

Determinants of Perceived Crowdfunding Success among Student Entrepreneurs in China: An SEM Mediation Analysis

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Abstract

College student entrepreneurs face a persistent financing constraint, yet the mechanism through which project, platform, and risk-management signals translate into perceived crowdfunding success remains under-explored in China. This study examines how basic project information, crowdfunding platform characteristics, and risk disclosure and control affect perceived crowdfunding success among student entrepreneurs through the mediating mechanism of investors' willingness to participate. Using survey data from 670 college students in Jiangsu Province, China, all of whom had crowdfunding participation experience and entrepreneurial experience, the study applies structural equation modelling (SEM) with SPSS 25.0 and AMOS 23.0 to estimate the relationships among latent constructs and uses 5,000-sample Bootstrap testing with 95% confidence intervals to verify indirect effects.

The findings show that basic project information ($\beta = 0.196$, $p < 0.001$), crowdfunding platform characteristics ($\beta = 0.104$, $p < 0.01$), and risk disclosure and control ($\beta = 0.174$, $p < 0.01$) significantly enhance perceived crowdfunding success. They also significantly improve investors' willingness to participate, which itself has the strongest direct effect on perceived crowdfunding success ($\beta = 0.486$, $p < 0.001$). Bootstrap results further confirm that investor willingness partially mediates the effects of project information, platform characteristics, and risk disclosure and control, with indirect effects of 0.150, 0.080, and 0.108, respectively.

The study contributes to crowdfunding and digital entrepreneurial finance research by integrating project-, platform-, and risk-based determinants within a single SEM mediation framework and by offering China-based empirical evidence on the psychological mechanism linking external crowdfunding signals to entrepreneurial perceived funding outcomes.

Keywords: perceived crowdfunding success, student entrepreneurship, entrepreneurial finance, investor willingness, platform characteristics, risk disclosure.

JEL Classification: G23; G41; L26; C38.

Introduction

Research Background and Problem Statement

Under the guidance of the innovation-driven development strategy, the wave of "mass entrepreneurship and innovation" in China continues to rise. College students, as the most innovative and dynamic group, have become an important force in innovation and entrepreneurship. According to statistics, the number of college graduates across the country reached 11.58 million in 2023, and the proportion of college students choosing to start their own businesses has been rising year by year. College students' entrepreneurship not only enables them to realize their personal value, but also creates jobs, promotes technological innovation and boosts economic development. However, the entrepreneurial path is full of challenges, and the shortage of funds has always been a key bottleneck restricting the perceived crowdfunding success among student entrepreneurs.

Traditional financing channels such as bank loans, venture capital, angel investment, etc. often set high thresholds for start-ups. College student entrepreneurs generally lack credit records, collateral assets and mature project experience, making it difficult for them to win the favour of traditional financial institutions. Against this backdrop, crowdfunding, as an emerging Internet finance model, offers a new way for college students to obtain funds, thanks to its low threshold, high efficiency and wide coverage.

Crowdfunding refers to the act of project initiators raising funds from the public through Internet platforms, and its success is influenced by a variety of factors. Scholars at home and abroad have explored the factors influencing perceived crowdfunding success from different perspectives, mainly focusing on project characteristics (such as project quality, target amount, return plan), platform characteristics (such as platform reputation, user size, service quality), entrepreneur characteristics (such as personal reputation, social network, entrepreneurial experience), etc. However, there are some shortcomings in the existing research:

International crowdfunding research has increasingly moved from general descriptions of online financing toward platform-specific empirical analysis. Large-scale studies of Kickstarter and Indiegogo demonstrate that campaign success is shaped not only by project quality, but also by signalling environments, creator credibility, multimedia disclosure, funding model design, and investor trust (Huang et al., 2022; Westerlund et al., 2021; Elrashidy et al., 2024; Alharbey & Van Hemmen, 2021; Fernandez-Blanco et al., 2020). Recent studies also show that crowdfunding has become part of the digital economy's entrepreneurial finance infrastructure, where online visibility, platform governance, and data-rich investor interaction jointly influence whether early-stage projects can convert public attention into financial commitment (Elrashidy et al., 2024; Hoque, 2024). These international findings are highly relevant to Chinese college student entrepreneurship because student-led projects operate under similar online information-asymmetry conditions, but within a different institutional, cultural, and educational context.

Research Gap and Research Questions

The academic gap can therefore be stated more sharply as follows: although prior studies have examined project quality, platform reputation, risk disclosure, trust, and crowdfunding outcomes, they have rarely integrated these elements into a single latent-variable mediation model focused on college student entrepreneurs in China. In particular, the psychological pathway through which external crowdfunding signals influence success remains insufficiently specified, because many studies test direct associations without explaining whether investor willingness functions as the intervening mechanism. This gap is important because perceived crowdfunding success is not only a technical outcome of platform exposure, but also a behavioural outcome produced through investor cognition, trust, perceived control, and willingness to participate.

There is a lack of focused analysis of the specific group of college students who start businesses. College student entrepreneurs have unique group characteristics in terms of experience, resources, social networks, etc. Their perceived crowdfunding success mechanisms may differ from those of general entrepreneurs, and there are few existing studies that specifically explore this.

There is insufficient attention to the role of investor psychological factors in perceived crowdfunding success. The essence of crowdfunding is to attract public investment, and the psychological perception and attitude of investors are key factors in determining their investment behaviour. Existing research mostly focuses on project and platform characteristics, and less examines the mediating role of the psychological variable of investor willingness to participate in perceived crowdfunding success.

There is a lack of systematic examination of the combined effects of multiple factors. Perceived crowdfunding success is the result of the combined effect of multiple factors, but existing research mostly analyses from a single dimension and lacks a systematic examination of the combined effect of multiple factors such as projects, platforms, and risks.

Based on this, this study takes college students in Jiangsu Province, China as the research subjects, constructs theoretical models of "project basic information - investor willingness - perceived crowdfunding success", "crowdfunding platform - investor willingness - perceived crowdfunding success", and "risk disclosure and control - investor willingness - perceived crowdfunding success", and conducts empirical tests using the structural equation model (SEM). The aim is to reveal the intrinsic mechanism of college students' entrepreneurial perceived crowdfunding success and answer the following research questions: (1) How do basic project information, crowdfunding platforms, and risk disclosure and control affect college students' entrepreneurial perceived crowdfunding success? (2) What mediating role does investor willingness play between project basic information, crowdfunding platforms, risk disclosure and control and the perceived crowdfunding success among student entrepreneurs?

This study expands the boundaries of research on factors influencing perceived crowdfunding success, constructs a comprehensive theoretical model of "project - platform - risk - willingness - success", reveals the mediating mechanism of investor willingness to participate between external factors and perceived crowdfunding success, and deepens the understanding of the internal mechanism of perceived crowdfunding success. At the same time, focusing on the specific group of college students' entrepreneurship enriches the object range of crowdfunding research and provides a new perspective for understanding the financing problem of college students' entrepreneurship.

In applied economic terms, crowdfunding functions as an alternative-finance channel for young entrepreneurs who lack collateral, credit histories and established investor networks. It can widen financial inclusion, improve early-stage capital allocation and reduce information asymmetry when platform governance makes project information, risk disclosure and investor interaction more credible.

The findings offer practical insights for college student entrepreneurs and crowdfunding platforms. College student entrepreneurs can enhance investors' willingness to participate by optimizing project information, rationally choosing platforms, and effectively managing risks, thereby increasing the success rate of crowdfunding. Crowdfunding platforms can create a better crowdfunding environment for project initiators and investors by improving service quality and platform reputation.

