004).

Baron and Ensley (2006) conducted a study where they identified ten dimensions of the business opportunity prototype. The first five describe the business idea: (1) solves customer

problems; (2) positive net cash flow; (3) manageable risk; (4) superior product; (5) change industry. The other five refer to the feasibility of business development: (1) overall financial model; (2) advice from experts; (3) unique product; (4) big potential market; (5) intuition.

The present study will take into account the "connect the dots" perspective (Baron, 2006) and will be based on Baron and Ensley's (2006) study on the business opportunity prototype. The authors' work is very innovative. However, when describing the prototype there are still some questions to be answered about the recognition process. For instance, it is important to know how individuals actually make use of the prototype. Another issue relates to the use of the prototype at different stages of the entrepreneurial process. Finally, besides knowing the factors that are relevant to deciding to launch a business venture it is also important to know how the characteristics of the opportunity itself influence the perceived importance of those factors.

Consequently, the goals of this study are to:

(a) Identify some of the prototype dimensions of business opportunity in individuals with no entrepreneurial experience, using the measures of Baron and Ensley (2006);

(b) Examine what role characteristics of business opportunity play when assessing the implementation probability of a new business venture (at the recognition level);

(c) Examine what role business opportunity characteristics play in attributing importance to relevant factors in the decision to launch the venture (decision-making level).

These goals are set at two different levels: (1) recognizing business opportunity, which comprises opportunity identification and a first implementation probability assessment according to business characteristics; and (2) deciding to launch the business. It is expected, therefore, that prototype dimensions will be used differently in one stage from the other. According to Alsete (2008), desire to make a profit is an important motivation in recognizing an entrepreneurial business opportunity. This may also lead entrepreneurs to evaluate risk differently from non-entrepreneurial individuals, thought that does not mean they are more willing to take risks (Baron, 2004). Gray and Eylon (2002) consider that clients and their satisfaction are important factors in evaluating the effectiveness of business opportunities. Since these business characteristics are fundamental to analysing opportunities, it is relevant to verify how individuals do this using the prototype at different stages of the entrepreneurial process.

METHOD

Study design

We have used two scenarios that were specifically developed for this study, previously pre-tested and adjusted. Scenario A described a business opportunity suggesting the creation of a low-cost air company, based on the true story of the setting up of EasyJet in the United Kingdom (Rae, 2007). Scenario B described a business opportunity favourable to producing *gourmet* products, specifically potato chip snacks. This story was based on the development of Tyrrell's Potato Chips, also in the United Kingdom (Rae, 2007).

To examine how individuals use the business opportunity prototype when evaluating implementation probability, each scenario manipulated different information based on the dimensions of the prototype of business opportunity as defined by Baron and Ensley (2006). Therefore, each scenario (A and B) had three conditions according to three different business characteristics: (1) solves customer problems, (2) positive net cash flow and (3) manageable risk. These characteristics match three dimensions of the business opportunity prototype proposed by Baron and Ensley (2006). In this study, only these three dimensions were used because they were the ones most relevant to explaining the business opportunity prototype in the authors' model. Another reason for choosing these three dimensions has also to do to with the fact that these are the only ones, from a total five, that do not require comparison with other products (as is the case with "superior product" dimension) nor the knowledge of a complete market/industry (as is the case with "change industry" dimension) and can be fully understood from the information on the presented scenarios.

According to Baron and Ensley (2006), each of these dimensions (i.e., (1) solves customer problems, (2) positive net cash flow and (3) manageable risk) is made up of several items. So, in order to manipulate them, each item was operationalized in a sentence. For example, scenario A describes a situation favourable to the creation of a low-cost air company and it had three conditions (1 - Customer's problem solving; 2 - Cash flow; 3 - Manageable risk).

The present study is a 2 (scenario A and B) X 3 (condition: 1 - Customer's problem solving; 2 - Cash flow; 3 - Manageable risk) design plan with a total of six groups. Since each scenario had three conditions, results concerning scenario A and B will be analysed separately by condition.

