

Opportunity Discovery and Creation in Social Entrepreneurship: An Exploratory Study in Mexico

General Latin American Business Track: Entrepreneurship

Keywords: Social entrepreneurship, opportunity discovery, opportunity creation

Opportunity Discovery and Creation in Social Entrepreneurship: An Exploratory Study in Mexico

Abstract

In this study we propose a conceptual framework for the opportunity identification process in social entrepreneurship that includes both opportunity discovery and opportunity creation. We develop valid and reliable scales to measure these constructs. In addition, we test original hypotheses explaining the causes of opportunity discovery and opportunity creation. Our results confirm that ‘opportunity discovery’ and ‘opportunity creation’ are mutually exclusive constructs. We also find support for the role of radical innovation and information search in the opportunity identification process in a sample of Mexican social entrepreneurs.

Introduction

Social entrepreneurship is rapidly growing in Mexico. Although there are no concrete numbers in Mexico, Ashoka Mexico works with 204 social entrepreneurs and their enterprises. One example is “Circo Volador”¹ (Flying Circus) in Mexico City founded by Héctor Castillo. This social venture reaches out to young gang members by providing them with opportunities for personal and professional development. An academic by profession, Castillo developed the idea to start “Circo Volador” when he was invited by the local government to develop a strategy to address the needs of gang youth. Initially, he decided to broadcast a radio show to reach over 1500 gangs. As he became more aware of their needs and abilities, Castillo gradually came upon the idea of empowering the youth to generate income by using their own talents to produce marketable goods and services. He formally started “Circo Volador” in 1997 and since then has received numerous international awards and has been invited to replicate his innovative intervention model in Venezuela, El Salvador and Brazil.²

The key to Castillo’s success was the correct identification and exploitation of a social opportunity. There is some consensus among scholars that opportunity identification is the most fundamental element in the entrepreneurial process (Corner and Ho, 2010; Gaglio and Katz, 2001; Short et al., 2010). Without the identification of an opportunity it is not possible to start any entrepreneurial activity. Moreover, the failure to identify opportunities correctly may lead to failed ventures. While most scholars have focused on trying to define the construct ‘social entrepreneurship’, only a few have been interested in conducting research to shed light on the entrepreneurial processes associated with social entrepreneurship. Although the identification and exploitation of opportunities has been studied from different perspectives in the mainstream

¹ <http://www.circovolador.org/>

² Personal interview conducted on June 1st, 2011.

entrepreneurship literature, there is still little empirical research that examines how social entrepreneurs identify *social* opportunities. In this paper, we fill this gap by adapting theory about opportunity identification from the mainstream literature to the context of social entrepreneurship.

Specifically, we contribute to the literature by importing the theory of opportunity discovery and creation (Alvarez and Barney, 2007; Vahgely and Julien, 2010) into the realm of social entrepreneurship in order to explain the identification of social opportunities. The challenge is especially great as these constructs have not yet been operationalized for commercial entrepreneurship, let alone social entrepreneurship. We then develop a number of hypotheses to explain why opportunity discovery or opportunity creation will occur by drawing from the mainstream entrepreneurship literature. We test these hypotheses by developing scales to measure the main constructs and applying a survey instrument to a sample of 74 social entrepreneurs in Mexico. We find evidence to support some, but not all of the hypotheses, suggesting limits to the ability of the mainstream literature to explain opportunity identification in social entrepreneurship.

Theoretical Framework

Opportunity is a key element in both commercial and social entrepreneurship processes (e.g. Drucker, 1985; Dees, 2001; Mair and Martí, 2006; Peredo and McLean, 2006; Venkataraman, 1997; Weerawardena and Mort, 2006). Nevertheless, scholars distinguish between commercial and social opportunities (Austin et al. 2006; Dorado, 2006; Mair, 2006; Robinson, 2006), identifying differences in the mission and value created by each. Where commercial value creation is about the creation of personal and/or shareholder wealth (Austin et al., 2006), social value creation is “about resolving social issues such as generating income for the economically disadvantaged or delivering medical supplies to poverty-stricken areas of the globe and requires innovation just as economic value creation in the commercial sector does” (Corner and Ho, 2010:636). Social value creation is about social impact.

Surprisingly the concept of social opportunity has not been defined in the literature. Similar to business opportunities, social opportunities need to be circumscribed by potential solutions provided by social entrepreneurs to solve specific social problems. Therefore, we define social opportunity in the context of entrepreneurship as a potential business solution to address a social problem. This solution should potentially generate social value, which is defined as “that which enhances well-being for the earth and its living organisms” (Brickson, 2007: 866).

Opportunity identification in social entrepreneurship

Although many refer to the term “opportunity identification”, in fact there is no clarity as to what exactly this term means. The first studies to examine the way entrepreneurs perceived opportunities were based on the theory of opportunity

recognition (Ardichvili et al., 2003; Chandler et al., 2003; Gaglio and Katz, 2001; Shane and Venkataraman, 2000). In this theory, opportunities are conceived to be objective phenomena, that is, to exist independently of the entrepreneur (Eckhardt and Shane, 2003; Gartner et al., 2003), which implies that opportunities are “objects that are there ..., just waiting to be discovered” (Alvarez and Barney, 2007:11). Therefore, the term ‘recognition’ involves searching and discovering (finding) opportunities.

Recently, a new theory articulated by Alvarez and Barney (2007) holds that opportunities are created by entrepreneurs. This approach implies that opportunities depend on entrepreneurs and therefore will be seen as ‘subjective’ phenomena. Entrepreneurs essentially construct their opportunities. The theory of opportunity creation has been gaining strength as more scholars have provided empirical evidence that some entrepreneurs start an iterative process of enactment to form opportunities (Alvarez and Barney, 2005; Alvarez and Barney, 2007; Baker and Nelson, 2005; Sarasvathy, 2001). The idea of enactment comes from the work of Karl Weick (1988:306) who explained that “when people act, they bring events and structures into existence and set them in motion.” So opportunities are created as a consequence of the actions of the social entrepreneur.

In order to synthesize the two approaches, Alvarez and Barney (2007) argued that opportunities can be formed by exogenous shocks or by entrepreneurs. Therefore, the term “opportunity identification” refers to the way entrepreneurs become aware of an opportunity, whether created or discovered. Still empirical research has not demonstrated that opportunity discovery and opportunity creation are two independent constructs within this process. Due to the lack of theoretical development on opportunity identification in social entrepreneurship, we have drawn from the mainstream entrepreneurship literature to propose a series of hypotheses regarding opportunity identification among social entrepreneurs. Figure 1 outlines the theoretical relationships proposed in this study.