The contributions of this study are threefold. First, it extends the perceived crowdfunding success literature by examining a specific and under-researched entrepreneurial group: college students with crowdfunding participation and entrepreneurial experience in China.

Second, it develops an integrated framework that combines project basic information, crowdfunding platform characteristics, risk disclosure and control, investor willingness, and perceived crowdfunding success, thereby moving beyond single-factor explanations of campaign outcomes.

From an applied economic perspective, the model links youth entrepreneurship and innovation financing to the governance of digital intermediaries: better disclosure and platform oversight can direct scarce early-stage capital toward credible student-led ventures while limiting information-asymmetry costs.

Third, it provides methodological contribution by applying SEM and Bootstrap mediation testing to estimate direct, indirect, and total effects among latent variables, which strengthens the statistical explanation of how external crowdfunding signals operate through investor willingness.

Fourth, it offers practical contribution for the digital economy by showing how student entrepreneurs and crowdfunding platforms can improve funding outcomes through transparent information disclosure, credible platform governance, risk communication, and investor-centred interaction.

2. Literature Review

2.1 Concept and Types of Crowdfunding

Crowdfunding refers to the act of project initiators raising funds from the public through an Internet platform. The concept originated from the fusion of Crowdsourcing and Microfinance. The prototype of crowdfunding can be traced back to the subscription model in the publishing industry in the 18th century, but the modern sense of crowdfunding emerged with the development of Internet technology. The launch of ArtistShare in 2001 marked the birth of modern crowdfunding platforms. After the 2008 global financial crisis, crowdfunding developed rapidly as an alternative financing method, and platforms like Kickstarter and Indiegogo became the world's leading crowdfunding platforms.

In the international literature, Kickstarter and Indiegogo have become central empirical settings because they provide observable campaign-level data on project descriptions, funding models, signals, and outcomes. Huang et al. (2022) compare matched Kickstarter and Indiegogo projects and show that entrepreneur credibility and project-quality signals operate differently under different platform funding models.

Westerlund et al. (2021) analyse more than 21,000 Kickstarter technology-project summaries and find that novelty-oriented and socially problem-focused wording is associated with successful campaigns. These studies indicate that crowdfunding success should be understood as a signalling and interpretation process rather than as a purely financial transaction.

According to the form of return, crowdfunding can be divided into the following four types:

- Donation crowdfunding, where investors make donations for public or supportive purposes without expecting a substantial return. This type of crowdfunding is often used for charitable projects, social welfare projects, and artistic creation projects.
- Reward-based crowdfunding, where investors receive project products or services in return. This is the most common type of crowdfunding, often used to finance creative products, tech products, and artworks.
- Debt crowdfunding, where investors provide funds in the form of loans and project initiators promise to repay the principal and interest on time. This type of crowdfunding is similar to P2P lending and is often used for financing small and micro enterprises and personal consumption lending.
- Equity crowdfunding, where investors acquire equity in the project company, become shareholders, and share in the future profits of the project. This type of crowdfunding is often used to raise funds for start-ups and has a high risk-return profile.

This study focuses on reward-based crowdfunding, which is most suitable for college student start-ups and is closest to the actual situation of the Chinese crowdfunding market.

In this study, crowdfunding success is operationalised as perceived crowdfunding success (SCSEC), not as an objectively observed campaign outcome. Respondents assessed whether a project appeared likely to reach its funding goal, attract investors, gain social attention and obtain media coverage; these perceptions should therefore be interpreted as an investor-facing evaluation of likely success rather than verified platform performance.

2.2 Factors Influencing Crowdfunding Success

Basic Project Information

Project basic information refers to the information about the project that the crowdfunding project initiator presents to investors, including project introduction, target amount, fundraising period, return plan, project video, update frequency, etc. Mollick (2014)'s empirical study of the Kickstarter platform found that project quality is the most important factor in predicting crowdfunding success, and high-quality project descriptions, professional project videos, and reasonable return plans can significantly increase the success rate of fundraising.

The setting of project target amounts has a dual impact on crowdfunding success. On the one hand, a target amount that is too high will increase the difficulty of raising funds and reduce the success rate; On the other hand, a low target amount, though easy to achieve, may raise questions from investors about the feasibility of the project. Davis et al. (2017) found that there is an interaction between target amount and project quality, and high-quality projects can set higher target amounts without affecting success rates.

The duration of fundraising for the project is also an important factor. In theory, a longer fundraising period gives the project more exposure opportunities, but it can also cause investors to delay decision-making. Research shows that fundraising periods of 30 to 45 days are most common and have a higher success rate. The frequency of project updates can keep

investors' attention and trust, and projects that update regularly have a significantly higher success rate than those that do not update or update infrequently.

A comparison of the literature shows a clear but incomplete pattern. While Mollick (2014) emphasizes overall project quality, Westerlund et al. (2021) show that even short project summaries can predict funding outcomes, and Elrashidy et al. (2024) find that multimedia, information disclosure, team signals, and previous funding success are significant determinants of reward-crowdfunding success. This suggests that basic project information functions as a bundle of observable quality signals, but prior work has not sufficiently tested whether such signals influence success directly or indirectly through investor willingness.

Crowdfunding Platforms

Crowdfunding platforms act as intermediaries connecting project initiators and investors, and their platform characteristics have a significant impact on perceived crowdfunding success. Belleflamme et al. (2014) found that the credibility and brand effect of the platform can significantly affect the success rate of the project. Well-known platforms can not only attract more traffic, but also provide credibility endorsements for projects, reducing information asymmetry and perceived risks for investors.

The size and activity of the platform's user base are important factors influencing perceived crowdfunding success. A platform with a large user base can provide more exposure for the project, and a platform with a large number of active users means a large base of potential investors. Lin and Viswanathan (2015) found that the investment experience and professionalism of platform users also affect the success rate of projects.

The quality of service and the charging mechanism of the platform are equally important. Good customer service can help project initiators better showcase their projects and solve problems; A reasonable charging mechanism can motivate the platform to provide better service for the project. Agrawal et al. (2015) show that crowdfunding platforms can reduce market frictions by facilitating project search, providing information about prior funding activity, and enabling communication among participants. These platform functions can reduce information asymmetry and support investor decision-making.

While Belleflamme et al. (2014) highlight the economic role of platforms in connecting funders and entrepreneurs, more recent evidence indicates that platform effects are also psychological and institutional. Huang et al. (2022) demonstrate that Kickstarter and Indiegogo create different signalling environments, while Alharbey and Van Hemmen (2021) show through structural equation modelling that both platform trust and fundraiser trust significantly affect investor intention. Therefore, platform characteristics should be analysed not only as technical infrastructure, but also as legitimacy-building mechanisms that shape investor willingness.

Risk Disclosure and Control

Risk-related conditions in crowdfunding include project-failure risk, information asymmetry, moral hazard and market uncertainty. However, the empirical construct used in this study captures favourable risk-management and credibility signals: transparent risk disclosure, effective control measures, initiator reputation, entrepreneurial experience and social-network activity. It is therefore interpreted as Risk Disclosure and Control rather than as exposure to unmanaged risk.

The personal characteristics of the project initiator are also an important basis for investors to assess risks. The educational background, entrepreneurial experience, and social reputation of the initiator can all influence investors' judgment of the feasibility of the project. Courtney et al. (2017) found that the size and activity of an initiator's social network are positively correlated with the success rate of the project, as social networks provide social proof and reduce information asymmetry.