Participants

Ninety university students participated in this study (15 per condition, randomly allocated); 34% were male and 66% female. The participants' ages ranged between 18 and 28, their average age being 20 years old. The students belong to different study fields (none of them related to entrepreneurship), the majority (74%) are undergraduates and the remaining 26% are enrolled on graduate programs.

Each individual participating in the study has already thought up, on average, 4 business ideas (M = 3.9), although, and in accordance to the purpose of the study to analyse the role of the business opportunities prototype in individuals with no entrepreneurial experience, none of them has ever launched a business venture.

Table 1: Distribution of participants by condition

	Conditions		
Scenario	1 - Customer's problem solving	2 - Cash flow	3 - Manageable risk
A	n= 15	n= 15	n= 15
B	n= 15	n= 15	n= 15

Procedure, instruments and measures

Data collection was conducted using a questionnaire and lasted about 15 minutes. Participants were recruited on the university campus and were asked to complete the questionnaire uninterruptedly and individually. They were told that their participation was voluntary and their data confidential.

To assess *business characteristics*, individuals were asked to complete a scale of 14 items describing the three dimensions of the business opportunity characteristics (e.g., "Solves customers' long-term needs"; "Makes quick cash"; "Has risks in production"). Participants should answer the question "In your opinion, are the following items a characteristic of the business idea presented before?" on a scale ranging from 1 ("not at all") to 5 ("very much so"). The aim of these 14 items was to assure manipulation effectiveness and to check whether individuals considered that the business opportunities described would actually solve customers' problems, generate cash flow and have a manageable risk.

Then, in order to assess the *probability of business implementation*, participants were asked: "If guaranties were given to you to launch the business opportunity described earlier, what would be the probability of your doing it?". Answers were given on a range from 0% to 100%.

To assess the *importance of factors related to deciding to launch a venture a* total of 24 items were used. Participants were asked to indicate, on a scale of importance ranging from 1 (it is not important) to 5 (it is very important), what degree of importance some factors would have with regard to deciding to launch the business opportunity described earlier. Once again, these items are based on the Baron and Ensley (2006) study.

RESULTS

Business characteristics and scenarios manipulation verification

An exploratory factor analysis was carried out to identify the prototype dimensions concerning business opportunity characterization, similar to what Baron and Ensley (2006) had done in their study. Three factors were extracted and are analogous to the manipulated prototype dimensions: *satisfies customers' needs* ($\alpha = 0.78$), *profitable* ($\alpha = 0.91$) and *controllable risk* ($\alpha = 0.67$). Table 2 describes the factor analysis data.

Table 2: Business characteristics factor analysis.

	Components:		
Business opportunity characteristics:	1–It's profitable	2 - Satisfies customers' needs	3- Has controllable Risk
Creates lots of cash	0.94	0.04	0.01
Makes me get lots of cash	0.90	-0.04	0.07
It's profitable	0.89	0.07	-0.07
Returns quick cash	0.77	0.13	0.08
Customers want it	0.02	0.85	-0.04
It will improve life in general	0.11	0.77	-0.09
Relieves clients' pain/problems	0.17	0.75	0.06
Meets needs	0.19	0.70	0.23
Has legal liabilities	0.02	-0.08	0.85
Production risky	0.35	-0.01	0.80
Has technological liabilities	-0.29	0.24	0.63

Table 3 provides information on participants' business opportunity characterization by scenario and condition. We can observe that in scenario A, for condition 1 - Customer's problem solving, participants considered that the business opportunity was best characterized by *satisfying customers' needs* (M = 3.41); in condition 2- Cash flow, participants considered that the business opportunity was best characterized by its capability of being *profitable* (M = 4.02); and in condition 3- Manageable risk, participants characterized it as being more able to *satisfy customers' needs* (M = 4.27).

For scenario B, in conditions 2- Cash flow and 3- Manageable risk, participants considered that the business opportunity was best characterized by being *profitable* (M =3.71 and 3.78, correspondingly). In condition 1 - Customer's problem solving, participants considered that it was best described by its ability to *solve customers' needs* (M = 3.53).

