ISSN:2790-1661 Volume-14-(2025)

Research on Interpreting Startup Incentives Mechanism and Adjusting Risk Preferences for Investors: A Behavioral Contract Theory Perspective

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Abstract. In the context of the prevailing entrepreneurial boom, how startups can attract investors and adjust their risk preferences through effective incentive mechanism design has become a key issue affecting the success or failure of financing. Based on the perspective of behavioral contract theory, this paper examines the impact of incentive mechanism design on investors' decision-making and risk preferences in startups. By classifying incentive mechanisms into formal terms and informal psychological contracts, this paper analyzes the path mechanism of its signaling to influence investors' cognition and behavior. Through the path of 'incentive-cognition-behavioral adjustment', it reveals how incentives affect investors' psychological expectations and risk perception, and through the comparative analysis of WeWork and Xiaomi, it is found that effective incentives require the synergy of formal terms and informal psychological contracts. This paper provides theoretical support and practical insights into the incentive mechanisms of startups and investors' assessment of investment project risks.

Keywords: Startup, Behavioral Contract Theory, Psychological Contract, Behavioral Biases.

1. Introduction

In the era of economic globalization, with the opening and integration of international markets and the rapid development of information technology, the number of start-ups around the world has grown rapidly and begun to receive more and more attention from investors. However, these start-ups often suffer from serious information asymmetry due to the lack of mature business models and historical financial data, leading to a high degree of uncertainty for external investors in assessing their risks and prospects. Thus, how to design effective and attractive incentives to influence investors' decision-making and guide their risk perceptions has become a worthwhile research topic.

While extensive research has examined how firms utilize incentive mechanisms such as equity compensation and performance-based bonuses to motivate internal employees [1], much less attention has been paid to how firms might actively influence external investors' decisions through incentive design. Existing studies of investor behavior have focused on market factors such as past disclosure, financial transparency, and corporate reputation [2] and behavioral biases such as Heuristic, Prospect, Market, and Herding [3]. Few have considered the impact of firms' formal and informal incentive structures on investors' decisions and risk perceptions. Based on behavioral contract theory, this paper explores different incentive types for investors and how they adjust their risk preferences. The paper introduces the psychological contract as an informal incentive, which is less discussed in current research, together with formal contract terms, it constitutes a system of incentives and incorporates behavioral biases in investment, and explains irrational investor behavior.

2. Literature Review

2.1 Behavioral Contract Theory and Relevant Theoretical Basis

Traditional contract theory assumes that people are perfectly rational utility maximisers, but agents often exhibit limited rationality and behavioral biases. Kőszegi suggests that integrating behavioral economics into contract theory better explains contract design problems [4]. The key assumptions of the theory are that agents are subject to psychological factors and that principals are rational and aim

to use the agents' characteristics to maximize their interests. Behavioral financial factors such as herd effect, disposition effect, overconfidence and blue-chip bias can have an impact on investors' risk perception and investment decisions, reflecting the importance of considering individual risk perceptions when making investment decisions [5].

Differing from the traditional behavioral contract theory, this idea is extended in the study of psychological contracts [6], where the early information presented to the agent may be incomplete or overly optimistic, since principals cannot fully predict future outcomes. As a result, the agent will have high expectations, but if the future performance of the company does not match what was first portrayed, the psychological contract will be violated. This also applies to startup founders and investors: for example, if a founder promises to double revenue within a year but fails, investors become loss-averse, triggering divestment or stricter contract terms.

Faced with the occurrence of a violation of the psychological contract, investors' loss aversion leads them to quickly adjust their risk preferences. Prospect theory suggests that people are loss-averse, valuing potential losses more than equivalent gains, meaning investors react more strongly to losses than to gains [7]. When applied to incentive design, for example, an investor feels the pain of losses more acutely than the pleasure of equivalent gains. When designing incentives, it should consider investors' own expected returns. If an incentive contract conflicts with these expectations, it can also violate the psychological contract. Real-world cases such as Enron and Wirecard illustrate how unmet performance expectations and governance failures can break psychological contracts with investors, leading to trust collapse, sharp market reactions, and even firm failure [8].

