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Major Decision Making biases Leading to Entrepreneurs' False Predictions

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Abstract

Entrepreneurial decision making biases have various effects on entrepreneurial decisions and on the fate of entrepreneurial enterprises, subsequently. These biases emanate from a lot of factors and have been a prosperous topic for entrepreneurship- related scholars and both their causes as well as their effects have been scrutinized in the past. Given the nature of entrepreneurship and the unique characteristics of entrepreneurs, some scholars have hypothesized that entrepreneurs are prone to these biases more than others. One of the main functions of entrepreneurs that could be influenced by these biases is entrepreneurial predictions. These predictions are so important that could seal the fate of an enterprise. Despite the apparent relationship between entrepreneurial decision making biases and forecasts made by entrepreneurs, there are very few studies regarding this topic. In order to fill this gap, this paper conducted a qualitative content analysis approach to study the relationship between entrepreneurial forecasts (predictions) and entrepreneurial decision making biases. According to our findings based on interviews with 20 entrepreneurs, overconfidence, planning fallacy and illusion of control are three major biases leading to entrepreneurs' making false predictions**.**

Keywords: Entrepreneurs, Predictions, Forecasts, Decision Making, Overconfidence, Planning Fallacy, Illusion Of Control.

Introduction

Entrepreneurial decisions are one of the most crucial entrepreneurial functions. Entrepreneurial decisions are relatively subjective and individual, thus being dependent on the person (Koellinger et al, 2007). Entrepreneurs use their intuition in their decisions (Kaish and Gilad, 1991) and are prone to decision making heuristics (cognitive short-cuts) (Manimala, 1992). While entrepreneurs and non entrepreneurs do not differ in risk-taking propensity, entrepreneurs are more optimistic about the benefits and strengths of business opportunities

(Palich and Bagby, 1995). Entrepreneurs are more overconfident than others (Forbes, 2005), they use heuristics and biases in their strategic decisions more than managers (Busenitz and Barney, 1997). In general, because of different factors like lack of needed information as well as time pressure (Harris, 1998), unique cognitive characteristics (Baron, 1998), decision uncertainty and decision complexity (Busenitz and Barney, 1998), and lots of other factors, entrepreneurs are prone to decision making biases in their decision makings.

The literature on entrepreneurial decision making biases is relatively rich but needs to be studied and enhanced, given the importance of the topic, especially in entrepreneurial-related studies. Biases have been studied mostly in entrepreneurial entry decision. Some biases like overconfidence play major roles in entrepreneurial unprepared entry ((Koellinger, Minniti and Schade, 2007). Other scholars have studied biases in the decision to become an entrepreneur (Simon, Houghton and Aquino, 2000) or entrepreneurial failure (Rezvani, Nouri and Kafeshani, 2013). Another bulk of related research has studied some important biases like overconfidence more extensively and elaborately (Forbes, 2005; Koellinger et al, 2007; Koellinger and Michl, 2012).

In general, one could come to the conclusion that some phases of entrepreneurship process have been neglected regarding the possibility of decision making biases. One of the most important entrepreneurial functions that could be a very prosperous field to study decision making biases is entrepreneurial forecasts and predictions. There are few papers regarding decision making biases in entrepreneurial predictions and most of available papers have studied biases in managerial forecasts (Mokwa and Sievers, 2012; Hilary and Hsu, 2012).

Given the characteristics of today's business environment which is rife with intensity in competition as well as rapid changes, and because entrepreneurs, especially in the beginning phases of their activities, need to rely on their personal experience and decision making capabilities (Busenitz and Barney, 1997), one could conclude that entrepreneurial predictions could be prone to decision making biases. Entrepreneurs, especially in small and medium-sized enterprises make their predictions based on their judgments, and because some important decision making biases are connected to entrepreneurial cognitions and mindset (Baron, 1998), it could be hypothesized that entrepreneurial judgmental predictions regarding various matters from business growth to new product development to consumer-related topics are susceptible to some important decision making biases.