Insert Figure 1 about here

Factors involved in the discovery of social opportunities

Entrepreneurial alertness has been identified as one of the key attributes that can lead entrepreneurs to discover opportunities. For Kirzner (1997:72), entrepreneurial alertness “refers to an attitude of receptiveness to available (but hitherto overlooked) opportunities.” In this sense, entrepreneurs are continuously scanning the environment to find opportunities. Entrepreneurial alertness depends on three different elements: information search, perception of the environment, and the entrepreneur’s social network of weak ties.

The search for idiosyncratic information is essential to entrepreneurial alertness (Kirzner, 1973; Busenitz, 1996; Gaglio and Katz, 2001; Eckhardt and Shane, 2003; Gartner et al., 2003; Shane, 2003; Sarasvathy et al., 2003). When social entrepreneurs analyze and understand the social problem that has attracted their attention, they initiate a search for information related to possible solutions for the social problem. We argue that social entrepreneurs with a higher inclination to search for information to find a solution to solve a specific social problem are more likely to discover social opportunities than those social entrepreneurs less inclined to search for such information. Thus we hypothesize:

H₁: Social entrepreneurs' high information search of preexisting business solutions is positively related to opportunity discovery.

Accurate perception is another element of entrepreneurial alertness (Gaglio and Katz, 2001). Entrepreneurs who discover opportunities perceive reality more accurately than those who do not discover them. In other words, entrepreneurs make assumptions about reality and act in consequence (Shane, 2003; Alvarez and Barney, 2007). We argue that social entrepreneurs who make more accurate assumptions about reality and make decisions based on those assumptions are more likely to discover social opportunities than those social entrepreneurs who do not. Thus, we hypothesize:

H₂: Social entrepreneurs' accurate perception of the environment is positively related to opportunity discovery.

A third element of entrepreneurial alertness is the entrepreneur's social network. Entrepreneurs are in contact with different people at different levels of relationships with different type of relationships. These relationships constitute what scholars have defined as social networks. However, little research has been done related to understanding the role of social networks in the discovery of opportunities (De Koning, 2003; Singh, 2000).

Early efforts to study social networks in entrepreneurship focused on weak ties. In contrast to strong ties, which are represented by the relationships among the entrepreneur and his/her immediate network of closets individuals such as family and/or friends, weak ties are represented by the relationships among the entrepreneur and the people he/she knows on casual terms in different places and situations. As Hills et al. (1997: 204) explain, weak ties are casual acquaintances which "do not require individuals to expend much time or contact to maintain the relationship (as opposed to strong ties). A friend of a friend, or a casual business contact would be considered a weak tie."

The most frequently cited article in this literature is Granovetter (1973) who shows that weak ties are sources of unique information. Hills et al. (1997) identify weak ties as elements that lead entrepreneurs to have access to more

information. Entrepreneurs will have access to more information through the people they know less well (e.g., Kaish and Gilad, 1991; Singh, 2000).

Like business entrepreneurs, social entrepreneurs are in contact with a large number of different people, and we suggest that social entrepreneurs who discover opportunities will tend to initiate contact with different people that they perceive to be important sources of information. In this sense, social entrepreneurs who have extended networks of weak ties are more likely to discover social opportunities than those social entrepreneurs who have less extended networks of weak ties.

H_{3a}: There is a positive relation between the high number of weak ties of the social entrepreneurs' networks of weak ties and opportunity discovery.

The second attribute of the social entrepreneur's social network of weak ties that might have an influence on the discovery of opportunities is the diversity of the people who constitute that social network. Social networks formed by more homogeneous people are less diverse and are characterized by people with redundant information. In more diverse or heterogeneous networks, the people with whom the entrepreneur has ties increase the probability that he or she will obtain non-redundant information (De Koning, 2003; Shane, 2003:49; Singh, 2000).

We suggest that social entrepreneurs with more diverse social networks of weak ties are more likely to discover social opportunities than social entrepreneurs with less diverse networks of weak ties.

H_{3b}: The high diversity of social entrepreneurs' social networks of weak ties is positively related to opportunity discovery.

Factors involved in the creation of social opportunities

Social entrepreneur's bricolage capabilities

Alvarez and Barney (2007: 131) argue that in creation theory opportunities are formed by the "actions, reactions, and enactment of entrepreneurs exploring ways to produce new products or services." Related to the actions of entrepreneurs to form opportunities, some scholars have used Lévi-Strauss's (1966) concept of 'bricoleur' to develop the theory of opportunity creation (e.g., Baker and Nelson, 2005; Garud and Karnoe, 2003). By bricoleur, Lévi-Strauss (1966: 17) referred to those individuals who "make do with 'whatever is at hand' [...]." Baker and Nelson (2005: 333) redefined

bricolage to be more integrative and oriented to opportunities: “making do by applying combinations of the resources at hand to new problems and opportunities.”

“Making do” means that the entrepreneur makes things happen by disregarding any limitations, understood as “deceptive conclusions”. Deceptive conclusions would be seen by persons as constraints, barriers or prohibitions that would not enable them to act (Weick, 1979:149). Weick (1979) suggests that people who have a high fear of failure might be deterred in the face of constraints. However, people who have a low fear of failure continue forward. So social entrepreneurs with low fear of failure do not let obstacles stop them from creating social opportunities. Thus, we hypothesize:

H_{4a}: Social entrepreneurs' low fear of failure is positively related to opportunity creation.

The second attribute highlighted in Baker and Nelson's (2005) definition of ‘bricolage’ is the combination of resources at hand. To define ‘resources at hand’ they considered all the abilities, skills, knowledge, ideas, social networks, and the preexisting material resources available to entrepreneurs. They also included in their definition, resources that could be obtained for free or at a very low price. The combination of the resources at hand for new purposes implies that entrepreneurs will look for new ways to use existing resources to create new forms to serve markets. In the case of social entrepreneurs who create solutions for social or environmental problems, they combine the resources they have at hand to bring into existence the solutions they have in their mind. Thus, we hypothesize:

H_{4b}: Social entrepreneurs' ability to combine and use the resources at hand to solve social problems is positively related to opportunity creation.

Innovation radicalness

The concept of innovation radicalness is used by Marvel and Lumpkin (2007), but not clearly defined. Rogers (1995:11) defines innovation as “an idea, practice, or object that is perceived as new by an individual or other unit of adoption. The idea, practice, or object can exist before the entrepreneur has knowledge about it, so that the entrepreneur would be discovering the idea, practice or object. According to Zahra et al. (2008:124), ‘radicalness’ refers to the “extent to which a major innovation or social change is necessary to address a particular problem.” When the concept of radicalness is linked to the concept of innovation, the result is a novel solution that has a highly positive impact (Leifer et al., 2000; Dahlin and Behrens, 2005; Marvel and Lumpkin, 2007).

