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Role of Heuristic Principles On Crowd-Funder's Investment Decision Making

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Abstract:

With the rise in entrepreneurial activities, the study of a firm's fund generation strategy is widely discussed and researched. The requirement of funds for different ventures are different and depends on the life stage of the venture, which it is in. Firm generally face difficulty in raising outside capital-both debt and equity. Crowdfunding is a fairly recent fund generating method that reduces this financial gap. Crowdfunding involves individuals who decide whether or not to invest in a project. Since it involves decision making under uncertainty I probe the possibility of presence of heuristic principles in the decision-making process. I propose that certain heuristic principles like availability and representativeness, affects the decision-making process of the investors. and thus, this paper aims to explore the "fast and frugal" way of decision making in crowd funders.

Keywords: *Anchoring, Availability, Crowdfunding; Heuristic principles, Representativeness*

Track: *Entrepreneurship*

Word count: 5.029

1. Introduction

With the rise in entrepreneurial activities, the study of a firm's fund generation strategy is widely discussed and researched. The requirement of funds for different ventures are different and depends on the life stage of the venture, which it is in. The source of firm's financing can provide a competitive advantage to the entrepreneur. (Cassar, G.,2004) The estimates of fund requirement are generally made in the early stage while writing the business plan or while formulating the future course of action. So, capital generation is one of the most important stages of entrepreneurial life cycle.

Firm generally face difficulty in raising outside capital-both debt and equity (Cressey,2012). Crowdfunding is a fairly recent fund generating method that reduces this financial gap. Crowdfunding is the method of fund raising in which there are three components I) the crowdfunding platform ii) the funders iii) the entrepreneur. The entrepreneur pitches his idea on a crowdfunding platform (online stage) and the "crowd" can pledge any amount of money (Short et. al,2017). Crowdfunding can be equity based, reward based, donation based or debt based (De Buysere, Gajda, Kleverlaan, & Marom,2012) Since crowdfunding involves the general people who invest in the idea under the conditions of risk and uncertainty, the presence of heuristic principles in decision making can be expected. Investment decision in case of crowdfunding has limited time for the window of opportunity to be utilized. There isn't much information available i.e. the information is pretty limited as compared to a funding request made to an angel investor, a venture capitalist or say a financial institution. The amount invested is less and the return aren't much as compared to returns of equity based funding or debt based funding

Decision making is defined as process in which people need to choose from a variety of options. Rational decision making is characterized by coherence and consistency. However, it has been found that investors take less time to evaluate portfolio as compare to the actual amount of time they should take (Benartzi and Thaler,1995). This points to the fact that instead of reasoning based decision making that is done is with deliberation and is effortful, investors go with intuitive decision making. We utilize the work of Tversky and Kahneman (1974) and link it to crowdfunding literature in order to show that people make use of heuristic principles like availability, representativeness and anchoring in order to take the investment decisions.

Prior literature has studied the consequence of presence of heuristic principals in investment decisions of institutional investors. My point of divergence from the prior literature is in terms of unit of analysis, I am looking the presence of heuristic principles and biases in non-institutional investors. As well as unlike the prior literature that looks at the consequences of heuristic principles on funding decision or investment decision I am looking at the antecedents of funding decision process. I am proposing the presence of heuristic principles and biases in case of non-institutional investors, mostly crowd-funders.

This paper is contributive to the academic field in the sense that behavioral decision making is linked to entrepreneurial finance. The fast and frugal way of decision making in crowdfunding investment is explored. The paper adds to the literature of crowdfunding in the sense that investors if are aware of the various heuristic principles that creep in will be able to avoid the biases resulting from those heuristic principles. Thus, becoming better decision makers. Also, entrepreneurs can make use of this literature to pitch their idea in such a way that it becomes more lucrative to the investor. Thus, this paper is can be used by both practitioners and academicians.