The risk of information asymmetry is a unique risk in crowdfunding. Investors cannot conduct due diligence on projects as professional investors do; they have to rely on the information provided by the project initiators to make decisions. This information asymmetry can lead to adverse selection (where only low-quality project initiators are willing to initiate crowdfunding) and moral hazard (where initiators may not use the funds as promised after raising them).

The risk literature also requires a more critical interpretation. Earlier studies treat risk primarily as a negative barrier to investment, but signalling theory suggests that transparent risk disclosure can reduce uncertainty and strengthen credibility. This is supported by recent reward-crowdfunding evidence showing that risk information disclosure and trust-related signals influence funding success, particularly under conditions of environmental uncertainty such as the Covid-19 period (Elrashidy et al., 2024). Therefore, risk disclosure and control in this study are interpreted not simply as threats, but as manageable signals that can increase investor confidence when they are disclosed and controlled professionally.

2.3 Investor Willingness to Participate

Investor willingness refers to the degree to which potential investors are inclined to invest in crowdfunding projects, and it is an important psychological variable for predicting investment behaviour. According to the Theory of Planned Behaviour, individual willingness to act, influenced by attitudes, subjective norms, and perceived behavioural controls, is the most direct predictor of actual behaviour. In the context of crowdfunding, the willingness of investors to participate is the key psychological variable that determines whether they invest or not, and thus affects the ultimate success of the crowdfunding project.

Investors' willingness to participate is influenced by a variety of factors. From a cognitive perspective, investors' perception of the quality of the project, their evaluation of the credibility of the platform, and their judgment of the level of risk all affect their willingness to participate. From an emotional perspective, investors' fondness for the project, their emotional identification with the entrepreneur, and their perception of the project's significance can also affect their willingness to participate. From a social perspective, recommendations from others, public opinion, herd mentality, etc. also affect the willingness to participate.

Recent investor-intention research reinforces the need to place investor willingness at the centre of the model. Alharbey and Van Hemmen (2021) find that investor intention in equity crowdfunding is shaped by trust in both the platform and the fundraiser, while broader crowdfunding reviews identify transparency and trust as recurring mechanisms in innovation financing (Hoque, 2024). Compared with studies that treat willingness as an outcome only, the present study positions investor willingness as a mediating construct that translates project, platform, and risk perceptions into perceived crowdfunding success.

2.4 Critical Review and Research Gaps

Through literature review, it can be found that existing studies have conducted extensive discussions on the influencing factors of perceived crowdfunding success, but there are the following research gaps:

First, there is a gap in the research subjects. Most of the existing research focuses on international crowdfunding platforms such as Kickstarter and Indiegogo, with samples mostly from developed countries in Europe and the United States. Research specifically focused on Chinese college student entrepreneurs remains relatively scarce, although the broader crowdfunding literature has examined project characteristics, platform-related factors, investor evaluation criteria, and determinants of crowdfunding success (Liu et al., 2023; Koch & Siering, 2015; Shafi, 2021; Shneor & Vik, 2020; Xu et al., 2026). The Chinese crowdfunding market has a unique institutional environment and cultural background, and college student entrepreneurs have their own group characteristics, which require specialized research.

Second, the gap in the theoretical mechanism. Existing research mostly starts from project and platform characteristics and directly explores their impact on perceived crowdfunding success, paying less attention to the mediating role of investor psychological factors. According to the theory of planned behaviour and the technology acceptance model, external variables need to influence behaviour by influencing individuals' psychological cognition and attitudes. Therefore, investor willingness to participate may be an important mediating variable linking project characteristics to project success.

Third, the gap in the research method. Existing studies mostly use regression analysis to test the direct impact of independent variables on dependent variables, and less use structural equation models to simultaneously test complex relationships among multiple variables, especially mediating effects.

Based on the above analysis, this study focuses on Chinese college student entrepreneurs and uses investor participation willingness as the mediating variable to construct theoretical models of "project basic information - investor participation willingness - perceived crowdfunding success", "crowdfunding platform - investor participation willingness - perceived crowdfunding success", and "risk disclosure and control - investor participation willingness - perceived crowdfunding success", and conducts empirical tests using the structural equation model To fill the gap in existing research.

Taken together, the literature shows three limitations. First, international research has generated strong evidence from Kickstarter and Indiegogo, but these findings cannot be directly generalized to Chinese college student entrepreneurs without context-specific testing. Second, many studies compare campaign features but provide limited explanation of the investor-level psychological mechanism connecting features to outcomes. Third, recent work has improved prediction accuracy, but less attention has been paid to theory-driven SEM models that can test direct and mediated relationships simultaneously. The present study addresses these limitations by integrating project information, platform characteristics, risk disclosure and control, investor willingness, and perceived crowdfunding success in one empirical model.

3. Theoretical Basis and Research Hypotheses

3.1 Theoretical Basis

The Theory of Planned Behavior (TPB), proposed by Ajzen (1991), is a classic theory for explaining and predicting human behavior. The theory holds that an individual's willingness to act is the most direct factor in determining actual behavior, and willingness to act is influenced by three factors: attitude, subjective norms, and perceived behavioral control. Attitude is the individual's evaluation of the outcome of the behavior; Subjective norms are social pressures perceived by individuals; Perceived behavioral control is an individual's perception of the ease or difficulty of the behavior.

In the context of crowdfunding, investors' willingness to participate is a direct predictor of their ultimate investment behaviour. Investors' willingness to participate is influenced by their attitudes towards the project (such as evaluations of project quality), subjective norms (such as recommendations from others and public opinion), and perceived behavioural controls (such as judgments of their own investment capabilities). Therefore, the theory of planned behaviour provides a theoretical basis for this study to use the investor's willingness to participate as a mediating variable.

The Technology Acceptance Model (TAM), proposed by Davis in 1989, is the classic theory that explains users' acceptance of new technologies. The model suggests that users' willingness to accept a new technology is influenced by perceived usefulness and perceived ease of use, which in turn are influenced by external variables.

In the context of crowdfunding, the crowdfunding platform can be regarded as a technological system, and the willingness of investors to participate is the basis for their acceptance and use of the system. External variables such as basic project information, crowdfunding platform features, and risk disclosure and control influence investors' willingness to participate by influencing their perceived usefulness (such as the belief that participating in crowdfunding will yield returns) and perceived ease of use (such as the belief that the operation is convenient and the risk is controllable). Therefore, the technology acceptance model provides a theoretical basis for this study to use basic project information, crowdfunding platforms, and risk disclosure and control as independent variables.

Signalling theory is also relevant to this study because crowdfunding investors face information asymmetry and must infer project quality from visible signals. Project descriptions, platform reputation, risk disclosure, creator credibility, and update behaviour all operate as signals that reduce uncertainty and shape investor judgments. Recent Kickstarter and Indiegogo evidence shows that entrepreneur credibility and project-quality signals can complement each other and that the value of a signal depends on the platform environment (Huang et al., 2022). Accordingly, this study treats project basic information, crowdfunding platforms, and risk disclosure and control as external signals that may influence perceived crowdfunding success directly and indirectly through investor willingness.

Integrated theoretical logic. The three perspectives operate at different but connected levels in the proposed model. Signalling Theory (Spence, 1973) explains how project information, platform reputation and risk disclosure and control reduce uncertainty; TAM explains why a credible, useful and easy-to-use platform can convert those signals into technology-mediated participation; and TPB explains why the resulting attitudes, social influence and perceived control become investor willingness, the behavioural mechanism closest to participation and perceived crowdfunding success.