For the case of social entrepreneurship, we maintain that innovation radicalness refers to a novel solution which has distinctive features that are missing in previously observed solutions and that has a very positive impact on society and/or the environment. As a result, social entrepreneurs who introduce radical solutions to address social problems are more likely to create opportunities than those social entrepreneurs who do not introduce radical solutions to address social problems.

H₅: A high innovation radicalness of social entrepreneurs' solutions is positively related to opportunity creation.

Blind variations

In a creation context, entrepreneurs engage in an iterative process of trial and error while forming the opportunity (Baker and Nelson, 2005; Alvarez and Barney, 2007). Rather than search for information, these entrepreneurs first “act and observe how consumers and markets respond to their actions” (Alvarez and Barney, 2007: 131). This process implies the existence of blind variations. In creation theory, blind variations are actions that entrepreneurs start unconsciously or without planning. Even if they start the action deliberately, their action initiates a process of trial and error that makes possible the construction of opportunities. The main characteristic of this type of variations is that entrepreneurs are not able to see the “whole picture”, which means that entrepreneurs do not understand the consequences of their actions until they finish the process of trial and error and the opportunity is created.

Social entrepreneurs, as well as commercial entrepreneurs initiate this process of informal experimentation to form a social opportunity. Indeed, social entrepreneurs with a higher inclination to work more on the basis of trial and error, acting and observing how target individuals, groups, or communities respond to their actions are more likely to create social opportunities than social entrepreneurs who tend to work less on a basis of trial and error.

H₆: The use of blind variations by social entrepreneurs is positively related to opportunity creation.

Methodology

Research site

We chose Mexico as the research site because there are many opportunities for social entrepreneurship. In 2010, with a population of 112.3 million (INEGI, 2011), over 52 million were in a situation of poverty given that they did not have the income to satisfy at least one of their minimal needs: food, health, education, shelter, and clothing (CONEVAL, 2012:48-49). Some of the efforts by the Mexican government to reduce the number of poor people are represented by such social programs as *Oportunidades* (Opportunities), which provides support to rural people living in extreme poverty through

the enhancement of nutrition, health, education and employment opportunities, and *Hábitat*, which was created in 2003³ to combat urban poverty and overcrowding in cities through the construction of dwellings and communities centers (DOF, 2009). More recently, the Mexican government created the *Seguro Popular* (Popular Insurance) to provide assistance to those people who do not have access to other forms of public or private health insurance.

Despite these efforts, national statistics show that the number of poor people has increased over the last few years (CONEVAL, 2012). As a result of the gap between government efforts and increasing poverty, social entrepreneurs have arisen to address social or environmental problems locally. These social entrepreneurs work without fiscal, legal, or logistical support by the government. However, numerous civil society organizations have either emerged to support social entrepreneurship or have begun to include social entrepreneurship as a priority. These organizations include Ashoka Mexico, the Schwab Foundation Mexico, Green Street, and Iniciativa México, as well as several well-known universities. Thus, Mexico provides a fertile setting for the study of social entrepreneurship.

Survey instrument

We developed an instrument to measure the two dependent variables (opportunity discovery and opportunity creation) and the eight independent variables identified in the previous section (information search of preexisting business solutions, perception of the environment, number of weak ties, social network diversity, fear of failure, use and combination of resources at hand, innovation radicalness, and blind variation) based on a five-point Likert scale (1=Strongly disagree, 2=Disagree, 3=Neither agree nor disagree, 4=Agree, 5=Strongly agree) (DeVellis, 2003; Fowler, 1995). The questionnaire was developed using both the theory and the results obtained in a field study of social entrepreneurs. We included some socio-demographic items as control variables such as gender, age, and the level of education.

We first gathered information from thirteen social entrepreneurs (Leedy and Ormrod, 2005:1349) from Ashoka Mexico and conducted semi-structured interviews. We asked them about their understanding of the social entrepreneurship phenomenon and some questions related to how they got the idea to start their social projects and develop the opportunity. For the analysis of the interviews, we use ‘open coding’ (Babbie, 2004; Esteberg, 2002) to identify the trending topics, and ‘code by list’ (Babbie, 2004) based on the study by Gartner et al. (2003), to identify the words related to the language used in opportunity discovery and creation.

Using the results of the first part of this study and following the measurement model proposed by DeVellis (2003), we generated a pool of 87 items which was validated by three experts in survey research. From this validation, the pool of

³<http://innova.fox.presidencia.gob.mx/ciudadanos/biblioteca>, date of access: October 10th, 2010.

items was reduced to 35 final items. The items were developed in Spanish. An English translation of the variables and items can be found in the Appendix 1.

Sample

The instrument was administered by interview, either in person or electronically (telephone, Skype and e-mail). To select the social entrepreneurs for the interviews, we used the non-probabilistic methods of snowball sampling and purposive sampling. According to Babbie (2004: 184), snowball sampling is an appropriate procedure “when the members of a special population are difficult to locate [...]” We began with Ashoka Mexico and an incubator for social entrepreneurs at a major university located in Mexico City. We then included referrals from the first two sources.

Since the few studies related to social opportunities conducted by researchers use mostly qualitative methods such as case studies and grounded theory (e.g. Baker and Nelson, 2005; Corner and Ho, 2010, Zahra et al., 2008), there is no clear reference point for the size of the sample. The first surveys on opportunity identification in commercial entrepreneurship report small samples, between 50 and 60 entrepreneurs (e.g. Kaish and Gilad, 1991). Allowing for a minimum of five observations per variable, we contacted an initial 115 social entrepreneurs. Of these, we were able to administer the questionnaire to 74 social entrepreneurs who accepted to participate, representing a response rate of 64%. Of these, we obtained 62 usable responses: 50 from Ashoka Mexico, six through the university, and six by referral from other social entrepreneurs.

Results

We analyzed the data with several multivariate techniques, such as factor analysis, normality tests, and two-stage least squares (Kerlinger and Lee, 2000, Wooldrige, 2000). We built the dependent and independent variables using exploratory factor analysis (Hair et al., 2010) through the method of extraction of principal components, using those factors with eigenvalues greater than 1. We used the Kaiser varimax criterion for the rotation of the matrix in order to obtain the best solution (Johnson and Wichern, 1992).