2. Literature review

Types of funding

Entrepreneurial finance deals with the financial decisions of the firm. It deals with the various ways in which funds can be generated by the new venture from the market. Broadly classifying there are two types of financing Debt and Equity financing. Debt capital is the method in which a firm generates some amount of money and pay backs the investor that amount of money along with an interest (interest amount depends on the interest rate that is prefixed by the investor). Equity based funding is a method in which the investor provides some amount of money and in return gets some equity (ownership control) right of the venture. Both of which requires decision making under risk and uncertainty. The quantum of risk is more in case of equity funding as compared to debt financing. The various types of funding are. Bootstrapping in which the entrepreneur uses his own savings to work on his idea. Generally, this small amount of money is used to develop the MVP (Minimum Viable Product) and to test the feasibility of the idea (Amar Bhide,1992). The idea is then either improvised and launched in larger scale by taking further rounds of financing or dropped. Angel investors are wealthy investors who invest in the idea of the entrepreneur. They differ from venture capitalist in term of the scale of funding provided and also the venture capitalists are more organized and resourceful than angel investors. Venture capitalist tend to invest in ideas that are riskier (Yazdipour,2010) and thus their decision making is the most crucial one since a lot of money is at stake. The other source of funding being crowdfunding in which a crowdfunding platform is present online in which entrepreneurs pitch their ideas and the general people pledge small money (Short et.al,2017).

Crowdfunding reduces the gap between funds generated from close acquaintances and funds generated from angel investors. Crowdfunding is a process in which the fund seeking entrepreneurs get the required funds from a large number of people called crowd-funders who aren't related to the fund seeker by the help of an internet platform. In order to generate funds the fund seeker i.e. the entrepreneurs registers with a CFP. The CFP scans the project before publishing it. The crowd-funders then pledge the amount of money they are willing to invest and thus the funds are generated (Short et. al, 2017). Crowd-funder have the privilege of investing very small amount as well in return of certain incentives in the form of certain privileges called as reward based crowdfunding or in the form of shares of the company called as equity based crowdfunding. The literature related to crowdfunding states that the method which is used to pitch about the enterprise determines the funds generated. The lending decision is highly influenced by the peer's investment decision. Crowdfunding has the advantage that the feasibility of the idea can be rightly assessed by the entrepreneurs also once the product is launched the people who had provided funding become its first customers and also provide feedback for further improvisation. Plus crowdfunding can provide the certification of the venture and this will help the entrepreneurs to get further rounds of financing easily. The drawbacks are that the idea of the entrepreneur can be replicated by others since it gets published in web (Macht & Weatherson, 2015). Only when there are strong intellectual protection act, this method of fund raising will gain momentum. The other drawback is the information asymmetry because crowd-funders are interested in the idea and not on the execution strategy. This is because they invest very small amount of their money. The merits associated with crowdfunding is that, investors can always pin their hopes the crowd-funders that will provide them some recognition. Moreover it is a fast process to reach a huge number of crowd at a very less time. Raising funds from venture capitalist is a process that requires more time since the venture capitalist go for an extensive review. The involvement of a huge crowd ensure that the skill and knowledge of the crowd is utilised for the betterment of the project.

As mentioned earlier the amount invested is pretty low, the returns are also less as compared to equity based and debt based funding, the decision to invest does not rely on extensive information availability and hence the decision taken does not include a thorough risk and benefit analysis is what we are extrapolating.

Decision making under risk and uncertainty

The common pattern that we observe in all the fund-raising method is that it involves decision making by individuals under risk and uncertainty. The literature of decision making under risk and uncertainty talks of presence of certain heuristic principles and the biases that creep in due to the application of heuristics and biases (Kahneman and Tversky, 1979). The psychology of intuitive beliefs and choices and their bounded rationality was taken up by Kahneman and Tversky (1974). The definition of rationality has been much debated, but there is general agreement that rational choices should satisfy some elementary requirements of consistency and coherence. This is however not consistent with the practical scenario. People rely on a limited number of heuristics principles which reduce the complex task of assessing probability. (Kahneman and tversky, 1974). Casual observation and systematic research indicate that most thoughts and actions are normally intuitive in this sense (Daniel T. Gilbert, 1989, 2002; Timothy D. Wilson, 2002; Seymour Epstein, 2003). Intuitive judgement of probability leads to certain common biases. The recent work in the field of behavioral decision making by Kahneman and Shane Fredrick (2002) talks of how most of the judgements and most of the choices are made intuitively. Thus, there came two generic modes of cognitive function, corresponding to intuition and reasoning. Reasoning based decision making takes place when the decision made is deliberate and effortful. The other form of decision making is the intuitive decision making that leads to the "fast and frugal"