3.2 Research Hypotheses

Project basic information is the primary channel through which investors learn about the project and has a significant impact on perceived crowdfunding success. Clear and complete project information can help investors accurately assess the quality and feasibility of the project and reduce information asymmetry. High-quality project presentations, professional project videos, and reasonable return plans can enhance investors' confidence and increase their willingness to invest. Mollick (2014) identifies project quality as an important predictor of crowdfunding outcomes, while Liu et al. (2023) synthesize broader evidence on factors associated with crowdfunding success. Based on this, the following hypothesis is proposed:

H1: Basic project information has a positive impact on the perceived crowdfunding success among student startups.

As an intermediary connecting project initiators and investors, the characteristics of crowdfunding platforms have a significant impact on perceived crowdfunding success. Reputable platforms can endorse projects and reduce perceived risk for investors. Platforms with a large user base can provide more exposure opportunities for projects and increase potential investors. A platform with good service can help project initiators better showcase their projects and solve problems. Belleflamme et al. (2014) explain the intermediary role of crowdfunding platforms, while Koch and Siering (2015) identify platform- and project-related characteristics associated with successful crowdfunding. Based on this, the following hypothesis is proposed:

H2: Crowdfunding platforms have a positive impact on the perceived crowdfunding success among student start-ups.

Risk Disclosure and Control directly affect investors' trust and confidence in the project, which in turn affects perceived crowdfunding success. Reasonable risk disclosure can enhance the credibility of the project and make investors feel the sincerity and professionalism of the initiators. Effective risk control measures can reduce investors' concerns about project failure. Ahlers et al. (2015) showed that the sufficiency of risk information disclosure has a significant impact on investor decision-making. Courtney et al. (2017) also found that the social capital and reputation of initiators can reduce investors' risk perception and increase their willingness to invest. Based on this, the following hypothesis is proposed:

H3: Risk Disclosure and Control have a positive impact on the perceived crowdfunding success among student start-ups.

Basic project information is an important basis for investors to form investment intentions. The more complete and clear the information, the deeper the investor's understanding of the project, the stronger the confidence in the project, and the higher the willingness to participate. High-quality project information can stimulate investors' interest and enhance their investment motivation. Consistent with this logic, Liu et al. (2023) identify project quality among the factors associated with crowdfunding success. Based on this, the following hypothesis is proposed:

H4: The basic information of the project has a positive impact on investors' willingness to participate in crowdfunding.

The characteristics of the crowdfunding platform affect investors' trust and satisfaction with the platform, which in turn affects their willingness to participate. The better the platform's reputation and the higher the quality of service, the stronger the investors' trust in the platform and the higher the willingness to participate. The larger and more active the platform's user base is, the more confident investors will be in the platform's future and the higher their willingness to participate. Belleflamme et al. (2014) found that platform characteristics influence investors' investment decisions by influencing their perceived risk. Based on this, the following hypotheses are proposed:

H5: Crowdfunding platforms have a positive impact on investors' willingness to participate in crowdfunding.

Risk Disclosure and Control directly affect investors' risk perception and risk assessment, and thereby their willingness to participate. The more fully risks are disclosed and the more effectively risks are controlled, the lower the risk perception of investors and the higher the willingness to participate. Ahlers et al. (2015) showed that the sufficiency of risk information disclosure can significantly reduce investor information asymmetry and increase investment willingness. Based on this, the following hypothesis is proposed:

H6: Risk Disclosure and Control have a positive impact on investors' willingness to participate in crowdfunding.

Investor willingness is the most direct factor in determining investment behaviour. According to the theory of planned behaviour, the willingness to act is the most direct variable for predicting actual behaviour. When investors have a stronger willingness to participate, they are more likely to actually participate in the investment, thereby promoting perceived crowdfunding success projects. At the same time, a crowdfunding project needs to accumulate a sufficient number of investors to reach the target amount, so the willingness of investors to participate directly determines the success of the crowdfunding. Based on this, the following hypothesis is proposed:

H7: Investors' willingness to participate in crowdfunding has a positive impact on the perceived crowdfunding success among student start-ups.

Based on the above analysis, basic project information, crowdfunding platforms, and risk disclosure and control not only directly affect the perceived crowdfunding success among student entrepreneurs, but also indirectly affect perceived crowdfunding success by influencing investors' willingness to participate. Specifically, project basic information enhances investors' willingness to participate by increasing information transparency and trust, thereby promoting perceived crowdfunding success; Crowdfunding platforms boost investors' trust and willingness to participate by providing credibility endorsements and quality services, thereby promoting perceived crowdfunding success; Risk Disclosure and Control, through reasonable disclosure and effective control, reduce investors' risk perception and enhance their willingness to participate, thereby promoting perceived crowdfunding success. As a result, investor willingness mediates between basic project information, crowdfunding platforms, risk disclosure and control and the perceived crowdfunding success among student entrepreneurs. Based on this, the following hypothesis is proposed:

H8: Investor willingness to participate in crowdfunding plays a mediating role between basic project information and perceived crowdfunding success for college students' entrepreneurship.

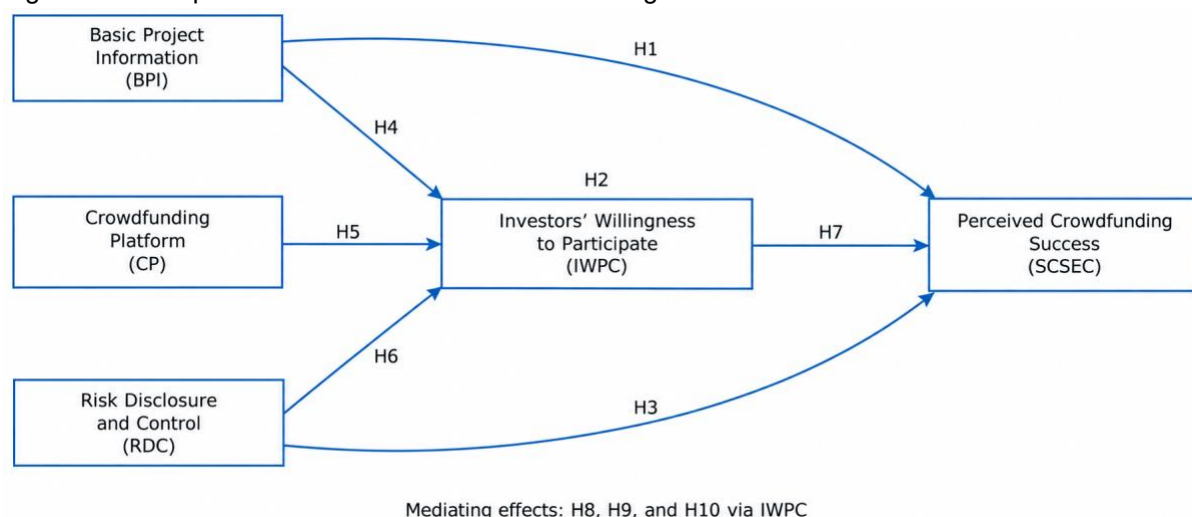
H9: Investor willingness to participate in crowdfunding plays a mediating role between crowdfunding platforms and perceived crowdfunding success for college student startups.

H10: Investor willingness to participate in crowdfunding mediates between risk disclosure and control and perceived crowdfunding success for college students' startups.