Based on the original values of the items, we generated a factor score for each observation. As Hair et al (2010: 127) explain: “The advantage of using these scores instead of the original values is that they represent an averaged variable of those loadings that are explaining the highest variability in the original set of values for the items.” When the method of extraction is principal components, the factor scores are computed directly from the original set of values. Table 1 summarizes how each variable was built, the results obtained for the total variance explained for each variable, the test of normality, and the analysis of reliability.

 Insert Tables 1 and 2 about here

From Table 1, we can see the validity and reliability of the scales for the dependent variables are confirmed. Regarding the independent variables, all of them show an acceptable level of explanation, however, three of them have poor internal consistency (fear of failure, innovation radicalness, and blind variation).

Table 2 shows the Pearson correlation matrix for both dependent variables with all the independent variables. It is interesting to observe that the variable ‘perception of the environment’, which is an independent variable for ‘opportunity discovery’, correlates significantly with the dependent variable ‘opportunity creation’ and with the independent variables ‘use and combination of resources at hand’ and ‘low fear of failure’ which are two independent variables for ‘opportunity creation’. These results suggest that ‘perception of the environment’ might be seen more as a process constituted by different elements than as a single action. Moreover, these results might indicate a possible interdependency between the dependent variables. An appropriate method to test this assumption is through a system of two simultaneous equations estimated by two-stages least squares.

We developed two simultaneous equations to test our hypotheses: one for opportunity discovery and one for opportunity creation. The models are represented by the following equations:

$$OD = \alpha_0 + \alpha_1 \hat{OC} + \alpha_2 INFO + \alpha_3 PERCEP + \alpha_4 SNWEAK + \alpha_5 D_1 + \alpha_6 D_2 + \alpha_7 D_3 + \alpha_8 D_4 + \alpha_9 D_5 + \alpha_{10} D_6 + \alpha_{11} D_7 + u_1 \dots \dots \dots (1)$$

$$OC = \beta_0 + \beta_1 \hat{OD} + \beta_2 BRIFEAR + \beta_3 BRIUSE + \beta_4 RAD + \beta_5 BLIND + \beta_6 D_1 + \beta_7 D_2 + \beta_8 D_3 + \beta_9 D_4 + \beta_{10} D_5 + \beta_{11} D_6 + \beta_{12} D_7 + u_2 \dots \dots \dots (2)$$

OD refers to opportunity discovery and OC refers to opportunity creation. \hat{OC} refers to the predicted values of OC estimated in the first stage and \hat{OD} refers to the predicted values of OD estimated in the first stage. INFO is the information search of preexisting business solutions; PERCEP is the perception of the environment; SNWEAK is the social network of weak ties; BRIFEAR refers to the *bricolage* capability of low fear of failure. BRIUSE is the *bricolage* capability of use and combination of resources at hand. RAD refers to innovation radicalness. BLIND is blind variations. α refers to the regression coefficients for the predictors on opportunity discovery. β refers to the regression coefficients for the predictors of opportunity creation. u_1 is the error term for the opportunity discovery equation and u_2 is the error term for the opportunity creation equation. We included various dummy variables for control variables: gender (D_1), age 20-40 years

(D₂), age 41-60 years (D₃), education (bachelor's degree) (D₄), education (graduate degree) (D₅), whether social project is in the area of human rights (D₆), whether the social project is in the area of economic development, (D₆₇).

To estimate the parameters of the structural equations, we ran the two-stage least square command with the use of instrumental variables in STATA 10.1. The results for these analyses are displayed in Table 3. After several tests, the best model for opportunity discovery showed an adjusted $R^2 = 0.164$ and a statistic $F=2.11$ with a p-value lower than 0.05 ($p=.036$), which confirms the statistical significance of the model. This result tells us that the 16.4% of the variation in opportunity discovery is explained by the regression equation.

Insert Table 3 about here

The results for opportunity creation showed an adjusted $R^2=0.151$ and in the ANOVA test the $F= 2.08$, which is statistically significant since the p-value is lower than 0.05 ($p=.043$). This result means that the 15.1% of the variation in opportunity creation is explained by the regression equation.

The coefficients of the independent variables for opportunity discovery showed that only the estimated regression coefficients for information search of preexisting business solutions (INFO) ($b=0.469$, $p=0.001$) and the dummy variable 'middle-aged social entrepreneurs' (D₃) ($b= -0.672$, $p=0.046$) are statistically significant. When comparing the beta coefficients of both variables, we observed that the coefficient for information search is greater ($\beta=0.469$) than the coefficient for 'middle-aged social entrepreneurs' ($\beta= -0.339$). The negative sign means that 'middle-aged social entrepreneurs' would tend to discover fewer social opportunities than old social entrepreneurs, which served as the baseline. These results confirm hypothesis 1 with regard to information search, but fail to confirm hypothesis 2 (perception of the environment), hypothesis 3a (number of weak ties), and hypothesis 3b (diversity of social entrepreneur's ties).

The coefficients of the independent variables for opportunity creation showed that the estimated regression coefficient for 'innovation radicalness' is statistically significant (RAD) ($b=0.392$, $p=0.007$). Thus, hypothesis 5 dealing with the impact of the innovation radicalness of a social entrepreneur's solutions on opportunity creation is partially confirmed since the 2SLS model for opportunity creation is statistically significant and the estimated regression coefficient for the variable 'innovation radicalness' is also statistically significant. However, the variable does not have internal consistency which means that the scale is not measuring the variable appropriately. These results are telling us that despite the low internal consistency of the scale, it shows a positive causal relationship with opportunity creation. Therefore, it is suggested that by developing new items and extending the sample size, the positive relationship between 'innovation

radicalness' and opportunity creation will be confirmed by future research. These results disconfirm hypotheses 4a (fear of failure), 4b (*bricolage*), and 6 (blind variation).

It is important to highlight that the coefficients for predicted opportunity discovery and predicted opportunity creation' are not significant, which confirms that opportunity discovery is not statistically related to opportunity creation. In other words, from the statistical point of view, the two dependent variables opportunity discovery and opportunity creation are mutually exclusive which implies that they are two different constructs. These results confirm partially the model proposed in Figure 1.

Related to the normality of the residuals, the normality of the error terms was tested through the Shapiro-Wilk test of normality for all models, and in all the cases the results showed that the residuals behave normally since the p-value for the test is greater than 0.05 (Hair et al., 2010).