2.2 Investor Risk Preferences and the Role of Incentives

Previous analyses in the literature have focused on investors 'psychological preferences, revealing that incentives affect investors' risk perceptions and decision-making judgements due to psychological contracts and prospect effects. However, in the currently highly asymmetric information context, startups often face the 'adverse selection' situation, making it hard to distinguish between high and low quality firms. In this context, signaling theory provides a complementary perspective. Spence defines signaling as the transmission of observable, changeable traits indicating productivity [9]. It is less costly for highly competent individuals to send such signals, making them more likely to be distinguished.

Agents can use characteristics such as the individual's level of education or patents as primary signals. Similarly, startups can highlight their strengths and potential by sending high-quality signals, such as a high founder's education, work experience or intellectual property.

As for the specific contractual settings, incentives are the carriers of signals that can be designed and observed. Through equity incentives, investors receive signals that founders are willing to tie themselves to the company's future gains, such as lock-ups, deferred encashment, and other equity arrangements, indicating their optimism about the company's prospects [10]. By adding an Earn-out Clause, the founder is willing to commit to performance targets and take responsibility if they are not met. Such costly, long-term terms help investors judge firm quality and reduce adverse selection. These mechanisms not only shape investor expectations but also reduce perceived risk, making behavioral insights essential to incentive design in early-stage investment.

3. The Path Analysis of Startup Incentives Mechanism

3.1 Formal Terms Incentive Signaling

By constructing a path from incentives to perceptions to behaviors, showing how formal and informal incentive design reflects investors' psychological biases, ultimately adjusting their risk tolerance level through the chain reaction of behavioral biases.

Formal incentives can signal optimism to investors. For example, equity incentives, by giving up the company's current profits, demonstrating founders' willingness to tie their returns to the company's future gains. In addition to the lock-up mechanism, a minimum-return guarantee, which

is the betting clause, lowers investor risk aversion by assuring a payout, signaling the founders' confidence in prospects. Such guarantees encourage investors to commit more money by reducing the expected risk.

However, founders can also manipulate performance to create a false positive image, temporarily maintaining investors' low risk aversion. If exposed, this collapse of trust can sharply increase investor risk aversion.

3.2 Dynamic Evolution of Informal Psychological Contracts

Investors are not fully rational individuals, and they do not only focus on the content of the contractual terms but are also influenced by the behavior of the founders. Founders may send signals by exaggerating the company's prospects and potential by making public promises, creating an over-optimism bias. If the company underperforms, it will break the psychological contract, triggering investor risk-aversion. Early-stage promotional statements often include optimistic forecasts to "signal" high growth potential, thereby influencing investor sentiment.

3.3 Behavioral Bias Chain Reaction

Informal psychological contracts are inherently ambiguous and have subjective interpretation, making investors more likely to develop behavioral biases, such as overconfidence, trust bias, and inequality aversion. As in the case of WeWork, whose founder took 'reinventing the office ecosystem' as a long-term vision, and received high investor trust. However, he later misused resources and reneged on his promises, leading to a collapse in share value after the IPO failed. Thus, such signals may attract investors in the short term, but ultimately trigger biases that affect decision-making and risk preferences.

Overconfidence causes investors to overestimate project potential and reduces their sensitivity to risk. Malmendier and Tate find that overconfident CEOs will increase their investment when they have adequate funds, believing that their judgement is flawless [11]. Similarly, investors with trust bias tend to overlook contract details due to the founder's aura. Investors with reference point reliance are more likely to trust investment projects that match their reference points [12]. For example, when founder endorsement aligns with an investor's expectations, they simplify the decision-making process and ignore risks. In other words, trust bias is one of the emotional foundations of investor overconfidence. Trust bias reinforces overconfidence, jointly affecting investors' signal interpretation and risk tolerance.