3.3 Conceptual Model

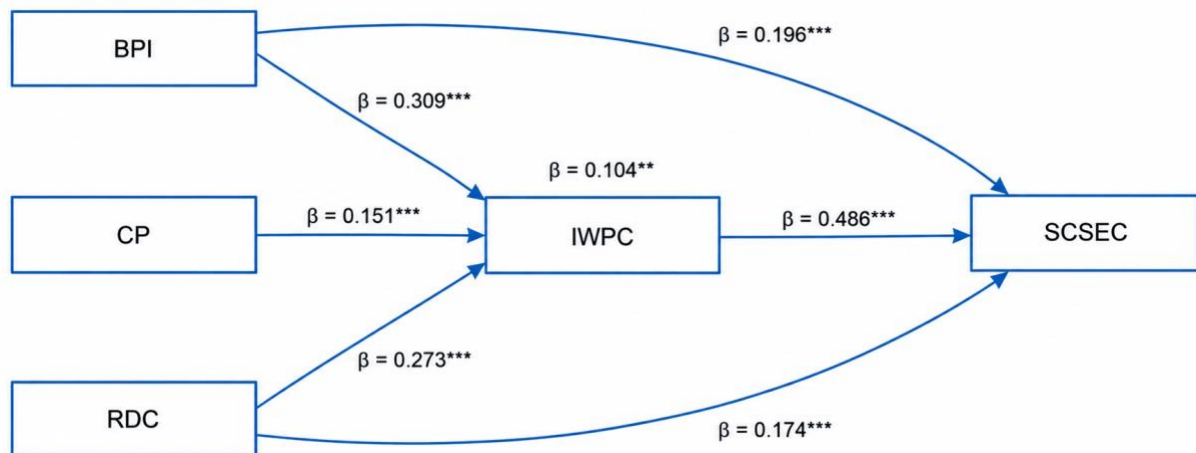
Based on the above theoretical analysis and research hypotheses, this study constructs the conceptual model as shown in Figure 1. The model consists of three independent variables (basic information of the project, crowdfunding platform, risk disclosure and control), one mediating variable (willingness of investors to participate in crowdfunding), and one dependent variable (perceived crowdfunding success among student entrepreneurs), presenting a total of 10 research hypotheses. Among them, H1, H2, H3 are the direct effect hypothesis, H4, H5, H6 are the effect hypothesis of the independent variable on the mediating variable, H7 is the effect hypothesis of the mediating variable on the dependent variable, and H8, H9, H10 are the mediating effect hypothesis.

Figure 1. Conceptual Model of Perceived Crowdfunding Success



As illustrated in Figure 2, the structural model confirms the direct relationships among BPI, CP, RDC, IWPC, and SCSEC, while also highlighting the mediating role of investors' willingness to participate (IWPC).

Figure 2. SEM Path Diagram Showing Standardized Coefficients and Bootstrap-Mediated Pathways



4. Research Methodology

4.1 Questionnaire Design

A questionnaire survey was used to collect data in this study. The questionnaire was designed in accordance with the following principles: First, the measurement items used mature scales at home and abroad as much as possible to ensure the reliability and validity of the scale; Second, adapt the scale appropriately in accordance with the characteristics of college student entrepreneurship crowdfunding; Third, conduct a pre-survey before the formal survey and revise and improve the questionnaire based on feedback.

The questionnaire is divided into three parts:

- Part 1: Demographic Information. Including gender, age, grade, major, whether you have participated in crowdfunding, whether you have entrepreneurial experience, etc. These variables are used as control variables to describe sample characteristics.
- Part 2 of 2: Study Variable measurements. The Likert 5-point scale was used for scoring (1=completely disagree, 5=completely agree), with 24 measurement items. The measurements are as follows:
 - Basic Project Information (BPI), with reference to the research by Mollick (2014) and Liu et al. (2023), design five items. It includes "Clear and complete project introduction", "Reasonable project target amount setting", "reasonable fundraising period setting", "Attractive return plan", and "timely and adequate project update".
 - Crowdfunding Platforms (CP), referring to the studies of Belleflamme et al. (2014) and Koch and Siering (2015), design five items Including "Good reputation of Crowdfunding platforms", "Large user base of platforms", "high quality service of platforms", "reasonable charges of platforms", and "convenient operation of platforms".
 - Risk Disclosure and Control (RDC; formerly RF), with reference to the studies of Ahlers et al. (2015) and Courtney et al. (2017), design five items Including "The project risk is fully disclosed", "the project has effective risk control measures", "the project initiator has a good reputation", "the project initiator has relevant experience", "the project initiator has an active social network".
 - Investors' Willingness to Participate in Crowdfunding (IWPC), with reference to the studies of Davis et al. (1989) and Venkatesh et al. (2003), design five items Including "I am willing to participate in college student entrepreneurship crowdfunding projects",

"I tend to invest in promising entrepreneurship projects", "I would recommend friends to participate in crowdfunding", "I am willing to keep an eye on crowdfunding projects", "I have a positive attitude towards crowdfunding investment".

- Perceived Crowdfunding Success among Student Entrepreneurs (SCSEC), with reference to Mollick's (2014) study, designs four items Including "The project can reach the fundraising goal", "the project can attract enough investors", "the project can gain social attention", "the project can get media coverage".
- Part 3 of 3: Questionnaire Instructions. Including the purpose of the survey, instructions for completing the questionnaire, guarantees of anonymity, etc.

Respondent perspective. All respondents had both crowdfunding participation experience and entrepreneurial experience. The investor-willingness items were answered from the perspective of a potential investor, while respondents' entrepreneurial experience enabled them to evaluate project feasibility and platform practice as informed dual-role participants; the wording therefore measures investor willingness rather than founders' willingness to launch a campaign.

4.2 Data Collection

The data collection period for this study was from January 2026 to March 2026, and the subjects were college students in Jiangsu Province, China, who had crowdfunding participation experience and entrepreneurial experience. The reason for choosing Jiangsu Province as the survey area is that it is an economically and educationally developed province in China with a large number of colleges and universities, a strong entrepreneurial atmosphere among college students, and a relatively mature crowdfunding market with good representativeness.

The survey was conducted in the following ways: First, online questionnaire survey. The questionnaire was released through the Wenjuanxing platform and promoted through social media such as wechat and QQ, inviting eligible college students to fill out the questionnaire. The advantage of online surveys lies in their wide coverage, low cost and high efficiency. Second, face-to-face interviews. In some universities in Jiangsu Province, researchers personally collected questionnaires, explained the purpose of the survey and the requirements for filling them out on the spot, and ensured the quality of the questionnaires.

A total of 715 questionnaires were distributed and 690 were retrieved in this study. Invalid questionnaires were excluded based on the following criteria: (1) questionnaires that were too short to complete (50 seconds or less); (2) Questionnaires with obvious regularity in their responses; (3) Questionnaires with missing key variables. A total of 670 valid questionnaires were obtained, with an effective recovery rate of 93.71%.

4.3 Sample Characteristics

The sample characteristics of this study are as follows:

- Gender distribution: 347 males, 51.8%; 323 females, 48.2%. The gender ratio is relatively balanced, which can well reflect the gender structure of the college student group.
- Age distribution: 272 under 20 years old, 40.6%; 170 people aged 20-25, 25.4%; 113 people aged 25-30, 16.9 percent; 115 people over 30, 17.2%. The age distribution covers the main age groups of college students.

- Grade distribution: 182 freshmen, 27.2%; 223 sophomores, 33.3%; 170 juniors, 25.4%; 95 seniors, 14.2%. The grade distribution is relatively even, covering all stages of college.
- Major distribution: 122 in liberal arts, 18.2%; 309 in science, 46.1%; 116 in engineering, 17.3 percent; Business 102, 15.2%; 21 others, 3.1%. The professional distribution is mainly science-oriented, covering major disciplines such as liberal arts, science, engineering and business, and is quite representative.
- Crowdfunding participation experience: All respondents indicated that they had participated in crowdfunding, accounting for 100%. This feature ensured that the respondents had a basic understanding and experience of crowdfunding and were able to respond effectively to the research questions.
- Entrepreneurial experience: All respondents indicated that they had entrepreneurial experience, accounting for 100%. This feature ensures that the respondents have practical experience in starting a business and can evaluate the factors influencing perceived crowdfunding success from an entrepreneur's perspective.