Discussion

Research on opportunity identification in social entrepreneurship is at an early stage and the few empirical studies conducted (e.g. Corner and Ho, 2010; Perrini et al., 2010) are based mainly on qualitative methodologies such as case studies and grounded theory. This situation has not permitted progress in testing the theory in social entrepreneurship. This study contributes to research on opportunity identification in social entrepreneurship by establishing theoretical propositions by applying the theories of discovery and creation developed in the mainstream entrepreneurship literature to the field of social entrepreneurship and proposing a conceptual framework that contributes to this field. Within the conceptual framework we introduced a new definition of the concept of "social opportunity." This definition advances the literature since current definitions of 'social opportunity' are broad and fail to distinguish clearly between commercial and social opportunities (e.g. Austin et al., 2006; Corner and Ho, 2010; Guclu et al., 2002; Perrini and Vurro, 2006; Robinson, 2003). The findings in this study provide empirical evidence that distinguishes social opportunities different from commercial opportunities in terms of the way they are identified.

We move the discussion forward by developing scales to measure the constructs 'opportunity discovery' and 'opportunity creation,' which prove to be reliable and present adequate construct validity. Furthermore, predicted opportunity creation and predicted opportunity discovery for both dependent variables, opportunity discovery and opportunity creation, in the two simultaneous regression equations are not statistically significant, which supports the non-interdependency of opportunity discovery and opportunity creation.

The results show that both processes can be present in the same entrepreneur, which implies that some social opportunities are the outcome of a combination of the processes of discovery and creation. This finding is consistent with

that of Corner and Ho (2010: 645) who found that opportunities are “neither purely created nor purely discovered.” So even though discovery and creation are different dimensions, the opportunity identification process of social entrepreneurs can be characterized by both dimensions. For example, in this study there are some social entrepreneurs who searched for information to find a business solution and afterward they innovated to transform and adapt it to serve a community locally.

While the results show that the social entrepreneurs in the sample present a mixture of discovery and creation, they also show that the majority have a tendency either to create or discover and just a few present a balance between both processes. A relevant finding, not reported in the results section is that the majority of social entrepreneurs in our sample showed a tendency to discover opportunities. This can be understood if we recall the definition of opportunity discovery as “finding preexisting business solutions to address social problems or needs”. An important implication is that it would be easier for the majority of social entrepreneurs to search for solutions that already exist in other places around the world and innovate to adapt them locally, rather than to initiate a process to create an opportunity from zero. This implication merits further research.

A final implication of the study is that some of the processes relevant to opportunity identification in commercial entrepreneurship may not translate easily into social entrepreneurship. Only two of the hypotheses were supported or partially supported. Although information search and innovation radicalness seem to apply in both kinds of entrepreneurship, many of the other elements do not. These results suggest that the identification of social opportunities may follow a different process than the identification of business opportunities. Further research to develop a more complete theory of social opportunity identification is warranted.

This study has two important limitations that must be considered. First, due to the difficulty of identifying a population of social entrepreneurs in Mexico, only 115 social entrepreneurs were approached and of these 74 accepted to participate in the study. Only 62 social entrepreneurs were usable in the final analyses. Still, given the difficulty of locating even 74 social entrepreneurs who were willing to participate, this sample provides a contribution to the literature. Second, due to the use of non-probabilistic sampling methods, it is not possible to project these results on the whole population. Clearly, the sample in this study does not represent the population of social entrepreneurs in Mexico. However, given that the purpose of the study is not to describe the population of Mexican social entrepreneurs, but rather to test hypotheses, this study does allow us to take an initial first step in that direction, subject to further research.

Conclusion

Social entrepreneurship has emerged as a new phenomenon that is helping to improve the living conditions of many people around the world. This study sheds light on the opportunity identification process in social entrepreneurship

through the application of the theories of opportunity discovery and opportunity creation developed in commercial entrepreneurship. In doing so, it provides several contributions to current research in social entrepreneurship. First, it develops a conceptual framework for opportunity discovery and opportunity creation in social entrepreneurship. Within this framework we propose a definition of social opportunity and several hypotheses that advance the literature on opportunity identification. The results provide partial support for the proposed model. We were also able to confirm the mutual exclusivity of the constructs ‘opportunity discovery’ and ‘opportunity creation’ using valid and reliable items to measure these dependent variables.

Importantly, the study examines different factors involved in the discovery and creation of social opportunities by drawing insights from the mainstream entrepreneurship literature. Specifically, the results provide support for the role of information search in opportunity discovery and for innovation radicalness in opportunity creation. However, other concepts and hypotheses drawn from the mainstream literature did not apply. Thus, the study explores the limits of commercial entrepreneurship as a way to understand social entrepreneurship. In summary, this study advances the literature in social entrepreneurship by contributing to a vocabulary and sorting through concepts and relationships that provide initial insights into opportunity discovery and creation among these social entrepreneurs in Mexico.

References

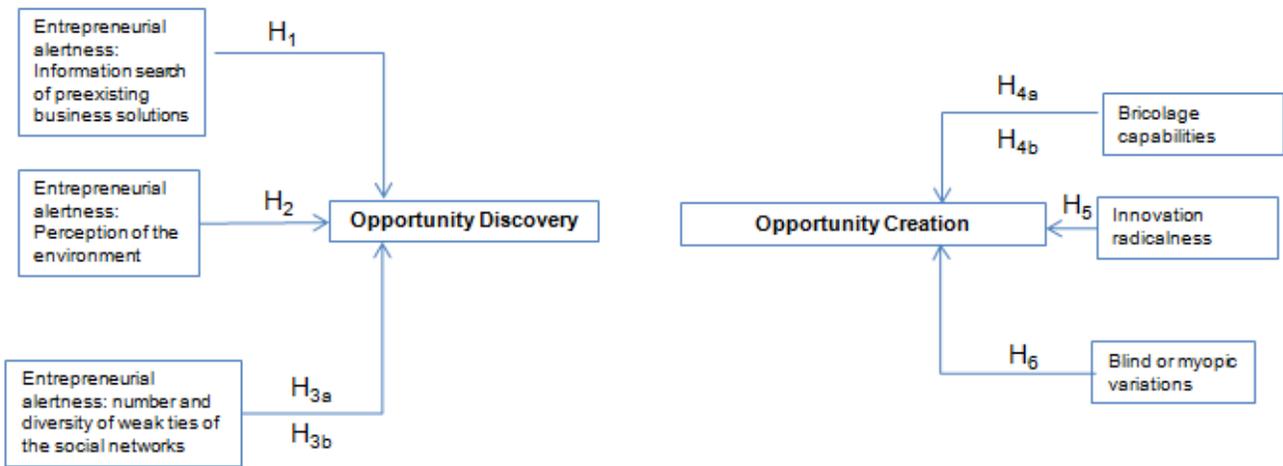
- Alvarez, S. A., & Barney, J. B. (2005). How Do Entrepreneurs Organize Firms Under Conditions of Uncertainty? *Journal of Management*, 31(5), 776-793.
- Alvarez, S. A., & Barney, J.B. (2007). Discovery and creation: alternative theories of entrepreneurial action. *Strategic Entrepreneurship Journal*, 1(1-2), 11-26.
- Ardichvili, A., Cardozo, R., & Ray, S. (2003). A theory of entrepreneurial opportunity identification and development. *Journal of Business Venturing*, 18(1), 105-123.
- Austin, J. E., Stevenson, H., & Wei-Skillern, J. (2006). Social and Commercial Entrepreneurship: Same, Different, or Both? *Entrepreneurship Theory and Practice*, 30(1), 1-22.
- Babbie, E. (2004). *The Practice of Social Research*. USA: Thomson Wadsworth.
- Baker, T., & Nelson, R. E. (2005). Creating Something from Nothing: Resource Construction through Entrepreneurial Bricolage. *Administrative Science Quarterly*, 50, 329-366.
- Brickson, S. L. (2007). Organizational Identity Orientation: The Genesis of the Role of the Firm and Distinct forms of social value. *Academy of Management Review*, 32(3), 864-888.
- Busenitz, L. W. (1996). Research on Entrepreneurial Alertness, Sampling, Measurement, and Theoretical Issues. *Journal of Small Business Management*, 34(4), 35-44.

