Research on Risk Avoidance Methods of Venture Capital

Jing Lu[1,†], Hanyue Zhang[2,*,†], Xinxin Zhang[3,†], Yutong Zhuang [4,†]

[1]Nanjing foreign Language school, Nanjing, China

[2]Cedar Park Christian School, Bothell, United State

[3]Yangjialou Middle School, Tianjin, China

[4]City Campus, DIMENSIONS international college, Singapore

*Corresponding author: Sophia.Zhang.stu@cedarpark.org

† These authors contributed equally

Abstract. The situation of domestic and foreign financial markets is turbulent. How to effectively guide residents to make financial investment, improve the quality of financial investment and prevent investment risks is a very important topic. Venture capital is a kind of investment behavior which aims to promote the commercialization of high-tech achievements as soon as possible in order to obtain high capital returns. Venture capitalists should not only invest capital, but also play their long-term accumulated experience and knowledge as equity owners, and use the information network to help enterprise management. This paper studies the avoidance method of risk investment through the analysis of risk investment cases. Through the study of the failure cases of venture capital, it is found that the problems of venture capital mainly appear in the failure of technology commercialization, internal disputes of equity, defects in business model, and fierce competition environment. The study suggests that when using high-tech venture capital, technical research must follow the commercial model. All rules and systems of shareholder cooperation are very important, such as equity distribution, entry conditions, exit mechanism, conflict resolution mechanism, profit distribution, etc. When an enterprise introduces investors or engages in financing, it must design the basic path to control the control of the company. Otherwise, once you lose control of the company, it will be difficult to return. Also, venture capital should have a clear understanding of the business model, keep up with the changing sales environment, and understand people's needs to make venture capital. Moreover, the key factor determining investment success is that investors must consider natural monopoly when looking at macro industries through products.

Keywords: Venture capital; Internal shareholding dispute; Business model, Natural monopoly， technology commercialization.

1. Introduction

1.1 Background

Nowadays, high technology become the key of driving the economic growth. High technology exists everyday and everywhere. It can give people a more convenient and a better quality life. For example, it can be used in the medical treatment, digital health and so on. People can not live without high technology. Therefore, more and more people choose to invest the high technology industry due to the higher revenue that it can bring to them. However, this kind of investments can not be guaranteed people that they can get all their money back. Sometimes, they may lose all their money because this industry is full of risks and uncertainty. Nobody can know whether their final results can be successful or not. Nerveless, if they pick the proper companies and use the right method to invest, there will be a higher possibility for them to earn unpredictable money. Thus, it is very important for the investors to know how to the different kinds of problem during the investment in order to help them avoid the potential risks.

1.2 Related research

Coles et al. Proposed a structural model of firm size board structure Firm performance and management compensation contracts as co-determinants. They calibrate the model to estimate capturing real asset productivity management efforts using observations on firm-size management performance pay sensitivity and board independence Internal director expertise and external parameters recommended and monitored by external directors [1].

Pedersen and Rudholm-Alfvin presented a survey of classical and modern performance indicators, and they surveyed existing performance indicators in academia and the market, and they defined objective criteria and evaluated them according to the objective criteria in the market under study Industry or asset group and investor preferences, propose different measures, evaluate various alternatives to classical measures, and chart their usefulness suggesting key issues that need to be addressed when selecting appropriate performance indicators [2].

Risk management is recognized as an increasingly important execution issue. While risk management techniques tend to focus on eliminating downside risk, he sees total risk management as a general ability to respond to external market factors beyond management control in order to curb the variability of firm returns. He put forward the concept of risk management, namely has the ability of dealing with the management control of market factors, thus stable earnings, And this, in turn, will enhance the trust of investors and stakeholder, and will improve its performance. He also needed a empirical study to investigate the relationship between the performance of comprehensive risk management, and discovered the positive correlation [3].

The dramatic events of September 11, 2001 went well beyond the usual experience of the insurance industry -- an unprecedented and large shock to both assets and liabilities, demonstrating a degree of correlation between investment and underwriting risk. They are based on the risk faced by insurers and the price-earnings ratio insurers tend to determine their optimal portfolio based on the maximum risk level assuming a marginal correlation between risk capital writing and investment, rather than modeling the characteristics of the correlation of risk in detail Concludes that a systematic asset liability management (ALM) has not played a key role in constructing portfolios to date [4].

Risk investment decision is the enterprise one of semi-structured or unstructured problems, it is also one of the important link of the enterprise management and operation. Bai presents a based on set pair analysis (SPA) and theory of extension decision model of investment risk decision-making and a practical network structure, he thinks that investment is the enterprise in order to obtain profits and contact with the outside world an activity Because of the complexity and diversification of investment profits in the real world, the uncertainty of investment profits makes it difficult for enterprises to avoid investment risks. Therefore, the key factors of risk investment decision including the benchmark rate of risk expected return and the amount of investment are put forward And based on SPA and extended venture capital decision support system to provide decision advice and system management two basic functions [5].