Table 3: Mean values of participants' business opportunities characterization by condition.

The business idea:	It's profitable	Satisfies customers' needs	Has controllable risk
Scenario A			
1 - Customer's problem solving	3.23	3.41	2.33
2- Cash flow	4.02	3.54	2.53
3- Manageable risk	4.25	4.27	3.03
Scenario B			
1 - Customer's problem solving	3.40	3.53	2.60
2- Cash flow	3.71	2.63	2.57
3- Manageable risk	3.78	3.13	2.62

Results described in table 3 can also explain whether the manipulation is effective, because the answers for each of the characterization variables should be higher in the manipulated condition that is associated to it (e.g., *solves customers' problems* should have higher values in condition 1 - Customer's problem solving). We can see that that does not happen in all cases, particularly on condition 3- Manageable risk for both scenarios. In fact, statistical analysis (one-way MANOVA) to check manipulation effectiveness show that in scenario A there is a significant effect of condition (1 - Customer's problem solving, 2 - Cash Flow, 3- Manageable risk) on business opportunity characterization by participants ($F_{(6,58)}$=4,79;p<0,05) and it explains 33.1% ($PartialEta^2$=0.331) of variance in the answering. However, this effect is not significant in the way participants characterize the business opportunity as having a *controllable risk* ($F_{(2,31)}$= 2,40; p>0,05). In scenario B multivariate tests show that manipulation explains 11.9% ($PartialEta^2$=0.119) of the business opportunity characterization by participants. However, this effect is not significant ($F_{(6,56)}$=1,26; p>0,05), which reveals that scenario B may have some manipulation limitations.

Another multivariate analysis (one-way MANOVA) was then performed to observe whether the different scenarios A and B had a significant effect on the business opportunity characterization as *profitable*, able to *satisfy customers' needs* or has a *controllable risk*. Participants' answers demonstrate that they considered scenario A more able to *satisfy customers' needs* (M_A=3.74; M_B=3.05, regardless of condition [$F_{(1,65)=}$14,24;p.<0,05]). There are no significant differences in the average value at which individuals characterized business opportunity as being *profitable* ($F_{(1,65)=}$0,80;p.>0,05) or as having a *manageable risk* ($F_{(1,75)=}$0,02;p.>0,05)**.**

Business characteristics and business probability implementation assessment

Table 4 presents the initial probability of business implementation by scenario and condition. For both scenarios A and B it is in condition 3- Manageable risk that percentage values are higher (M_A=62.78%, M_B=67.86%, in that order), followed, in both cases, by condition 2- Cash flow and, lastly, by condition 1 - Customer's problem solving. This answer was given on a 0% to 100% probability implementation scale range.

Table 4: Mean values of business idea implementation probability.

Scenario A	
1 - Customer's problem solving	55.33%
2- Cash flow	56.13%
3- Manageable risk	62.87%
Scenario B	
1 - Customer's problem solving	60.77%
2- Cash flow	62.86%
3- Manageable risk	67.86%

Business characteristics and decision factors to launch the business venture

An exploratory factor analysis was performed to identify the prototype dimensions associated with the decision to launch the business venture. Extracted factors are similar to those in the Baron and Ensley (2006) study, which explain the decision to launch a venture. Table 5 shows the factors: *it's unique* (α=0.89), *intuition* (α = 0.85), *favourable financial model* (α=0.75) and *advice* (α=0.93).

Table 5: Decision reasons to launch venture factor analysis.