- Chandler, G. N., DeTienne, D., & Lyon, D. W. (2003). Outcome implications of opportunity creation / discovery processes, *Frontiers of Entrepreneurship Research, Babson College*, 398-409.
- CONEVAL. Consejo Nacional de Evaluación de la Política de Desarrollo Social, (2012). *Informe de Pobreza en México: el país, los estados y sus municipios*. Mexico: CONEVAL. <http://www.coneval.gob.mx/> Accessed 16th March 2013.
- Corner, P. D., & Ho, M. (2010). How Opportunities Develop in Social Entrepreneurship. *Entrepreneurship Theory and Practice*, 34(4), 635-659.
- Dahlin, K.B., & Behrens, D. M. (2005). When is an invention really radical? Defining and measuring technological radicalness. *Research Policy*, 34, 717-737.
- De Koning, A. (2003). Opportunity Development: A Socio-Cognitive Perspective, in J. A. Katz & D. A. Shepherd [Eds.], *Cognitive Approaches to Entrepreneurship Research, Advances in Entrepreneurship, Firm Emergence and Growth*. Emerald Group Publishing Limited, 6, 265-314. <http://www.emeraldinsight.com/books.htm?chapterid=1760498> /Accessed 19th April 2012.
- Dees, J. G. (2001). *The meaning of "social entrepreneurship"*. Stanford University: Draft Report for the Kauffman Center for Entrepreneurial Leadership, 6. http://www.caseatduke.org/documents/dees_sedef.pdf /Accessed 15th June 2010.
- DeVellis, R. F. (2003). *Scale Development, Theory and Applications*, Thousand Oaks: SAGE Publications.
- DOF (2009). *Diario Oficial de la Federación*. Mexico: Poder Ejecutivo, Secretaría de Desarrollo Social. Novena Sección.
- Dorado, S. (2006). Social Entrepreneurial Ventures: Different Values So Different Process of Creation, No? *Journal of Developmental Entrepreneurship*, 11(4), 319-343.
- Drucker, P. F. (1985). *Innovation and Entrepreneurship*. NY: HarperCollins Publisher.
- Eckhardt, J. T., & Shane, S. A. (2003). Opportunities and entrepreneurship. *Journal of Management*; 29(3), 17.
- Esterberg, K. G. (2002). *Qualitative Methods in Social Research*. USA: McGraw-Hill.
- Fowler, F. J., Jr. (1995). *Improving Survey Questions: Design and Evaluation*. Thousand Oaks: SAGE Publications.
- Gaglio, C. M., & Katz, J. A. (2001). The psychological basis of opportunity identification: Entrepreneurial alertness. *Small Business Economics*, 16(2), 95-111.
- Gartner, W. B., Carter, N. M., & Hills, G. E. (2003). The language of opportunity, in *New Movements in Entrepreneurship*, C. Steyaert & D. Hjorth [Eds.], Cheltenham: Edward Elgar.
- Garud, R., & Karnoe, P. (2003). Bricolage versus breakthrough: distributed and embedded agency in technology entrepreneurship. *Research Policy*, 32, 277-300.
- Granovetter, M. S. (1973). The Strength of Weak Ties. *American Journal of Sociology*, 78(6), 1360-1380.
- Guclu, A., Dees J. G., & Anderson, B. B. (2002). *The Process of Social Entrepreneurship: Creating Opportunities Worthy of Serious Pursuit*, Center for the Advancement of Social Entrepreneurship, Duke— The Fuqua School of Business. <http://www.labforculture.org/fr/content/download/96115/731607/file/The%20process%20of%20social%20entrepreneurship.pdf> / Accessed 1st August 2010.
- Hair, J. F., Jr., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate Data Analysis*. New Jersey: Prentice Hall.

