Analysis of the Strategic Decision-Making Behaviour of Entrepreneurs from a Behavioural Economics Perspective

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Abstract. In recent years, behavioural economics has gradually entered the public domain. It attempts to incorporate human behaviour, psychology and cognitive knowledge into economic analysis and theory. Therefore, to a certain extent, behavioural economics also influences entrepreneurs' strategic decisions. In this paper, we will illustrate how behavioural economics can influence the behaviour of entrepreneurs through the reference dependence, endowment effects and mental accounting in behavioural economics theory. The paper also incorporates the case of Taobao to argue that the right decision making behaviour is one of the key factors for the success of a firm. In addition, the paper discusses the reasons behind the strategic decision making behaviour of entrepreneurs through heuristic techniques and prospect theory in behavioural economics. In the conclusion, the paper shows how entrepreneurs can make the right decisions through behavioural economics theory. It also briefly explains the evolution of the direction of economics research and where it is headed in the future.

Keywords: Behavioural Economics, Strategic Decision-Making, Preference Dependence

1. Introduction

The study of human behaviour can be traced back as far as Adam Smith's "loss aversion". Two representative economists have taken economic behaviour as a research task: George Katona and Herbert Simon. From the 1940s onwards, Katona extensively studied the psychological basis of economic behaviour. In contrast, Simon's research is more widely known, as it led to the hypothesis of cognitive psychology's "limited rationality" study. In the 1970s, following the work of Katona and Simon, psychologists Kahnemann and Tversky, by incorporating the latest findings from experimental and cognitive psychology, combined psychology and economics with the construction of the utility function as the core, revolutionising the individual choice model in mainstream stern economics and forming the actual school of behavioural economics. Since then, behavioural economists have concentrated their empirical research on macroeconomics, labour markets and finance and developed a whole economic policy formulation system.

At the same time, people recognise that the success of entrepreneurial groups depends on the decision-making behaviour of entrepreneurs. There are many different schools of thought on decision-making behaviour, with scholars discussing external factors of decision-making behaviour in terms of institutions, game theory, property rights, environment, incentives and constraints. However, they have neglected to explore the psychological drivers of entrepreneurial behaviour. Indeed, entrepreneurs are no exception, as their behaviour is ultimately an external reflection of their psychology.

In this paper, the theories and methods used in the behavioural economics literature to analyse entrepreneurial behaviour will be analysed with corresponding case studies to outline a successful reference paradigm for entrepreneurial decision-making behaviour.

2. The strategic decision-making behaviour of entrepreneurs

Uncertainty is always present in the unpredictable market in which a company finds itself. Only through effective decision-making can an entrepreneur cope with the uncertainty of the market and set the right goals for the different stages of development. Therefore, making decisions is probably one of the essential skills to be examined in an entrepreneur. Strategic entrepreneurial decision-

making is the central behaviour of entrepreneurs in the business's medium- and long-term management. It combines the entrepreneur's deep understanding of the company's current situation and proper planning of the company's future. It is linked to the correct positioning of a company and the effective achievement of its ultimate goals.

The first characteristic of an entrepreneur's strategic engagement behaviour is its focus. As strategic decisions take longer, if a company does not have a clear target position, it is easier for entrepreneurs to deviate from the intended direction and bring losses to the company's future interests when making strategic decisions.

Secondly, the long-term perspective is also critical. Strategic decisions directly affect the future profit and loss of the company in question. Therefore, more weight should be given to the future when formulating them. The right strategic decisions can gradually improve a company's competitiveness and environmental adaptability and move it in the right direction. Conversely, wrong strategic decisions will not only lead to enormous losses for the company in the future but, in some severe cases, may even lead to the company's elimination by the fierce market competition in the current period.

Thirdly, the strategic decision-making behaviour of entrepreneurs is also characterised by a holistic approach. When making strategic decisions, entrepreneurs need to see the big picture and distinguish between major and minor factors influencing the decision. Although strategic decision-making behaviour may also involve some limited business activities, the different components should be reflected in the business plan and objectives.

Finally, the strategic decision-making behaviour of the entrepreneur is also accompanied by a certain degree of contingency. Stakeholders are faced with more than one route choice due to the uncertainty associated with predicting events that do not materialise. The knowledge and practical experience of ordinary people do not allow for a full assessment of the merits of these routes. Moreover, if the influence of chance is wholly removed, the outcome of the decision would be taken as an absolute certainty derived from ex-ante predictions, which do not correspond to reality.