4.4 Data Analysis Strategy

Data analysis was conducted using SPSS 25.0 and AMOS 23.0 software, including:

SEM is appropriate due to its ability to simultaneously estimate multiple latent constructs and mediating effects. Unlike separate regression models, SEM allows the study to assess measurement quality, structural path coefficients, and indirect effects within a single coherent framework. This methodological choice is consistent with the research objective because the proposed model includes five latent constructs and requires simultaneous estimation of direct effects, mediation effects, and overall model fit.

Data screening, including missing value handling, normality test, outlier test, and multicollinearity test, ensured that the data quality met the requirements for subsequent analysis.

Descriptive statistical analysis, calculation of the mean and standard deviation of each variable, and description of sample characteristics and variable distribution (Yang, 2012). Reliability test, Cronbach's α coefficient was used to assess the internal consistency of the scale, and an α coefficient greater than 0.7 indicated good reliability. Validity tests, including exploratory factor analysis (EFA) and confirmatory factor analysis (CFA). EFA is used to explore the factor structure, and CFA is used to validate the goodness of fit of the measurement model.

Structural equation model, using structural equation model (SEM) to test path relationships and mediating effects between variables, model fitting evaluation using indicators such as chi-square ratio of degrees of freedom (χ^2/df), comparative fitting index (CFI), and approximate root mean square error (RMSEA).

The mediating effect test was conducted using the Bootstrap method to examine the mediating effect. The number of repeated samplings was 5,000 times, and the confidence interval was 95%. If the confidence interval of the indirect effect does not contain 0, it indicates that the mediating effect is significant.

Because the study relies on self-reported questionnaire data, common method bias (CMB) was addressed through procedural and statistical controls. Anonymous participation, neutral wording and separated measurement blocks were used procedurally. Statistically, Harman's single-factor test was supplemented by an AMOS common latent factor (CLF)

sensitivity check. The available analysis indicated no dominant single general factor and no change in the direction of the substantive structural paths after inclusion of the method factor. Because full comparative CLF statistics are not reported, this check is interpreted as supplementary evidence that CMB is unlikely to account entirely for the observed relationships, rather than as definitive evidence that common method bias is absent.

5. Data Analysis and Results

5.1 Data Screening

In this study, there were no missing values in the data collected through the questionnaire website, as the system would automatically prompt respondents to fill in all options. The problem of missing values was only found in the paper questionnaires collected on-site. Questionnaires with more than 40 percent of a single scale or 10 percent of the entire questionnaire left unfilled will be discarded directly. For the very small number of questionnaires that are incomplete but do not meet the disqualification criteria, the regression substitution method is used to fill in the missing values. After the above processing, 670 valid questionnaires were finally obtained.

This study used skewness and kurtosis to assess the normality of the data. In a perfectly normal distribution, the values of skew and kurtosis should be 0, but a perfectly normal distribution is rare in social science research. Pallant (2001) argues that a skew and kurtosis value in the range of +1 to -1 indicates good normality. Tabachnick and Fidell (1996) and Hair et al. (2010) suggested that absolute values of skew and kurtosis within the range of +3 to -3 would be acceptable.

In this study, the deviation values for all items ranged from -0.995 to -0.174, and the kurtosis values ranged from -1.195 to 0.612. All absolute values were less than 3, indicating that the data met the normality hypothesis and were suitable for subsequent multivariate analysis.

Outliers are values that are opposed to the normal distribution and may cause the data to be skewed. This study uses the point deletion method (DfBeta) to test outliers by deleting the *i*-th data point and analysing the impact of that point on the estimator before and after deletion. All DfBeta values were calculated to be less than 2, indicating that there were no outliers that significantly affected the results.

Multicollinearity refers to a high degree of correlation between independent variables, which may lead to inaccurate estimation of regression coefficients. Tolerance and variance inflation factor (VIF) are used to test for multicollinearity in this study. The lower the tolerance, the more severe the multicollinearity; The larger the VIF, the more severe the multicollinearity. It is generally believed that severe multicollinearity exists when tolerance is less than 0.1 or VIF is greater than 5.

In this study, the VIF values of all variables ranged from 1.468 to 1.575, all less than 5; Tolerances ranged from 0.635 to 0.681, all greater than 0.1. Therefore, there is no evidence of potential multicollinearity problems.

5.2 Descriptive Statistical Analysis

Descriptive statistics of the study variables are presented in this study. The mean and standard deviation of each variable and its item are analysed as follows:

- The Project Basic Information (BPI) consists of five items, with the average values of each item ranging from 3.48 to 3.64. The overall average is 3.54, and the standard

deviation is 0.970. This indicates that respondents' perception of project basic information is at a medium to high level.

- The crowdfunding platform (CP) consists of five items, each with a mean ranging from 3.45 to 3.63, an overall mean of 3.57, and a standard deviation of 1.061. This indicates that respondents' perception of crowdfunding platforms is at a medium to high level.
- The risk disclosure and control (RDC) consist of five items, each with a mean ranging from 3.65 to 3.82, an overall mean of 3.74, and a standard deviation of 0.921. This indicates that the respondents' perception of risk disclosure and control is at a relatively high level, which may reflect the attention and emphasis on risk by college student entrepreneurs during the crowdfunding process.
- Investor willingness to participate in crowdfunding (IWPC) consists of five items, each with a mean ranging from 3.54 to 3.67, an overall mean of 3.59, and a standard deviation of 0.907. This indicates that respondents' perception of investors' willingness to participate in crowdfunding is at a medium to high level.
- College Student Entrepreneurship Perceived Crowdfunding Success (SCSEC) consists of four items, each with a mean ranging from 3.88 to 3.97, an overall mean of 3.93, and a standard deviation of 0.982. This is the highest mean of all variables, indicating that respondents are more optimistic about the perceived crowdfunding success among student entrepreneurs.

The gender distribution showed that 51.8% were male and 48.2% were female, with a balanced proportion. The age distribution shows 40.6% under 20, 25.4% between 20 and 25, 16.9% between 25 and 30, and 17.2% over 30. The sample covered college students and recent college graduate entrepreneurs of all ages. The grade distribution showed that sophomores had the highest proportion (33.3%), followed by freshmen (27.2%), juniors (25.4%), and seniors (14.2%). The sample covered all grades of the university.

The distribution of majors shows that science has the highest proportion (46.1%), followed by liberal arts (18.2%), engineering (17.3%), business (15.2%), and others (3.1%). The sample covers major subject areas.

All respondents had crowdfunding participation experience and entrepreneurial experience, which met the survey requirements of this study.

5.3 Reliability and Validity Tests

Exploratory factor analysis (EFA) is used to explore factor structures and assess whether a measurement item can effectively reflect the construct to which it belongs. The Kaiser-Meyer-Olkin (KMO) test and the Bartlett sphericity test were used to assess the suitability of factor analysis in this study.

The overall KMO value was 0.946, above the threshold of 0.6, indicating that 94.6% of the variance in the variables under test was covariance, which was suitable for factor analysis. The Bartlett sphericity test was significant ($p < 0.001$), indicating sufficient correlation among the variables. The KMO values of each variable ranged from 0.848 to 0.894, all greater than 0.6, and the Bartlett sphericity test was significant ($p < 0.001$).