way of making decision. It comes spontaneously to the mind, without conscious search or computation, and without much effort. Then came Stanovich and West (2000) who proposed the famous system 1 or system 2 model of cognitive system to explain the fast and frugal way of decision making in people. The debate on whether intuitive decision making is accurate or not has been going on. The argument in favor of the motion being that intuitive decision making comes through experience and hence is not associated with poor performance. The presence of intuitive decision making cannot be denied in uncertain decision makings but the question that is left unanswered is its effect. Whether or not it should be avoided. Should the decision maker go with their gut feelings or every decision should be rationally evaluated. Basically, the feasibility and boundary conditions of fast and frugal way of decision making is still fuzzy.

The two-system architecture of cognition:

The literature of behavioral decision making considers two modes of decision making – the intuitive decision making and the reasoning based decision making. Reasoning is done deliberately and effortfully, but intuitive thoughts seem to come spontaneously to mind, without conscious search or computation, and without effort (Kahneman,2003). Systematic research has found most of the research to be intuitive (Daniel T. Gilbert, 1989, 2002; Timothy D. Wilson, 2002; Seymour Epstein, 2003). People generally don't opt for thinking really hard rather they are satisfied by a plausible judgement that comes to mind. The difference between intuition and reasoning has been a widely researched (Shelly Chaiken and Yaacov Trope, 1999; Gilbert, 2002; Steven A. Sloman, 2002; Keith E. Stanovich and Richard F. West, 2002). The operations of system one is automatic, fast, effortless and deliberately controlled. The operations of System two are effortful, serial, and deliberately controlled. System two is also relatively flexible and potentially rule-governed. It is the difference in effort that determines whether the decision taken was governed by system one or system two. The overall capacity of the human is limited hence people tend to opt for system one when the risks and rewards are not a deciding criterion. Because not only does it reduces effort but also it is faster. Cost benefit analysis is a function of system two and comes to play when the risks and rewards associated with the task is high. Thus, depending on the outcomes of the decision, people make use of either system one or system two.

Behavioral decision making in managerial decision making and investor's decision making

The field of strategic decision making which involves managerial decision making was also extensively studied to understand the cognition of strategic decision makers. Recent research suggests that heuristics and biases permeate strategic decisions as well (Barnes,1984; Schwenk,1984). Managerial decision-making falls prey to many of these heuristic principles and thus fast and frugal way of decision making is found exist in managerial decision making as well. Busenitz and Barney (1997) did a study to prove the presence of heuristic principles in entrepreneurial decision making. They found that entrepreneurs use heuristics and biases as a simplifying mechanism for dealing with the multiple problems that pop up while starting a business. Although research has yet to establish the performance implications, it is possible that the more extensive use of heuristics in strategic decision-making may be a great advantage during the start-up years. However, it may also lead to the demise of a business as a firm matures. Further, Bernatzi and Thaler (1995) showed that he time horizon that investors adopt for evaluating the portfolios appeared to be unreasonably small. Which makes us to predict that system one is often used to make investment based decisions. The prediction is further strengthened by the recent empirical work by Huang and Pearce (2015) that showed that angel investors tend to rely on their gut feeling during accepting and rejecting investment requests by the entrepreneurs. And the study goes on to prove that intuitive decision making has higher success rate than formal analysis. Angel investors and venture capitalists both invest in scenarios of extreme risk and uncertainty and yet they rely

on intuitions to make decisions. Extrapolating from this we can safely state that heuristic principles come into play in case of crowdfunding as well. Heuristic principles decrease the mental taxation and hence people instead of following the rational decision-making model opt for “heuristic simplification”.

Building on the existing literature of decision making under risk and uncertainty, cognitive models and theories of entrepreneurial finance, we propose that heuristic principles come to play in case of crowdfunding and since the amount invested is pretty small and does not cause a major loss, people do not go for exhaustive mental taxation and instead opt for the fast and frugal way of decision making that is achieved by using heuristic principles.

3. Representativeness

Representativeness is a heuristic principle that says people tend to assume the characteristics of the population to be same as the characteristic of the sample (Tversky & Kahneman,1974). The probability of an event likely to occur is linked to the fact of how much the sample resembles its population. Association to a certain group extrapolates the characteristics of the group to the individual. The individual represents the group is the mechanism. Considering the case of venture capitalist and angel investors we see that there is a trend that entrepreneurs having education from pedigree institution or work experience from pedigree institutions have easy access to funding.