Financial risk management has become a very essential topic for financial institutions in the late 1990s. Mulvey et al. organized important tools to use when controlling a firm's risk are asset/liability management systems. Leading international firms such as Frank Russell and Falcon Asset Management also apply this method to manage risk over periods of time. Three components of asset/liability management are the stochastic program to coordinate decisions, models of stochastic parameter, and solution algorithms that solves optimization problems [6].

Bodla and Reeta discovered three main types of different sources of financial risk. 1)Financial risks may appear due to changes in market prices, interest rates, and commodity prices because of the uncertainty of the market. 2) Actions when vendors and customers in derivative transactions may result in financial risk. 3)Financial risk is the sign of failure of the firm, resulting from either internal actions or external system failures [7].

Alexander described two of the main challenges that financial institution faces the proper aggregation of the capital overall allocation of significant categories of risk and the risk management process that cover new types of risk. He further explains that the general operation of risk management consists of identification, assessment, monitoring, reporting, and control [8].

Since the Baring bank collapsed and Shell experienced reputational damage with the disposal of Brent Spar in the North Sea in 1995, the ideas of risk management have become more prominent. Power concluded that financial statements that are materially misstated, known as the primary risk lead to secondary risk, which is the risk of financial and reputational losses to auditors [9].

Hammoudeh and Mcaleer comprised some methods to use when contributing to the analysis of financial risk management, they are novel econometric, financial econometric, and empirical finance. These methods manage risk when faced with economic uncertainty. When managing systemic risk in The Netherlands, mean-variance methods for energy policy was used on robust properties of SIM estimation of volatility [10].

1.3 Objective

Based on past venture capital failure cases, this paper will analyze the reasons for the failure, and discover the key points that need to be improved, to help readers further understand how to do venture capital well.

2. Key points of venture capital investment

2.1 Do enough background research about the company which is going to invest

Nowadays, with the development of the world, people need high technology. Thus, the company that can invent new goods that can promote the development of society can earn a lot of money. Therefore, if people invest the company very early, they may get unpredictable payback. However, the risk of high-tech risk investment is pretty high, but it can also give back a very high revenue. Therefore, people must know the history , goals and current projects about the company. It can help people know whether the company has competitors or predict whether the products is useful in order to prevent losing money. To invent a new products will take very long time, make sure the company has enough money, a strong scientific research team and a competitive advantage. Then, these will help the company win the first in this industry. Otherwise, it may not have a very successful invention or just invent nothing out. There are often unexpected gains through communication with ordinary employees of the enterprise, as the problems in employee satisfaction, enterprise management, etc. that will not exist in the contents of the company's business plan can be found, and it is very important to identify those issues that are ignored or deliberately concealed by the company's controllers and management, which will provide important references for future investment decisions and post-investment management.

2.2 Clearly know the technique that used in the products

A successful products can get payback, so people can see that what will be produced is very important to determine the finally results of the investment. Therefore, investors can consult experts or third parities who are professional in this industry to evaluate the technique that is used or the products, especially whether technique is copied other’s patents. Know the details of products, the advantages and disadvantages of the products. For some specific products, investors can also try to use it.

2.3 Venture capital due diligence should have a clear understanding of business model

That is to say, it is necessary to pay attention to whether the customer base is stable, whether the customer purchases frequently, and take the size of the consumer base into account. This is done to avoid consumer single dependency which leads to an increase in investment risk. Therefore, investors will conduct customer interviews, spot checks, satisfaction surveys, etc. to verify the company's sales capabilities and the authenticity of future orders.

2.4 Competition

For startups with competitors, researching competitors is more important than researching the company itself, since more information can be collected from competitors. Select at least four competitors that are highly relevant to the enterprise for a comprehensive understanding and inspection can contribute to the understanding of enterprise market position and product share through the comparison of the advantages and disadvantages of competitors and enterprises, hence finding out the competitive advantages and disadvantages of the project enterprise.

2.5 Reduce the risk

Don't put all the eggs in one basket which means do not invest only one company. Although invest more company may not guarantee that investor can earn money, it can help reduce the total risk of the investment portfolio.

3. Case Analysis and Solution

3.1 Technology commercialization is not good

KIOR is a new renewable fuel company founded in 2007 by Paul O 'Connor, a Dutch chemical engineer The company's main business is to convert non-food bio-feedstock (mainly Ponderosa pine in the southern United States) into cellulosic renewable diesel and gasoline fuels through its homegrown biomass liquid catalytic cracking processing technology platform. It was seen as a way for the U.S. government and Silicon Valley to promote bio-energy. It was also the project that Khosla, Fortune's most successful venture capitalist of all time in 2000, had high hopes that the company's bioenergy would transform the gasoline monopoly of the next 25 years. However, KIOR filed for bankruptcy in 2014, seven years after its founding. Most experts say that the failure of KIOR was due to the lack of skilled founders and experience in running the energy industry.