Psychology is the subject that studies how people think and acts most often. However, Israeli scientists Daniel Kahneman and Amos Tversky provided new insights into how people think and act regarding money in the 1970s. The discipline of economics saw one of the early uses of their work, known as Prospect Theory. The behavioural economics body of knowledge, which goes by the combined name "Behavioral Economics," was developed with the assistance of American economists Richard Thaler and Robert Shiller.

The application of psychology to the study of economics is known as behavioural economics. It explains how psychology affects people's behaviour, markets, and public policy.

3. The relation between behavioural economics and strategic decision-making behaviour of entrepreneurs

3.1 Reference dependence, endowment effect, and mental accounting

Simon, the founder of behavioural economics, stated that "When organisational goals cannot be combined with actions, decision-makers adjust their decisions to secondary goals that can be combined with actions. These secondary goals are not uniquely determined, and their formation will depend on the decision maker's knowledge, experience and organisational context. In the face of this uncertainty, secondary objectives may also be influenced in subtle or not-so-subtle ways by self-interest and the power search. [1] " Based on Simon's thinking, the decision-making behaviour of entrepreneurs can be subdivided into short-term intuitive, medium-term, and long-term strategic decisions. More specifically, strategic decisions can be divided into strategic positioning and defining strategic indicators. For example, if a company takes the development of cutting-edge technology as its frame of reference, it will have to choose between immediate and long-term interests. When a company chooses between immediate and long-term interests, it will anchor its objectives in the frame

of reference of future interests. As a result, when entrepreneurs make strategic decisions, they will be more inclined to aim for high levels of international Research&Development and technological innovation rather than importing cheap processes or outdated technologies for immediate gain.

In addition, the strategic indicators are the target values for each strategic unit to be determined after the strategic positioning decision. Strategic units focus on net profit targets, corporate return on capital, investment, and market share targets. When making decisions on strategic indicators, entrepreneurs are often constrained by their resource situation, i.e. the endowment effect, and exhibit 'loss aversion' and 'status quo bias. "Loss aversion" refers to the fact that people are more concerned about the loss of a decision than the gain[2]. "Status quo bias" refers to the fact that people value what they have more than what they do not have yet and are not expected to have.[3] Therefore, a successful entrepreneur needs to set goals with a thorough analysis of 'losses' and 'gains' to avoid 'loss aversion' and 'status quo bias'.

3.1.1 Application example

When Jack Ma launched Taobao in May 2003, YiQu, a Chinese online shopping website, had already been acquired by eBay and had captured more than 80% of the Chinese online retail market. In this context, Ma positioned Taobao, which had no profitable model, as a reference point for strategic decision-making for at least three years, free of charge for online merchants. Many people have said that Ma's brain is flawed when strategically positioning a business without considering how to make a profit. However, Ma's strategic positioning is the best example of how he has effectively overcome the adverse effects of "loss aversion" and "status quo bias" for the long-term development of his business. Jack Ma understands that most people tend to take advantage of cheapness, and that the Chinese prefer free stuff. Therefore, the first step to regaining market share on eBay was to adapt the strategy to the Chinese context. It has since been proven that charging before getting a good deal, as eBay does, with its complex operations and numerous fees, is bound to put off many companies. By strategically positioning the company based on a proper understanding of the Chinese consumer, without worrying about current losses and investing in the consumer first, Taobao quickly penetrated a domestic market monopolised by eBay, capturing over 60% of the market in just over two years. In the final accounting of the project, Taobao gained a vast and valuable domestic market despite its sizeable initial investment. Market capture was the benchmark for Ma's strategic decisions, so all financial and technological investments made towards this goal were classified as gains in Ma's psychological account. At the same time, the overemphasis on current profitability dropped, and Taobao's repeated free trades could not be considered a loss in the psychological account. When determining the strategic target values for each strategic unit, the goal of market conquest was weighted much more heavily than the goal of current profitability. It became an essential aspect of Ma's strategic decisions. In this way, the Taobao model effectively overcame the "loss aversion" and "status quo bias" that entrepreneurs exhibit when faced with new opportunities and resource investment and outperformed the more powerful and experienced eBay model.

4. Discussion

According to the prospect hypothesis, people evaluate gains and losses differently. Therefore, they base their decisions on apparent rewards rather than losses. Any problem-solving strategy that takes a practical approach or different shortcuts to generate answers that may not be ideal but are adequate given a constrained timeframe or deadline is referred to as a heuristic technique[4]. When finding an optimal solution is impossible or impractical, or when working with complex data, heuristic approaches are employed for quick conclusions and are designed to be flexible. Behavioural economics makes extensive use of these mental shortcuts.

When making a choice or decision, entrepreneurs first go through a technique (heuristic technique) of "editing" different expectations. The 'editing' process is twofold: first, a heuristic process that filters the information contained in the expectations and distils what the decision-maker considers proper;

second, a process that consciously ignores information that the decision-maker does not consider essential[5].