People tend to associate the institute’s qualities to the person. The reliability sense increases when the entrepreneur is from a reputed institute. Investors would be more comfortable providing them funds. Investors assess the entrepreneur in order to decide on whether or not to accept the proposal and it has been empirically proven that assessment of the entrepreneur is linked to the outcome of the firm (Huang&Pearce,2015). In case of crowdfunding as well since the investors are general people and spend little amount of money. We are proposing that the deciding factor would be the profile of the entrepreneur.

Proposition 1 a): Raising of funds in crowdfunding would be easier for an individual, who has education background from pedigree institute rather than from non-pedigree institute.

Proposition 1 b): Raising of funds would be easier for individuals who have had held positions of power in previous places work

4. Availability

Availability heuristic principle refers to the situation in which people assess the frequency of a class or the probability of an event by the ease with which instances or occurrences can be brought to mind (Kahneman,1973). Availability is an outcome of usage of system one. A defining property of intuitive thoughts is that they come to mind spontaneously, like precepts. The technical term for the ease with which mental contents come to mind is accessibility (E. Tory Higgins, 1996). The literature of crowdfunding talks about how the success of a project in crowdfunding platform depends on the initial investors (Rossi Lamastra,2012).

All the crowdfunding platforms have a pledge counter (A pledge counter shows the number of people who have contributed or invested in the project) and the projects with more number of counter are the ones that are again selected by the new funders. There is a visible herding behavior amongst the crowd funders. The counter next to the idea acts as an availability heuristic stimulator. People are reminded of the fact that a lot of others have invested and hence it is the best bet to make. The evaluation of stimuli as good or bad is an important mental assessment. The evidence, both behavioural (John A. Bargh, 1997; Robert B. Zajonc, 1998) and neurophysiological (e.g., Joseph E. LeDoux, 2000), is consistent with the idea that the assessment of whether objects are good (and should be approached) or bad (should be avoided) is carried out quickly and efficiently by specialized neural circuitry. The count of prior funders acts as a stimulus to initiate the neural circuitry and also makes it easier to

decide whether to avoid it or approach it. A remarkable experiment reported by Bargh (1997) illustrates the speed of the evaluation process, and its direct link to approach and avoidance. Because the risk associated with it is less, people do not go for exhaustive mental taxation by evaluating the project themselves rather seek availability heuristic in order to make a quick decision.

Proposition 2: Availability bias leads to the herding behavior that is observed in crowd-funders

Implication:

In spite of a vast literature on heuristics and decision making, the field of non-institutional investors decision making using heuristics is fairly nascent. Although angel investing and venture capitalists' cognition is studied. Heuristic principles and biases in crowdfunding has not been covered.

Most of the prior literature only talks of consequences of heuristic and biases in decision making of institutional investors. The novelty of this paper lies in exploring heuristic and biases in investment decision of common people. Which in turn could be used by the entrepreneurs to maximize their chances of getting funds in case of crowdfunding. Thus, it fills the gap in

This study builds on behavioral decision-making literature and Entrepreneurial finance literature specifically crowdfunding to study the implication of heuristics in decision making of.

- This study aims to link entrepreneurial finance ie crowdfunding with behavioral decision making
- Practitioners can use this in terms of
 1. Investors can reduce biases that creep in due to these heuristic principles say diversify their portfolio, stop investing in projects out of confirmation bias and over confidence bias etc.
 2. Entrepreneurs can plan their pitch keeping all these heuristic principles in mind. It might ease the fund seeking process.

5. Discussion

The sole purpose of studying behavioral decision making is to be able to make better decisions. Decisions that provide us with long term benefits and not just spur of the moment decisions that might cause us loss in the long run. Financing of ventures is about profit making and hence it makes more sense to have a fair amount of knowledge about the common biases that creep in because of heuristic principles. That way the investor can protect himself. Thus, keeping in view, the common biases that creep in certain precautionary measures have been discussed. However, these are not only for crowdfunders but is kept quite broad and applies all kinds of investor.