Literature review

Entrepreneurial decision making biases

Shefrin (2007) defined biased decisions as decision made under the influence of an opinion, attitude or a belief. Biases are one of the most important parts of irrational decision making school (Tversky and Kahneman, 1974). Entrepreneurial decisions are rife with various kinds of biases. Some individual and organizational factors contribute to the genesis of these biases (Forbes, 2005). Entrepreneurs rely on their intuitions extensively (Kaish and Gilad, 1991), have some unique cognitive characteristics (Baron, 1998), do not have necessary organizational routines and need to make most of decisions based on their own relevant expertise and experiences, thus confronting complexity and uncertainty in their decisions (Busenitz and Barney, 1997), evaluate business opportunities as being more favorable (Palich and Bagby, 1995), and make use of various kinds of heuristics in their decisions (Manimala, 1992). These factors, combined with a lot of other factors, contribute to decision biases in entrepreneurial decisions. Decision making biases have important implications for entrepreneurs, they may

result in entrepreneurial unprepared entry (Koellinger et al, 2007) or underestimation of risk in new venture creation decisions (Simon et al, 2000).

In general and according to the existing literature, entrepreneurs are prone to some major decision making biases like overconfidence, escalation of commitment, planning fallacy, illusion of control and lots of other biases. These biases emanate from a combination of individual, organizational and environmental factors and have important consequences for entrepreneurial ventures. In the following sections, we introduce three main decision making biases which have been identified as the main cause of entrepreneurial incorrect predictions.

Overconfidence

Overconfidence has been identified as the miscalibration of accuracy in judgment (Oskamp, 1965). Bazerman (1994) defined overconfidence as the tendency of individuals to overestimate the correctness of their answers in answering medium to difficult questions. Overconfidence is one of the most important decision making biases in individuals as well as organizations and has been studied in various fields of social science like psychology. Overconfidence is by far the most-studied decision making bias in the field of entrepreneurship. Cooper ,Woo & Dunkelberg (1988) introduced overconfidence as the main cause of entrepreneurs' unprepared entry and subsequent failure. Forbes (2005) concluded that entrepreneurs are more overconfident than others.

Koellinger et al (2007), after dividing overconfidence into three distinct categories of overestimating one's judgment, inaccuracy in judging one's predictions and one's skills and expertise, concluded that overconfidence is a major factor affecting entrepreneurial entries. Various factors like self-efficacy and emotions and joy (Koellinger and Michl, 2012) could lead to overconfidence among entrepreneurs.

Planning fallacy

Kahneman and Lovallo (1993) hypothesized that planning without first evaluating one's weaknesses and strengths leads to a certain bias named planning fallacy, which is the overestimation of one's achievements in a given period of time, or underestimation of the needed time to fulfill a certain job, task or project. Planning fallacy has its roots in certain entrepreneurial cognitive characteristics (Baron, 1998). Entrepreneurs are forward looking and tend to ignore relevant past experiences, thus entangling themselves in similar problems and unfavorable situations over and over again. Entrepreneurs also tend to attribute positive and favorable results to their own effort, skills and characteristics; on the other hand, they ascribe failures to factors beyond their control and power. These are the main factors contributing to planning fallacy in entrepreneurs (Baron, 1998).

Illusion of control

Illusion of control was introduced in the studies of gamblers behaviors (Langer, 1975). Illusion of control makes individuals think they have control over matters beyond their control, especially matters that chance and other environmental factors play main roles in them (Shefrin, 2007). Because of the uncertainty entrepreneurs' face in various phases of their decision making processes, they need to have belief in their abilities so as to make important necessary decisions. Illusion of control cause managers to make optimistic predictions (Duhaime and Schwenk. 1985) and also led to entrepreneurial underestimation of risk in new venture creation decisions (Simon et al, 2000). Illusion of control and planning fallacy are two important decision making bias which have gained scant attentions from entrepreneurship

scholars. One of the main fields that theses two biases, combined with overconfidence, are apparent, is entrepreneurs' predictions.

Materials and Methods

We adapted a qualitative content analysis approach. It involves establishing categories and then counting the number of instances when those categories are used in a particular item of text. This approach allows replicable and valid inferences from data to their context (Robson, 1997; Silverman, 1997). In processing data, we established a set of transparent procedures for supporting reliable inferences. This involvement in the analysis phase will help move back and forth between concept development and data collection, and will direct data collection toward sources that are more useful for addressing the research questions (Lincoln and Guba, 1985; Hsieh and Shannon, 2005; Weber, 1990; Miles & Huberman, 1994).