The "editing" phase takes place in four operations

First, the person determines an appropriate reference level for the decision, also called the translation code. After that, the person "codes" the decision according to the judgement while combining the results with the same probability. Next, the person "codes" the decision according to judgement and, at the same time, combines the results with the same probability. The next crucial step is to eliminate the non-risky component of the person's expectations and, finally, to discard the common component of the common choice. In the second step of the "coding" process, expectations that are considered likely to exceed the baseline are classified as gains, while the opposite is considered a loss. The heuristic procedure described by prospect theory suggests that people have preferences not only for the states of the objective world they perceive but also for how they perceive those states. This reminds any strategic decision-maker of the need to think broadly and avoid basing judgements under uncertainty too simply on a small amount of one-sided information. Once the 'modification' process is complete, the entrepreneur will evaluate and select the 'modified' expectations using a preference function (i.e. a value function). In this process, there is a risk that the actual decision will systematically deviate from rational, logical predictions due to the influence of 'heuristic shortcuts', which is also a concern of entrepreneurs when making strategic decisions. In the evaluation process, prospect theory creatively introduces two existence functions: a value function denoted by v and a weighting function denoted by p. [6]

The principle by which parties decide which action to take is as follows:

If there are two simultaneous courses of action and the probability that option 1 leads to the eventual realisation of a different wealth value wi is pi, while the probability that option 2 leads to the eventual realisation of the same wealth value is qi, the decision-maker chooses option 1 and rejects option 2 when and only when the following equation is verified, and vice versa.

$$\sum iP(pi)v(\Delta wi) > \sum iP(qi)v(\Delta wi) \tag{1}$$

Where wi is the deviation relative to a reference level $w0$, $\Delta w = wi - w0$

In the evaluation phase, Kahneman and Tversky propose a value function, as shown in Figure 1 below, to measure the subjective evaluation of gains and losses relative to the frame of reference.

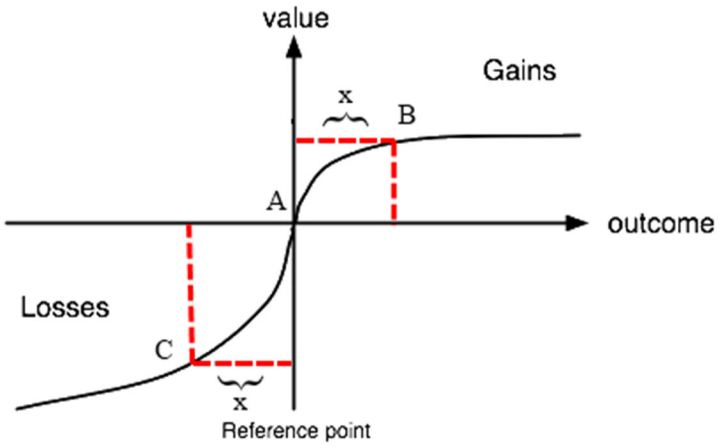

Figure 1. Prospect Theory's Value Function[7]

The above diagram shows that the value function contains three essential characteristics. Firstly, people have a reference dependence when making value judgments. When judging things, people unconsciously find a standard or reference for themselves, i.e. " Reference dependence".[8] In life, people's judgement of the same thing will change with the change of reference. On the one hand, the

frame of reference is omnipresent; on the other hand, people with different frames of reference will behave differently economically. This means that the carrier of value is a loss or price defined by a "reference point" and that the relative difference between the actual situation and the reference level is more important to the decision-maker than the absolute value of the actual situation. This characteristic exhibited by the parties is also consistent with the findings of experimental psychology on sensation and judgement - our sensory mechanisms are reconciled with estimates of change and difference rather than estimates of absolute quantities. The value vehicle is not the final state of wealth or utility, it is the change process.

Secondly, loss aversion, where a certain amount of loss causes more value damage (negative utility) to people than the value satisfaction from the same amount of winnings.[9] For example, a person may not care much when he gets a pay rise, but the problem comes when he has to be given a pay cut. Kahneman and Tversky point out that in most calculable cases, people estimate the value of what they lose to be twice as high as the value of the same thing they gain. Furthermore, people have a higher value for anything they perceive to be part of the status quo than for things that are perceived not to be part of the status quo, a difference in a choice known as status quo bias. Not only that, but even if there are not owned by the person, status quo bias can exist as long as the person treats these things as status quo. Corresponding to Figure 1 above, the image of the function representing the area of loss is much steeper than the image representing the area of gain.