Principal component analysis and Varimax rotation for factor extraction were used to extract five factors corresponding to BPI, CP, RDC, IWPC, and SCSEC respectively. Factor loadings for all items were greater than 0.6, conforming to the acceptable criterion of factor loadings greater than 0.5 recommended by Hair et al. (2010). Factor analysis results indicated that the measurement items had good structural validity.

Reliability analysis evaluated the internal consistency of the scale using Cronbach's α coefficient. Nunnally (1978) suggested that the minimum acceptable limit of Cronbach's α coefficient was 0.70.

In this study, the Cronbach's α coefficients for each variable were as follows: basic project information 0.888, crowdfunding platform 0.918, risk disclosure and control 0.862, investor willingness to participate in crowdfunding 0.877, and perceived crowdfunding success among student entrepreneurs 0.907. The alpha coefficient of the total scale was 0.939. All α coefficients were greater than 0.7, indicating good reliability of the scale.

Confirmatory factor analysis (CFA) is used to validate the goodness of fit of a measurement model. Model fitting was evaluated using the following metrics: A chi-square ratio of degrees of freedom (χ^2/df) less than 5 indicated a good fit (Marsh & Hocevar, 1985); A comparative fit index (CFI) greater than 0.9 indicates a good fit (Bentler, 1990); An approximate root mean square error (RMSEA) of less than 0.08 indicates a good fit (Browne & Cudeck, 1992).

CFA of individual measurement models

- Project Basic Information (BPI) Individual measurement model:
 $\chi^2/df=3.356$, CFI=0.988, RMSEA=0.074, all fitting indicators are within acceptable range.
- Crowdfunding platform (CP) individual measurement model:
 $\chi^2/df=1.821$, CFI=0.995, RMSEA=0.044, good fit.
- Risk Disclosure and Control (RDC) individual measurement model:
 $\chi^2/df=3.060$, CFI=0.991, RMSEA=0.070, fit well.
- Individual measurement model of Investor willingness to participate in Crowdfunding (IWPC): $\chi^2/df=3.641$, CFI=0.988, RMSEA=0.079, fit well.
- Individual measurement model for College Student Entrepreneurship Perceived Crowdfunding Success (SCSEC):
 $\chi^2/df=3.563$, CFI=0.983, RMSEA=0.078, fit well.

CFA of the overall measurement model

The global measurement model is composed of 24 items for all constructs. The CFA results show: $\chi^2/df=1.361$, CFI=0.991, RMSEA=0.023. All the fitting indicators reached an excellent level, indicating that the overall measurement model fits well with the data.

Convergence validity was evaluated using combined reliability (CR) and mean variance extraction (AVE). CR greater than 0.6 and AVE greater than 0.5 indicate good convergence validity. In this study, the CR of each variable ranged from 0.866 to 0.919, all greater than 0.6; AVE ranged from 0.563 to 0.716, all greater than 0.5. Therefore, the scale has good convergent validity.

Discriminant validity was additionally assessed using the Fornell–Larcker criterion. The square root of the AVE for each latent construct exceeded its correlations with the other constructs in the CFA correlation matrix, indicating that basic project information, crowdfunding platform characteristics, risk disclosure and control, investor willingness, and perceived crowdfunding success represent empirically distinct dimensions. This check complements the reported CR and AVE results and reduces concern that the positive structural paths are

produced by construct overlap. Table 1 presents the corresponding Fornell–Larcker discriminant validity matrix.

Table 1. Fornell–Larcker Discriminant Validity Matrix

Construct	BPI	CP	RDC	IWPC	SCSEC
BPI	0.750	0.559	0.601	0.632	0.584
CP	0.559	0.846	0.587	0.573	0.521
RDC	0.601	0.587	0.790	0.646	0.598
IWPC	0.632	0.573	0.646	0.818	0.687
SCSEC	0.584	0.521	0.598	0.687	0.832

Note: BPI = Basic Project Information; CP = Crowdfunding Platform Characteristics; RDC = Risk Disclosure and Control; IWPC = Investor Willingness to Participate in Crowdfunding; SCSEC = Student Entrepreneurship Perceived Crowdfunding Success. Diagonal entries are the square roots of AVE, and off-diagonal entries are inter-construct correlations.

Source: Authors' calculations based on the 2026 survey data and CFA results.

5.4 Hypothesis Testing

After establishing the measurement model, a structural equation model (SEM) analysis is conducted to test the hypotheses. Structural model fitting results: $\chi^2/df=1.361$, CFI=0.991, RMSEA=0.023. All fitting indicators reached acceptable levels, indicating that the structural model fits well with the data and can be used for path analysis and hypothesis testing. Figure 2 presents the estimated structural model, including the standardized path coefficients and the mediated pathways tested in the analysis.

The results of the direct effects test are shown in Table 2.

Table 2. Direct-effect Results of the Structural Model.

Hypothesis	Structural Path	β	p-value	Decision
H1	BPI $\rightarrow$ SCSEC	0.196	$p < 0.001$	Supported
H2	CP $\rightarrow$ SCSEC	0.104	$p = 0.008$	Supported
H3	RDC $\rightarrow$ SCSEC	0.174	$p = 0.002$	Supported
H4	BPI $\rightarrow$ IWPC	0.309	$p < 0.001$	Supported
H5	CP $\rightarrow$ IWPC	0.151	$p < 0.001$	Supported
H6	RDC $\rightarrow$ IWPC	0.273	$p < 0.001$	Supported
H7	IWPC $\rightarrow$ SCSEC	0.486	$p < 0.001$	Supported

Source: Authors' calculations based on the 2026 survey data and SEM estimates.

The results indicate that basic project information significantly enhances perceived crowdfunding success ($\beta = 0.196$, $p < 0.001$), supporting H1. This means that clearer project introductions, reasonable target settings, attractive return plans, and timely updates strengthen the perceived feasibility and credibility of student entrepreneurial crowdfunding projects.

Crowdfunding platform characteristics also have a significant positive effect on perceived crowdfunding success ($\beta = 0.104$, $p = 0.008 < 0.05$), supporting H2. Although the coefficient is smaller than that of project information, the result confirms that platform reputation, user size, service quality, charging mechanism, and operational convenience contribute to successful funding outcomes.

Risk Disclosure and Control significantly and positively influence perceived crowdfunding success ($\beta = 0.174$, $p = 0.002 < 0.05$), supporting H3. This positive relationship suggests that risk disclosure and risk-control capability may function as credibility signals rather than merely as negative information, because transparent risk communication can reduce uncertainty for potential investors.

Basic project information significantly increases investors' willingness to participate in crowdfunding ($\beta = 0.309$, $p < 0.001$), supporting H4. This result indicates that information completeness and presentation quality help investors understand the project and form a stronger behavioural intention to participate.

Crowdfunding platform characteristics significantly increase investors' willingness to participate ($\beta = 0.151$, $p < 0.001$), supporting H5. The finding indicates that platform-level trust and service quality can shape investor intention before the final funding decision is made.

Risk Disclosure and Control also significantly improve investors' willingness to participate ($\beta = 0.273$, $p < 0.001$), supporting H6. This result implies that when risks are disclosed and controlled in a credible way, investors may perceive the project as more transparent and therefore become more willing to participate.

Investors' willingness to participate has the strongest positive effect on perceived crowdfunding success ($\beta = 0.486$, $p < 0.001$), supporting H7. This confirms the behavioural logic of the model: external crowdfunding signals can only generate funding outcomes when they are translated into investor participation intention and subsequent investment behaviour.

In this study, the Bootstrap method was used to test the mediating effect of investors' willingness to participate in crowdfunding, with 5,000 repeated samples and a confidence interval of 95%. The results of the mediating effect test are shown in Table 3.