- Hills, G.E., Lumpkin, G. T., & Singh, R. P. (1997). Opportunity Recognition: Perceptions and Behaviors of Entrepreneurs. *Frontiers of Entrepreneurship Research*, Babson College, 203-218. <http://fusionmx.babson.edu/entrep/fer/papers97/hills/hill1.htm> /Accessed 24th March 2012.
- INEGI, Instituto Nacional de Estadística Geografía e Informática (2011). *Principales resultados del Censo de Población y Vivienda 2010*. México: INEGI. <http://www.inegi.org.mx/sistemas/productos/> Accessed 16th March 2013.
- Johnson, R. A., & Wichern, D. W. (1992). *Applied Multivariate Statistical Analysis*. New Jersey: Prentice Hall.
- Kaish, S., & Gilad, B. (1991). Characteristics of Opportunities Search of Entrepreneurs Versus Executives: Sources, Interests, General Alertness. *Journal of Business Venturing*, 6(1), 5-61.
- Kerlinger, F. N., & Lee, H. B. (2000). *Foundations of Behavioral Research*. USA: Cengage Learning.
- Kirzner, I. M. (1973). *Competition and Entrepreneurship*. Chicago: University of Chicago Press.
- Kirzner, I. M. (1997). Entrepreneurial Discovery and the Competitive Market Process: An Austrian Approach. *Journal of Economic Literature*, XXXV, 60-85.
- Leedy, P. D., & Ormrod, J. E. (2005). *Practical Research: Planning and Design*, USA: Pearson Education..
- Leifer, R., McDermott, C. M., Colarelli, G., Peters, L. S., Rice, M. P., & Veryzer, R. W. (2000). *Radical innovation: How mature companies can outsmart upstarts*. Boston: Harvard Business School Press.
- Lévi-Strauss, C. (1966). *The Savage Mind*. In *The Nature of Human Society Series*. J. Pitt-Rivers & E. Gellner [Eds.], Chicago: The University of Chicago Press.
- Mair, J. (2006). *Introduction to part II: Exploring the intentions and opportunities behind social entrepreneurship*. In J. Mair, J. Robinson, & K. Hockerts [Eds.]. *Social entrepreneurship*, New York: Palgrave Macmillan.
- Mair, J., & Martí, I. (2006). Social entrepreneurship research: A source of explanation, prediction, and delight. *Journal of World Business*, 41(1), 36-44.
- Mair, J., & Noboa, E. (2006). *Social Entrepreneurship: How intentions to Create a Social Venture are Formed*. In J. Mair, J. Robinson, & K. Hockerts [Eds.]. *Social entrepreneurship*, New York: Palgrave Macmillan.
- Marvel, M.R., & Lumpkin, G.T. (2007). Technology Entrepreneurs' Human Capital and its Effects on Innovation Radicalness. *Entrepreneurship Theory and Practice*, 807-828.
- Peredo A. M., & McLean, M. (2006). Social entrepreneurship: A critical review of the concept. *Journal of World Business*, 41, 56-65.
- Perrini, F., & Vurro, C. (2006). *Social Entrepreneurship: Innovation and Social Change Across Theory and Practice*. In J. Mair, J. Robinson, & K. Hockerts [Eds.]. *Social entrepreneurship*, New York: Palgrave Macmillan.
- Perrini, F., Vurro, C., & Costanzo, L.A. (2010). A process-based view of social entrepreneurship: From opportunity identification to scaling-up social change in the case of San Patrignano. *Entrepreneurship & Regional Development*; 22(6), 515-534.
- Robinson, J. (2006). *Navigating social and institutional barriers to markets: How social entrepreneurs identify and evaluate opportunities*, In J. Mair, J. Robinson, & K. Hockerts (Eds.), *Social entrepreneurship*, New York: Palgrave Macmillan.
- Rogers, E. M. (1995). *Diffusion of Innovations*, New York: The Free Press.
- Sarasvathy, S. D. (2001). Causation and Effectuation: Toward a Theoretical Shift from Economic Inevitability to Entrepreneurial Contingency. *Academy of Management Review*, 26(2), 243-263.

- Sarasvathy, S. D., Dew, N., Velarumi, R., & Venkataraman, S. (2003). *Three views of entrepreneurial opportunity*. In *Handbook of Entrepreneurship Research: An Interdisciplinary Survey and Introduction*. Z.J. Acs, & D.B. Audretsch [Eds.]. Boston: Kluwer.
- Shane, S. (2003). *A General Theory of Entrepreneurship. The Individual-Opportunity Nexus*, Cheltenham: Edward Elgar.
- Shane, S., & Venkataraman, S. (2000). The promise of entrepreneurship as a field of research. *Academy of Management Review*, 25(1), 217-226.
- Short, J., Ketchen Jr., D. J., Shook, C. L., & Ireland, R. D. (2010). The Concept of “Opportunity” in Entrepreneurship Research: Past Accomplishments and Future Challenges. *Journal of Management*, 36(1), 40-65.
- Singh, R. (2000). *Entrepreneurial opportunity recognition through social networks*. New York: Garland Publishing Inc.
- Vaghely, I. P., & Julien, P. (2010). Are opportunities recognized or constructed? An information perspective on entrepreneurial opportunity identification. *Journal of Business Venturing*, 25, 73-86.
- Venkataraman, S. (1997). *The Distinctive Domain of Entrepreneurship Research: an editor’s perspective*, In *Advances in entrepreneurship, firm emergence, and growth*. J. Katz and R. Brockhaus [Eds]. Greenwich, CT: JAI Press.
<http://pcbfaculty.ou.edu/classfiles/MGT%206973%20Entrepreneurship%20Seminar/Week%201/Venkataraman%201997.pdf> / Accessed 23rd June 2010.
- Weerawardena, J., & Mort, G. S. (2006). Investigating social entrepreneurship: A multidimensional model. *Journal of World Business*, 41(1), 21-35.
- Weick, K. E. (1979). *The social psychology of organizing*. Menlo Park, CA: Addison-Wesley Publishing Company, Inc.
- Weick, K. E. (1988). Enacted sensemaking in crisis situations. *Journal of Management Studies*, 25(4), 305- 317.
- Wooldridge, J. (2000). *Introductory Econometrics: A Modern Approach*. USA: South-Western College Publishing.
- Zahra, S. A., Rawhouser, H. N., Bhawe, N., Neubaum, D. O., & Hayton, J. C. (2008). Globalization of Social Entrepreneurship Opportunities. *Strategic Entrepreneurship Journal*, 2(2), 117-131.

Figure 1. Conceptual model of the factors that lead social entrepreneurs to discover or create social opportunities.



Source: Authors

Table 1. Summary of the construction of each variable, the results of the total variance explained for each variable, the test of normality and the analysis of reliability.

| Variables | Type | ITEMS | % of Total variance explained | Normality | | Reliability Cronbach's Alpha |
|---|--------------------|--------------------|-------------------------------|--------------|-------|---------------------------------|
| | | | | Shapiro-Wilk | W | |
| Opportunity Discovery | Dependent | OD1, OD7 | 72.40 | 0.922 | 0.001 | 0.619 |
| Opportunity Creation | Dependent | OC2, OC4 | 78.67 | 0.889 | 0.000 | 0.728 |
| Search of information | Independent for OD | INFO1, INFO3 | 84.61 | 0.842 | 0.000 | 0.804 |
| Perception of the Environment | Independent for OD | PERCEP7, PERCEP10 | 69.26 | 0.836 | 0.000 | 0.555 |
| Weak-Ties of social networks | Independent for OD | SNWEAK6, SNWEAK15 | 79.96 | 0.830 | 0.000 | 0.749 |
| Diversity of social networks of weak ties | Independent for OD | | | | | |
| Fear of failure | Independent for OC | BRIFEAR1, BRIFEAR5 | 65.87 | 0.939 | 0.004 | 0.474 |
| Use and combination of resources at hand | Independent for OC | BRIUSE6, BRIUSE12 | 82.49 | 0.752 | 0.000 | 0.771 |
| Innovation radicalness | Independent for OC | RAD7, RAD10 | 65.68 | 0.941 | 0.005 | 0.463 |
| Blind or myopic variations | Independent for OC | BLIND4, BLIND11 | 62.02 | 0.897 | 0.000 | 0.384 |