The data used in this study came from interviews with Iranian's entrepreneurs. A purposeful sample approach adapted used for data collection. The sampling method was intentional and the sample size was limited by data gathering (Eisenhardt, 1989, p.545; Marshall, 1996; Creswell, 2008; Creswell, 2005, p405).We used in-depth interview technique and we designed some main questions like: 1. to what extent do you trust your judgment while making predictions? 2. Do you confer with others in your predictions? 3. - to what extent do you consider and evaluate new information?

4. What role plays environmental factors in your predictions? So as to gather depth information from the interviewee. Then Data transcripts in order to reveal or model people's information related behaviors and thoughts.

Developing Categories and report finding

We generated an initial list of coding categories from the previous studies, and modify it within the course of the analysis as new categories emerge inductively (Miles & Huberman, 1994). Qualitative content analysis allows us to assign a unit of text to more than one category simultaneously (Tesch, 1990). Even so, the categories in our coding scheme should be defined in a way that they are internally as homogeneous as possible and externally as heterogeneous as possible (Lincoln & Guba, 1985).

Coding sample text, checking coding consistency, and revising coding rules are iterative processes that were continued until sufficient coding consistency was achieved (Weber, 1990).When sufficient consistency was achieved, the coding rules were applied to the entire corpus of text.

After coding the entire data set, we further solidify our coding. Human coder may make mistakes.

New codes may be added to the original consistency check. As well as the coders' understanding of the categories and coding rules may change subtly over the time so we rechecked our coding consistency (Weber, Miles and Huberman's 1990, 1994; Miles & Huberman, 1994; Weber, 1990) We explored the properties and dimensions of the categories and uncovered patterns (Bradley, 1993).

We established methods to insure the trustworthiness of our study. And we reported our analytical procedures and processes as completely and truthfully as possible

Instead of producing counts and statistical significance, Qualitative content analysis uncovers patterns, categories and themes from social reality. So reporting research findings from qualitative content analysis is challenging. It is a common to use typical quotations to justify conclusions (Schilling, 2006).

To address valid inferences from the text, it is essential that the classification procedure be reliable in the sense of being consistent, Different people should code the same text in the same way. So an external audit was implemented where the overall research process and analysis was audited by a third party expert researcher. We also reviewed relevant data to provide triangulation of thematic analysis and Member checking was applied by providing them with a transcript of the Interview and the matrix of all Interview data (Weber (1990); Creswell, 2003; Creswell, 2005; Weerawardena, and Mort, 2006).
Shapiro & Markoff (1997) assert that content analysis itself is only valid and meaningful to the extent that the results are related to other measures but in content analysis approach we need to demonstrate the reliability of the instruments and the reliability of the data collected to allow replicable inferences to be drawn from data derived from content analysis. Reliability in this study was achieved by the use of multiple coders and discrepancies between the coders were minimal. We also selected disclosure categories from relevant literature, and clearly defined them (Milne and Adler, 1999; Guthrie et al., 2003).

Findings

We conducted interviews until after 20 interviews we reached saturation. Table 1 contains demographic characteristics of our sample entrepreneurs. As it shows 16 entrepreneurs are male (80%) and 20% were female. 8 person (40%) are under 30 years, 8 person are between 31-50 years old and 2 % are 50-70 years old. 10 person have bachelor degree (50%) ; 8 person have Master degree (40%) and 10% have PhD degree.

Table 1 Demographic characteristics

		No.	Percentage
Gender	Male	16	80.0
	Female	4	20.0
Age	<=30	8	40.0
	31-50	8	40.0
	50-70	4	20.0
Educational Level	Bachelor degree	10	50.0
	Master degree	8	40.0
	PhD	2	10.0

After the interview were transcribed, we read them and Codes were extracted. During open coding stage, data were fragmented to their smallest unit and their categories were identified. This process helped us by focusing on the data, ideas and concepts which are inductively extracted. By using open coding a lot of themes were extracted. Then in axial coding stage the codes identified in open coding stage were compared and similar categories were merged and finally 3 categories were identified in selective coding (see table 2). Overconfidence, Planning fallacy and Illusion of control are the main biases leading to entrepreneurs' making false predictions.