In order to be better decision makers-

1. It's better to assume one knows less than one thinks he/she does - Overconfidence bias: The overconfidence effect is a well-established bias in which a person's subjective confidence in his or her judgements is reliably greater than the objective accuracy of those judgements, especially when confidence is relatively high.
2. It's better to be less certain in ones' views, and aiming for timid forecast and bold choices
3. One should not get hung up on one technique tool, approach or view – flexibility and pragmatism
4. It is advisable to listen to those who don't agree with you - Avoiding confirmatory bias: In psychology and cognitive science, confirmation bias or confirmatory bias is a tendency to

search for or interpret information in a way that confirms one's preconceptions, leading to statistical errors.

5. It is advisable to not take information at face value, thinking carefully about how it was presented (particularly while evaluating business plan)

6. Not confusing good firms with good investments- Unless aware of the industry and its functioning there is no point investing in it. This applies to venture capitalists and angel investors since they are involved in the non-financial way also

7. Not ignoring the subtle causes.

8. Focusing on facts, not stories.

9. Last but not the least selling losers and riding the winners i.e. it is not a wise decision to keep holding on to a project thinking that this year it did not do well, next year it would and so on -Gambler's Fallacy: The gambler's fallacy, also known as the Monte Carlo fallacy or the fallacy of the maturity of chances, is the mistaken belief that, if something happens more frequently than normal during some period, it will happen less frequently in the future

Limitations and future scope of research:

The future scope of the paper is to provide the empirical support for the propositions. Behavioral idiosyncrasies of the individuals can be studied through experimental settings. The designing of the experiment and the results they provide would be an interesting extension of this paper. However, capturing the nuances of individuals idiosyncratic behavior would be a daunting task. Prior literature looks at the investment decision of institutional investors, the data in this case is available as well as the consequence is easy to capture since the success and failure of the investment is public knowledge. Capturing the consequences in case of non-institutional investors is also comparatively easy. However as mentioned previously capturing the presence of heuristic principles and bias in a decision would be a daunting task. Also, another limitation of this paper is that the proposition that deals with availability bias, been mentioned in the paper has the reverse causality problem. While we are stating the availability, bias would lead to herding behavior. It is also the case that herding behavior would also affect availability bias. While going for empirical proof for the paper there needs to be proper control for this reverse causality problem. The mechanism of representativeness bias as stated earlier is that the individual "represents" the institute that he is associated with. If we dig deeper and rope in the concept of homophile. There seems to be a justification about associating the characteristics of a group to an individual which is rationale a not completely a bias. Thus, considering representativeness as a "bias" is debatable. However, in this paper the associated institute includes educational institution of the focal actor which is not subject to the logic of homophile. The admission to an educational institute is dependent on a lot of major factors and not just homophile. Future work can also deal with the effect of the social network of the individuals on their decision making. The role of coercion in the investing decision of the individual. Coercion is a consequence of the social network structure of the focal actor. Hence the effect of social networks and the nature and type of the ties of the decision maker(ego) with the alters can a future scope of study.

Since not much work has been done in the field of non-institutional investor's investment decision and the presence of heuristic principles and biases in their decision, the novelty of the paper lies in that.

6. Conclusion

Thus, heuristic principles are important in decision making and their presence is found in investment decisions. Institutional investors are prone to biases like the Gambler's fallacy

where they do not exit from companies that are in loss hoping that they might get returns in the future. This and various other kind of biases affects the portfolio of the investor, which in turn affects the future investment of the investor. Studying the behavioral aspect of decision making in case of investors does becomes important. Crowdfunding involves general people and not hardcore investors i.e. non-institutional investors and hence the bias creeping in due to application of heuristic principle might be more. Moreover, they are more prone to use system one that is fast and intuitive based instead of reasoning based decision making. However, the various biases like that are mostly observed in decision making of crowd-funders won't affect as adversely as it affects institutional investors since the risks and return associated with crowdfunding is less. Presence of heuristics and biases in crowd-funder's decision making can however prove to be advantageous for the entrepreneurs to plan their pitch. The next fact that heuristic principles does not include reasoning does not make it disadvantageous. Certain of these rules of thumb eases the decision-making process. "heuristic simplification" (Haley et al 1989). Since in crowdfunding the stakes are not high it is perfectly alright to rely on heuristic principles in order to make the call. As long as the biases are not major it actually reduces the mental taxation.

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