As is known to all, the energy industry spends a lot of money on technology research and development in the early stage without any revenue. Therefore, if the commercial production cannot be successfully carried out, the enterprise will face the risk of capital chain break. Since the establishment of KIOR in 2007, it has been in the stage of burning money for research and development What's more,KIOR overstated its profitability when the plant it built failed to produce steady output. In its IPO filing,KIOR claimed that it could produce 67 gallons of gasoline per ton of feedstock, thus achieving its vision of producing a gallon of gasoline at a dollar cost, and they did so in 2012 In 2005, it said it was close to achieving 72 gallons per ton of output and planned to achieve 92 gallons per ton of raw material output in the future. However, according to its internal data, it was technically unable to achieve the 67 gallons target steadily, and more output rates fluctuated between 20 and 40, eventually KIOR Running out of time, money and investors' patience, they chose to file for bankruptcy.

3.2 Internal equity disputes

Internal shareholding dispute is the disagreement between the shareholders. There are five major causes. The first cause is disagreement over management direction. It commonly appear in small business. Secondly, shareholder tries to against the agreement between others. Thirdly, when all the shareholders talk about the finical situation, they should discuss the situation honestly and openly. The dispute will happen when they hide important information of the firm. Fourthly, the compensation and contribution are unequal. For example, in a family-owned business company, when the family members have similar role with other normal shareholders, but family members can get a higher rate of payment, then the possibility of dispute happening will rise. The last point is some shareholder may disadvantaged by the decision that other shareholders make. Minority shareholders do not have big influence towards company than the majority shareholders. Therefore, in private company, majority owner may only consider their own interest without thinking what minority owners' interest will look like.

Here is a very classical internal shareholding disputing case in China. In 1998, Changjiang Wu and his two classmates set up a company. At first, they had a balance ownership structure, but the ownership split equally into 33.3% for everyone in 2002 due to interest dispute. Then his classmates wanted kick him out of the company. The result was Changjiang Wu stayed but his classmates out. After few years development, Changjiang Wu kept trading with other corporations. His ownership decreased and decreased again. Finally, he had no power to make decisions and only had 2.54% ownership. Therefore, in order to avoid shareholding dispute, a lot companies have an shareholder agreement which include how to solve dispute. It can not guarantee dispute will not happen, but can give the solution to deal the problem.

3.3 Defective business model

Borders Books, a bookseller store company filed for bankruptcy in February of 2011. At that point, publishers were already anticipating bankruptcy filing for months due to the risen of Amazon and other ebook stores. Publishers had hope that Borders can reinvent itself. However, that didn't happen. Borders closed all its stores in 1971 as a result. Then the company was listed at $1.29 billion in debt and $1.27 billion in assets in United States. Borders owed a total of $178.8 million to its vendor, including publishers and landlords. The development of enterprises requires constant innovation, and the emergence of new technologies will bring essential changes to these enterprises. Many executives will also make mistakes in strategic decisions. Repeated problems will eventually lead to the failure of the enterprise.

3.4 Competitive environment

When investors observe the macro industry through products， it is important to consider natural monopoly which will be the key factor in determining the success of the investment. First, high barriers of entrance will determine whether the product can flourish in the industry in the coming decades, for example, newly built electricity retailers and suppliers in Singapore are difficult to survive in the power industry due to the nature of monopoly in the electricity industry, as limited natural resources and large start-up capital can limit the growth of such firms, then financing failed. The local electricity market in Singapore has experienced large price fluctuations recently. In 2021, five electricity retailers, iSwitch, Ohm Energy, Best Electricity, UGS Energy, and SilverCloud, announced their withdrawal from the market. This mentioned example has demonstrated that investors need to observe the impact of market fluctuations on products and the nature of the product during the financing stage. Moreover, whether there are companies that monopolize the market in the industry where the investment product is located. These companies often suppress new competitors through a strategy of a price war to enjoy a larger extent of internal economies of scale. Price war refers to the oligopolistic or monopolistic companies providing below-market prices to attract a large number of customers, causing the new company cannot survive in the market. Therefore, if the investor finds that the product has the characteristics of natural monopoly or the market where the product is located has the phenomenon of monopoly, it should reconsider the possibility of successful investment.

4. Conclusion

With many technological innovations nowadays, it's essential to consider risk management and the decision factors of venture capital because it has its own attributes. Just like any investment, the decision-making process is subject to a variety of factors or constraints. Therefore, risk management plays a decisive role in the success of the final investment project. As stated before, risk management is recognized as an increasingly important executive issue. There are many things to consider when comes to financial risk management: financial risk management strategies, techniques, and models.

Investors should do enough background research about the company that they wish to invest in, which also includes information about the products. Venture capital due diligence should have a clear understanding of the business model, so it's necessary to pay attention to things like customer base, customer interviews, or satisfaction surveys. Researching competitors, and getting a fully comprehensive understanding of the enterprise's market position and product share can also be dominant when it comes to limiting risk. With the four analysis cases shown previously, the trend is shown that companies go bankrupt due to different reasons like technology, disagreement or dispute between shareholders, strategic missteps in executive turnover, or a competitive environment. It's critical for investors to consider these factors before making a decision, and that will help reduce the chances of a high-risk investment.

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