Moreover, there is a tendency for people to have diminishing sensitivity, and diminishing sensitivity is the most fundamental feature of human understanding. Diminishing sensitivity means that as people's immediate level of wealth gets further and further away from the reference level, the marginal amount of change in its value will continue to diminish. Therefore, the further away from the reference point the increment is, the less attractive it is to people in the face of acquisition. People prefer a smaller gain with certainty to a more significant gain with uncertainty. That is, the slope of the utility function with respect to the amount of change in wealth becomes flattered as the amount of change in wealth increases. Similarly, just as the upward convexity of the value function in the gain region is accompanied by risk aversion, the upward convexity of the value function in the loss region is necessarily accompanied by risk preference.

Finally, regarding the treatment of probabilities, decision weights are a function of objective probabilities. By multiplying the value of non-deterministic outcomes by the decision weights, prospect theory addresses the problem of prediction bias caused by people assigning larger weights to low probability events and smaller weights to medium and high probability events when making risky decisions. The approximate weight function and corresponding probability values are shown in Figure 2 below.

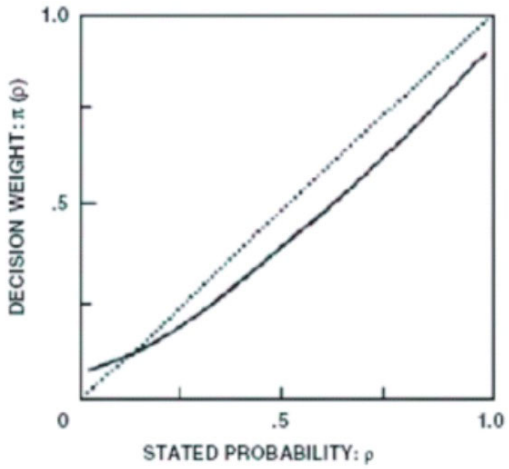

Figure 2. Weighting functions with corresponding probability values[10]

5. Conclusion

In the strategic decision-making process of entrepreneurs, successful entrepreneurs are able to combine short-term development and long-term interests, focus more on future development, avoid the adverse effects of endowment effects and status quo bias, and make strategic decisions more effectively. With the change of time, modern economics has become very different from classical economics in terms of the basis of economic activity alone. People are replacing the micro-foundations of modern economics. The people studied in modern economics have moved away from their previous image as economic puppets driven by other factors such as income and prices. They have come to dominate increasingly complex economic activities. The cause of any phenomenon observed in the modern economic process is nothing less than the aggregation of the behaviour of many economic individuals in society. Therefore, the task of modern economic analysis is no longer to abstract the actors and their psychology from economic activity, or to explore the relationship between the quantity and price of products. It is more important to discover the motives hidden behind people's economic behaviour and to analyse these motives as a way of applying them to future research. This is the fundamental factor that led to the rise of behavioural economics, which could no longer avoid the seemingly disorderly and perverse object of people and their behaviour. It is clear that the understanding and study of human behaviour, based on constructing a unified economic theoretical framework that reflects human nature and human values, is at the forefront of modern economic research.

References

[1] March, James G., and Herbert A. Simon. Organizations. John wiley & sons, 1993.

[2] Kahneman, D., Knetsch, J. L., & Thaler, R. H. (1991). Anomalies: The endowment effect, loss aversion, and status quo bias. Journal of Economic perspectives, 5(1), 193-206.

[3] Samuelson, W., & Zeckhauser, R. J. (1988). Status quo bias in decision making. Journal of Risk and Uncertainty, 1, 7-59.

[4] James Chen(Investopedia), 2019. Heuristics. https://www.investopedia.com/terms/h/heuristics.asp

[5] Kahneman, D., & Tversky, A. (2013). Prospect theory: An analysis of decision under risk. In Handbook of the fundamentals of financial decision making: Part I (pp. 99-127).

[6] Levy, H., & Levy, M. (2002). Experimental test of the prospect theory value function: A stochastic dominance approach. Organizational Behavior and Human Decision Processes, 89(2), 1058-1081.

[7] Michael Gearon(UX Collective), 2018. Cognitive biases: loss aversion. https://uxdesign.cc/cognitive-biases-loss-aversion-925149360f46

[8] Hardie, B. G., Johnson, E. J., & Fader, P. S. (1993). Modeling loss aversion and reference dependence effects on brand choice. Marketing science, 12(4), 378-394.

[9] Katona, G. (1953). Rational behavior and economic behavior. Psychological review, 60(5), 307.

[10] Gonzalez, R., & Wu, G. (1999). On the Shape of the Probability Weighting Function. Cognitive Psychology, 38, 129-166.