However, when investors perceive unfair terms, long-established trust will collapse, triggering an emotional response. This reaction is no longer based on a rational analysis of the situation but is a manifestation of 'inequality aversion' [13]. This leads to anger or disappointment, and ultimately choose to exert pressure or divestment, thus destabilizing the investment project, which is also a reflection of the negative impacts of violating the psychological contract. In effect, any hint of unfairness in contract terms provokes emotional responses that outweigh rational analysis.

4. Case Studies

4.1 WeWork

WeWork, founded by Adam Neumann, was once one of the world's most highly regarded shared office unicorns. In 2019, due to the company's governance problems and poor financial situation causing its (Initial Public Offerings) IPO failure, President Adam Neumann was forced to resign. Its valuation has fallen from the previous $47 billion to a significantly lower amount, making it an iconic case of failure in Silicon Valley's entrepreneurial history.

The reason for the company's failure is not just a problem with the business model, but also a case of failed incentives and a broken psychological contract.

In the early stages of the company's development was favored by many top investment institutions, including the chairman of Softbank Group, Masayoshi Son, who pushed WeWork into the spotlight,

with a total investment of more than $10.6 billion. Under the influence of Masayoshi Son, CEO Adam Neumann planned an unrealistic $100 billion real estate development fund, a vision that was endorsed by many of the company's top executives, but it was nearly impossible to achieve. This informal incentive mechanism gradually evolved into a problem of 'false signals'.

Firstly, the design of its formal incentives had certain flaws. Before the company went public, Neumann spent most of the investment on improving his life, making various investments and acquisitions. This profligate behavior was initially challenged by the board of directors, but important investor Masayoshi Son was unconcerned. This behavior shows that WeWork's long-term returns are not tied to personal returns, which goes against what most investors expect from a 'long-termism founder'.

Secondly, the informal incentive mechanism, the 'founder's visionary commitment,' was also ineffective. Neumann portrayed WeWork as a space with a 'utopian vision' of corporate culture, promising to 'change the way people work and live'. However, the company's internal governance is extremely chaotic, financial data is seriously distorted, and the company continues to expand. The 'idealism' that was originally regarded as a signal by investors was gradually interpreted as a 'false signal' or even a 'fraudulent psychological contract', which led investors to reassess the risks.

Eventually, WeWork was forced to terminate its IPO before going public, and its valuation fell from $47 billion to less than $10 billion. After the IPO failure, Softbank provided $9.5 billion in bailout funds, but it failed to save WeWork, and investors' trust in Neumann collapsed, and their risk appetite dropped sharply, leading to a massive withdrawal of capital.

WeWork's failure shows that in the absence of effective formal incentives, it is difficult to maintain investor trust over the long term, even if the founders convey a strong commitment to the vision.

4.2 Xiaomi

Founded in 2010, Xiaomi is an 'innovation-driven internet company' that quickly became one of the tech leaders, and was successfully listed in Hong Kong in 2018, making it one of the world's youngest 'Fortune' 500 companies.

At the aspect of formal incentives, Xiaomi set up a large-scale employee equity incentive program before its IPO, with more than 5,500 employees holding shares, accounting for nearly 38 per cent of the total, according to the prospectus. This program motivates employees and simultaneously sends a signal to investors that its founder, Lei Jun, is optimistic about Xiaomi's prospects. Lei Jun further pledged not to sell any of his shares for one year after the IPO, reinforcing investor confidence.

At the same time, Xiaomi has also built an informal incentive system centered on 'vision-culture-commitment'. Lei Jun has repeatedly stressed publicly that Xiaomi is not a traditional hardware company, but an 'innovation-driven Internet company', and has always adhered to the product concept of 'touching people's hearts, generous price'. This strong visionary orientation enhances external investors' perception of Xiaomi's long-term strategic clarity. Through this informal mechanism, it strengthens investors' psychological recognition of the founder's intentions and corporate values, and further adjusts their risk appetite towards optimism.