Table 2
decision making biases leading to entrepreneurs' making false predictions

Factor	Frequency	Percent
Overconfidence	16	80.0%
Planning fallacy	14	70.0%
Illusion of control	13	65.0%

Category 1: Overconfidence

Overconfidence was identified as a Factor leading to false predictions. Previous experience provides a cue for being more overconfident and the entrepreneur makes an inaccurate forecast based on this overconfidence. For example one of our entrepreneurs said:

"I trust my experience therefore I do not search for new information after making a decision. There is always newer information than before. All the forecasts as well as predictions in this firm have been based on my own experience and judgment".

Not searching for additional information is another cue due for being overconfident leading to making false predictions. For example another entrepreneur said:

"I always had confidence in my knowledge and experience and this made me make some bold predictions based on my own knowledge. I must confess that having belief in my knowledge made me reluctant to search for new information thus leading to some bad predictions, mostly about the future of the market". Another entrepreneur observed: "I have up to 10 years experience in this field (bio-entrepreneurship) and as time passed have come to the conclusion that my judgment is the best guide to make decisions in a given span of time. Most of the predictions about the future in this firm are based on my own knowledge and expertise, especially predictions about sales, market trend as well as market share. I should admit that some of these predictions have been wrong".

Category 2: Planning fallacy

Planning fallacy was also identified as a bias under which entrepreneurs make false predictions by overestimating the positive cues and putting too much Hope in the future. Planning fallacy cause entrepreneurs to make mistake in estimating the time required for the completion of a given project. For example one of the interviewees said: "you consider all conditions but there are situations when our estimated time for completion of the project not come true and we got in emergence to make decision to finish the project". Another interviewee observed: "I am an optimistic person by nature. Even if I have failed to fulfill a project in the past in a given period of time, when I intend to do a similar project in the future, I ignore the past and make my forecasts as optimistically as possible. I think this is necessary for an entrepreneur."

Category 3: Illusion of control

Illusion of control was another bias causing entrepreneurs to make false predictions, because they tended to underestimate other factors beyond their personal control. For example, an interviewee commented:

"I decided to produce organic manure; my main supplier was the government, so I relied too much on governmental help. Because the incumbent government failed to deliver its promises, I encountered a lot of unpredicted risk. In retrospect, I could say that, at the beginning I had totally underestimated environmental factors, beyond my personal control, thus I made some snap predictions." Or another entrepreneur observed:

"Given the business situation in Iran, in the last few years I have come to the conclusion that the fewer the board of trustee members, the better. But reducing the number of members lead to unexpected financial risks, which I had neither planned for nor predicted. That was apparently beyond my control."

Entrepreneurs also put too much emphasis on one's personal abilities when there is not enough cues to make predictions. For example an entrepreneur said:" I have always said that, an entrepreneur must have faith in his power, expertise and capability. As long as I have this attitude, nothing else matters. When you have to act and there isn't enough light to show the way you must rely on your personal abilities and underestimate environmental factors, in other words, you need to have the courage to make necessary predictions".

Discussion

Entrepreneurs are exposed to heuristics and biases (Busenitz and Barney, 1997) and these heuristics and biases influence various aspects of their decision making processes as well as the fate of their enterprises (Forbes, 2005; Koellinger et al, 2007). For example some biases like overconfidence lead to entrepreneurial unprepared entry and subsequent failures (Cooper et al, 1988). Predictions and forecasts are one of the most important functions of entrepreneurs, having direct impact on their firms. Having concluded that there is a strong relationship between decision making biases and entrepreneurial predictions, this paper conducted a qualitative content analysis study to shed lights on this relationship. According to our findings, overconfidence, planning fallacy and illusion of control are the main biases leading to entrepreneurial false predictions and forecasts, respectively. Based on our results and study we render some implications for relevant future researches:

- Most of the predictions studied in this paper were about market trends, consumer preferences, market share as well as sales forecasts. Future papers need to study other important aspects of entrepreneurial predictions like, for example, new product development.
- Entrepreneurs use heuristics in their decision making processes as well. This paper did not intend to study the effects of heuristics on entrepreneurial predictions, future studies need to study the possible relationship between entrepreneurial predictions and heuristics.
- The relationship between decision making biases and entrepreneurial forecasts could be mutual. Not only biases could lead to entrepreneurial false forecasts, bold forecasts, especially correct forecasts may gradually lead to the genesis of some biases among entrepreneurs. This could be a very prosperous field of study.

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