Table 2. Correlation matrix

| | Opportunity Discovery | Opportunity Creation | Information search | Perception of the environment | Number of weak ties of social networks | Fear of failure | Use and combination of resources | Innovation radicalness | Blind or myopic variations |
|--|-----------------------|----------------------|--------------------|-------------------------------|--|-----------------|----------------------------------|------------------------|----------------------------|
| Opportunity Discovery | 1.00 | | | | | | | | |
| Opportunity Creation | 0.10 | 1.00 | | | | | | | |
| Information search | 0.41** | 0.05 | 1.00 | | | | | | |
| Perception of the environment | 0.05 | 0.27* | 0.23 | 1.00 | | | | | |
| Number of weak ties of social networks | 0.24 | 0.04 | 0.42** | 0.19 | 1.00 | | | | |
| Fear of failure | 0.09 | 0.08 | -0.05 | 0.32* | 0.06 | 1.00 | | | |
| Use and combination of resources | 0.10 | 0.22 | 0.05 | 0.39** | -0.01 | 0.34** | 1.00 | | |
| Innovation radicalness | 0.12 | .31* | -0.03 | 0.01 | -0.20 | 0.26* | 0.21 | 1.00 | |
| Blind or myopic variations | 0.02 | 0.15 | -0.11 | 0.04 | -0.19 | 0.20 | 0.24 | 0.08 | 1.00 |

Coefficients in bold denote a statistical significance at a 1% level for ** and at a 5% level for *, using a two sided test.

Table 3. Two-stage least squares final model for opportunity discovery and opportunity creation

| Variable | Model for Opportunity Discovery | | | | Model for Opportunity Creation | | | |
|--|---------------------------------|--------------|--------------|--------------|--------------------------------|--------------|-------------|--------------|
| | b coefficients | Std. Err. | t-value | p-value | b coefficients | Std. Err. | t-value | p-value |
| Constant | 0.314 | 0.582 | 0.54 | 0.592 | -0.741 | 0.558 | -1.33 | 0.19 |
| Opportunity Creation | 0.223 | 0.289 | 0.77 | 0.444 | | | | |
| Information Search | 0.469 | 0.136 | 3.44 | 0.001 | | | | |
| Perception of the environment | -0.164 | 0.152 | -1.08 | 0.287 | | | | |
| Number of weak ties of social networks | 0.133 | 0.138 | 0.96 | 0.34 | | | | |
| Male | -0.124 | 0.264 | -0.47 | 0.64 | 0.251 | 0.269 | 0.93 | 0.356 |
| Young social entrepreneurs | -0.517 | 0.374 | -1.38 | 0.173 | 0.341 | 0.356 | 0.96 | 0.343 |
| Middle-aged social entrepreneurs | -0.672 | 0.328 | -2.05 | 0.046 | 0.540 | 0.331 | 1.63 | 0.109 |
| Bachelor's degree | 0.121 | 0.369 | 0.33 | 0.745 | -0.537 | 0.363 | -1.48 | 0.145 |
| Graduate | -0.448 | 0.380 | -1.17 | 0.248 | -0.164 | 0.373 | -0.44 | 0.661 |
| Human Rights | 0.259 | 0.418 | 0.62 | 0.538 | 0.485 | 0.451 | 1.07 | 0.288 |
| Economic Development | 0.506 | 0.44 | 1.15 | 0.256 | 0.712 | 0.423 | 1.68 | 0.099 |
| Opportunity Discovery | | | | | 0.007 | 0.241 | 0.03 | 0.976 |
| Use and combination of resources at hand | | | | | 0.181 | 0.129 | 1.41 | 0.165 |
| Innovation radicalness | | | | | 0.392 | 0.139 | 2.82 | 0.007 |
| Adjusted R2 | 0.164 | | | | 0.151 | | | |
| F | 2.11 | | | | 2.08 | | | |
| Sig. | 0.036 | | | | 0.043 | | | |

Appendix 1

| Variable name | Items and item code |
|--|---|
| Opportunity discovery | I discovered the solution to the problem. (OD1) This solution already existed and I only found it. (OD3) I realized there was a solution. (OD5) I found a solution to the problem. (OD7) |
| Opportunity creation | I created a solution for the problem. (OC2) I made a solution for the problem. (OC4) I developed an answer to the problem. (OC6) This solution did not exist, I have been creating it. (OC8) |
| Entrepreneurial alertness: Information search related to preexisting solutions | I searched for solutions to solve the problem. (INFO1) I looked for any solution that was already done in other places. (INFO3) I looked for solutions to generate income for the people. (INFO5) I looked for someone else who were working in a similar problem. (INFO9) I looked for information for a solution through other civic organizations. (INFO11) I made a solution from one or more models that I found. (INFO12) I observed related projects with solutions to the problem I identified (INFO14) |
| Entrepreneurial alertness: Perception of the environment | I perceived that this solution would have a future in Mexico. (PERCEP4) I believe that my perception of the problem was good. (PERCEP7) The perception I have of the problem led me to find a solution. (PERCEP10) |
| Entrepreneur's social networks of weak ties | I asked my acquaintances if they knew of a solution to the problem. (SNWEAK2) I met people that were working on developing a solution to the problem in which I was interested. (SNWEAK6) I asked some people about the way they solved a similar problem to the one I identified. (SNWEAK13) I have a very large social network which enabled me to have access to more information to find a solution to the problem. (SNWEAK15) |
| Diversity of the social network ties | Knowing people from diverse circles let me have access to information to solve the social problem. (SNWEAK_DIV8) |
| <i>Bricolage</i> capabilities: Fear of failure | I was not afraid of failing while I was trying to solve the problem. (BRIFEAR1) I have overcome all the obstacles to create a solution for the problem. (BRIFEAR5) |
| <i>Bricolage</i> capabilities: Use and combination of the resources at hand | I invented a new way of making things to try to solve the problem. (BRIUSE2) I reused all the resources at hand to create a solution to the problem. (BRIUSE6) I have created a proposal to solve the problem from the beginning to the end. (BRIUSE9) I combined the resources at hand to create a proposal to solve the problem. (BRIUSE12) |
| Innovation radicalness | I considered that a higher innovation was required to solve the problem. (RAD3) The solution I developed is unique. (RAD7) The proposal of a solution that I created has generated a high impact, positive change. (RAD10) |
| Blind variations | I first acted and then I saw how my actions impacted the problem. (BLIND4) After observing how my actions impacted the problem, I decided to make some changes to improve the solution. (BLIND8) I was not clear about how I was going to do the things, but I started to create a proposal to solve the problem. (BLIND11) |