Xiaomi's formal and informal incentives reinforced each other, building strong investor trust. Its successful IPO and stock performance reflected this confidence. For start-ups, this case shows that the combination of structured incentives and emotional commitment together shapes investor behavior and risk judgments.

5. Recommendations for startups and Implications for Policymakers

Startups should create a multi-level incentive system during the financing stage to make sure both formal and informal methods work together. For example, the founder's promises should match the contract terms, which can be done by including clear market goals in the agreement to avoid losing trust if what is promised doesn't match reality. At the same time, companies need to build a good governance structure to avoid the lack of constraints on founder supremacy. Investors need to be

aware of their own biases and should not just trust the founders' backgrounds or endorsements without considering whether they can actually keep their promises. They should carefully review incentives and conduct thorough checks to avoid blindly following investment trends.

Investors need to be aware of the impact of their own behavioral biases and should not rely solely on the background or strong endorsement of the founders while ignoring their ability to deliver on their promises and should do a good job of reviewing incentives and due diligence to prevent blind pursuit of investments under the herd effect. Reduce information asymmetry by increasing the transparency of the company's data, such as quarterly operating reports, and negotiate timely adjustments to the terms in the event of underperformance to avoid the inequality aversion problem brought about by unequal terms.

Regulators can require startups to publicize the core contents of their contractual terms at the early stage of financing, such as the compensation method in the betting terms and performance indicators, to reduce investors' misjudgment due to incomplete information. In addition, training in behavioral finance can be set up to help investors better identify the founder's overpromises and their own cognitive biases, to enhance their rational decision-making ability.

6. Conclusion

Based on the behavioral contract theory, this paper classifies the incentives of startups into formal incentives, such as equity incentives, betting terms, lock-in mechanisms, and informal incentives, such as the founder's commitment in the psychological contract, long-term vision. Through the signal effect, the incentives are transmitted to investors as signals, forming an ‘incentive-cognition-behavioral adjustment’ pathway.

The setting of formal mechanisms mitigates the problem of adverse selection in high-quality startups, reduces information asymmetry, while informal signals of founder optimism build trust with investors. This framework extends traditional contract models by explicitly incorporating behavioral factors. In practical terms, it suggests that startups should consciously use incentive design as strategic signals for investors. The findings contribute to the broader understanding of how psychological factors influence startup financing.

By analyzing the failure of WeWork and the success of Xiaomi, we can have a clearer understanding of the role of incentives in investor behavior. WeWork’s lack of effective formal incentives and false informal signals led to a collapse in trust and a sharp drop in risk preference. Xiaomi, on the other hand, through the clear design of equity incentives and a strong statement of long-term vision before the IPO, the two forms of incentives, both formal and informal, work together to send high-quality signals to investors, strengthening their trust in the company and reducing risk aversion, so that the company can still attract and retain a large number of investors in a volatile market, thus achieving a successful IPO and a significant increase in valuation.

Despite different geographical contexts (U.S. vs. China), both cases yield consistent lessons on incentive design. Formal and informal incentives need to work in synergy, contract terms and informal psychological contracts are crucial for stabilizing investor expectations. However, Investors are not fully rational, so signal interpretation remains subject to biases and changing risk appetites.

The cases in this paper are gathered from well-known enterprises in China and the United States, and the failure and success cases of these enterprises are used to examine and analyze the path of incentive mechanisms, but the conclusions may not be fully applicable to emerging markets and micro and small startups. Thus, future research can focus on more industries and startups at different life cycle stages to increase the sample size, to further verify the role of the path mechanism, and the adjustment rules of investor decision-making.

In addition, investor behavioral biases such as overconfidence, trust bias, and inequality aversion can be measured through quantitative experimental economics in future studies to better examine the strength of the impact of these factors on investors.

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