	Components			
	1- It's unique	2 – Favourable financial model	3- Advice	4- Intuition
Different than others business ideas	0.90	0.09	0.02	0.16
There's nothing like it	0.89	0.11	0.07	-0.01
It's unique	0.80	0.10	0.16	-0.05
New technology	0.77	-0.06	0.10	0.11
Enables new applications	0.74	0.10	0.10	0.09
High profit margins	0.19	0.80	0.05	0.19
Favourable financial model	0.20	0.76	0.10	-0.04
Quick cash flow	-0.01	0.73	-0.17	0.22
High return/low investment	-0.09	0.63	0.30	-0.16
A consultant told me it was a good idea	0.20	0.18	0.86	0.24
A legal consultant told me it was a good idea	0.18	-0.05	0.86	0.19
A financial consultant told me it was a good idea	0.21	0.09	0.85	0.19
I got a gut feel	0.21	0.02	0.26	0.74
No doubts	0.31	0.24	0.16	0.66
It's very logical	0.27	0.30	0.26	0.59
It will work	0.38	0.26	0.27	0.32
It's a good deal	0.30	0.25	0.29	0.46

A univariate analysis (ANOVA) was performed to verify the effect of business opportunity characteristics on the *perceived importance of decision factors* (compute decision factors =(*intuition, favourable financial model, it's unique* and *advice)/4*). Table 6 shows that in scenario A condition (business opportunity characteristics) has a significant effect on participants' answers ($F_{(2,34)}$=3,86; p<0,05) and that it is in condition 3- Manageable risk that answers are higher. However, in contrast to what happened in implementation probability assessment stage, what best explains the decision to launch the business venture after *risk* is the capability of business opportunity to *solve customers' needs* and not its ability to generate *cash flow*.

Table 6: Perceived importance of decision factors for scenario A.			
Scenario	Condition		
A	1 - Customer's problem solving	M	3.24
	2- Cash flow	M	3.11
	3- Manageable risk	M	3.86

In scenario B this model is not significant, which means that business characteristics do not significantly affect differences in the answers.

IMPLICATIONS AND CONCLUSION

The present study aimed to understand how individuals use the business opportunity prototype in two different stages of the entrepreneurial process: initial assessment of implementation probability (when recognizing the opportunity) and deciding to launch the business venture.

The results allowed understanding how individuals use prototypical dimensions of business opportunity at different stages of the entrepreneurial process. In business opportunity recognition and the assessment stage of implementation probability (first stage), business risk is the first concern of individuals. The next concern is its capability of generating a profit, and at last its capacity to satisfy customers' needs. When they analyse the business opportunity from a decision-making point of view (second stage of the process), individuals also begin by examining the risk involved, but then their attention focuses on the business opportunity's capacity to satisfy customers' needs, and the profit issue comes last. This view corresponds to what was expected: in different stages of the process the use of business opportunities prototype is also different.

As Baron and Shane (2005) stated, different stages of the process correspond to different activities. The results in the present study also support that idea, because individuals show different attention focuses through the different perceived stages of the process. As we verified, at the first stage although attention is given to risk, it is immediately followed to the analysis of possible profit. Moving to the next stage requires individuals to engage in "real" actions and to decide to actually launch the business venture, what leads individuals to analyse the business opportunity more realistically. Risk was again the first feature analysed, but at this stage it is concern for customers that follows, with profit being considered last. This analysis is, in fact, more realistic because no business can survive with any acceptance or desirability from potential clients (Baron, 2004). These conclusions are congruent with the importance of risk, clients and profit referred in the literature.

The present study showed some limitations, for instances scenario B had some manipulation problems and a N=2x3x30=180 sample would bring more persuasive results. These results can be considered as a pilot phase of an experiment and future research should revalidate the models presented in this study with samples of entrepreneurs and would-be entrepreneurs. The addition of other measures, such as personal characteristics would also be relevant.

Despite these limitations, this study brings some important theoretical contributions: results support that cognitive theory and "connect the dots" perspective is fundamental to understanding the entrepreneurial process. Methodologically, this study is also relevant because it uses scenarios

to present an actual entrepreneurial situation to individuals, what has been supported by some authors (e.g., Davidsson, 2004). At the same time, this study also contributes methodologically with its measures, because they turn qualitative information into quantitative items from the Baron and Ensley (2006) study

Entrepreneurship plays an important role in society nowadays. Thus, efforts to understand how business opportunities are recognized are very relevant. This work provides an interesting contribution to the entrepreneurship study as it explains how individuals use prototypical dimensions and how this analysis is conducted at two different stages of the process.

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