Table 3. Bootstrap Mediation Results

Hypothesis	Indirect Path	Indirect Effect	95% CI	Mediation Type	Decision
H8	BPI $\rightarrow$ IWPC $\rightarrow$ SCSEC	0.150	[0.102, 0.210]	Partial	Supported
H9	CP $\rightarrow$ IWPC $\rightarrow$ SCSEC	0.080	[0.034, 0.133]	Partial	Supported
H10	RDC $\rightarrow$ IWPC $\rightarrow$ SCSEC	0.108	[0.061, 0.162]	Partial	Supported

Source: Authors' calculations based on the 2026 survey data and 5,000-sample bootstrap mediation analysis.

Bootstrap mediation testing indicates that investors' willingness to participate significantly mediates the relationship between basic project information and perceived crowdfunding success. The indirect effect is 0.150, and the 95% confidence interval [0.102, 0.210] excludes zero. Because the direct effect remains significant ($\beta = 0.196$, $p < 0.001$), H8 is supported and the mediation is partial rather than full.

The mediating effect of investors' willingness between crowdfunding platform characteristics and perceived crowdfunding success is also significant. The indirect effect is 0.080, and the 95% confidence interval [0.034, 0.133] excludes zero. Since the direct path from platform characteristics to perceived crowdfunding success remains significant ($\beta = 0.104$, $p = 0.008$), H9 is supported with evidence of partial mediation.

Investors' willingness also significantly mediates the relationship between risk disclosure and control and perceived crowdfunding success. The indirect effect is 0.108, and the 95% confidence interval [0.061, 0.162] excludes zero. Because the direct effect of risk disclosure and control remains significant ($\beta = 0.174$, $p = 0.002$), H10 is supported, confirming that risk management influences perceived crowdfunding success both directly and through investor willingness.

5.5 Additional Analyses

Additional analyses were conducted to assess the stability and interpretability of the SEM findings. First, an exploratory multi-group analysis by gender was specified because the sample was relatively balanced between male respondents (51.8%) and female respondents (48.2%). The major structural relationships retained the same direction across groups. This is treated as an exploratory analysis rather than formal evidence of measurement invariance, because group-specific coefficients and invariance statistics were not retained.

Second, an alternative model was considered by comparing the mediated model with a direct-effects model that excluded investors' willingness to participate. Although the direct-effects model preserved significant relationships between external factors and perceived crowdfunding success, it offered a weaker theoretical explanation because it did not account for the behavioural mechanism through which project, platform, and risk signals become investor action. Therefore, the mediated SEM model is retained as the preferred model.

Third, the common latent factor procedure described in the methodology section was considered as an additional sensitivity check for common method bias. The available analysis indicated that the direction of the core structural paths remained unchanged after inclusion of the method factor. In the absence of full comparative CLF statistics, this result is treated as supplementary robustness evidence and should not be interpreted as demonstrating the complete absence of common method bias. The scope and interpretation of these supplementary checks are summarized in Table 4.

Table 4. Summary of Additional Analyses

Additional Analysis	Purpose	Main Interpretation
Multi-group analysis by gender	Assess whether major paths are stable across male and female respondents.	The major path directions were consistent across groups; this is an exploratory robustness indication, not a formal invariance result.
Alternative model test	Compare the mediated SEM with a direct-effects-only model.	The mediated model offered stronger theoretical interpretation because it explained how external signals affect success through investor willingness.

Additional Analysis	Purpose	Main Interpretation
Common latent factor check	Assess potential common method bias from self-reported survey data.	The direction of the core structural paths remained unchanged after inclusion of the method factor; this is treated as supplementary sensitivity evidence because full comparative CLF statistics are not reported.

Source: Authors' own elaboration based on the supplementary robustness analyses

A total of 10 hypotheses were proposed in this study, all of which were supported by data. The direct effect hypothesis H1-H7 was supported, and the mediating effect hypothesis H8-H10 was supported. Among them, investor willingness to participate plays a partial mediating role between the independent variable and the dependent variable.

6. Discussion

6.1 Interpretation of Research Conclusions

The findings are best understood as a behavioural and institutional sequence rather than as a list of isolated predictors. The model suggests that student entrepreneurs first communicate project quality and control information through a platform, potential investors interpret those signals, and perceived crowdfunding success follows when interpretation becomes willingness to participate. Because SCSEC is perceptual, the results describe the conditions under which respondents judge a campaign likely to succeed, not verified campaign outcomes.

The importance of basic project information is consistent with Mollick (2014) and with broader evidence on crowdfunding success factors (Liu et al., 2023), but the present model adds a mechanism: complete descriptions, feasible targets, attractive rewards and timely updates are credible signals that make a student-led project easier to evaluate. This matters economically because young founders often lack collateral and established reputations; information quality can partly substitute for those missing conventional signals.

The platform result extends the intermediary perspective in Belleflamme et al. (2014). Reputation, user reach, service quality and operational convenience are not merely technical features; they are governance resources that certify projects, organise attention and make technology-mediated participation easier. The smaller platform effect relative to willingness is therefore theoretically meaningful: platform arrangements create the conditions for trust, but they do not themselves constitute investor action.

The positive association for risk disclosure and control is consistent with the signalling logic of Ahlers et al. (2015) and Courtney et al. (2017). The construct does not measure exposure to unmanaged risk; it measures favourable signals such as disclosure, control procedures, initiator reputation, experience and social-network activity. These signals can reduce information asymmetry and make a project appear more professionally governed, which helps explain the positive coefficient of Risk Disclosure and Control.

Investor willingness has the strongest direct role because it is the point at which external information becomes an intended behaviour. TPB explains this conversion through attitudes, social influence and perceived behavioural control, while TAM explains how a useful and accessible platform supports the intention to participate. The result is also compatible with

Alharbey and Van Hemmen (2021), who show that trust in both platform and fundraiser shapes investor intention.

The mediation results show that project, platform and risk-management signals operate through two channels: a residual direct route and an indirect route through investor willingness. This partial mediation is economically plausible. Signals can improve perceived campaign quality directly, but they also influence whether individuals are prepared to commit attention, money and social endorsement. Investor willingness therefore functions as a bridge between information production by founders/platforms and capital allocation by the crowd.

Taken together, the findings support an applied-economic interpretation of crowdfunding as inclusive but governance-dependent entrepreneurial finance. It can broaden access to early-stage capital for student ventures, yet its allocation function depends on disclosure quality, platform screening and credible investor interaction. This makes platform governance and risk communication central to innovation financing, rather than peripheral managerial concerns.

6.2 Theoretical Explanation and Comparison with Prior Research

The direct effect of basic project information can be theoretically explained through signaling theory. In crowdfunding, investors often cannot verify the real quality of a project through conventional due diligence, so they infer quality from visible signals such as project descriptions, target amount, update frequency, video presentation, and reward structure. This finding is consistent with Mollick (2014), but it extends that work by showing that project information remains important in a Chinese college student entrepreneurship context rather than only in mature Western platforms.

The platform effect is also consistent with the idea that digital intermediaries provide institutional trust. Compared with studies that focus on Kickstarter or Indiegogo platform rules (Huang et al., 2022), this study shows that platform reputation and service quality operate within a broader mediation process: they help form investor willingness, which then enhances perceived crowdfunding success. This explains why the platform coefficient is significant but smaller than the effect of investor willingness.

The positive effect of risk disclosure and control is particularly important. Unlike a purely negative interpretation of risk, this study suggests that risk disclosure and risk-control capability can work as trust-enhancing signals. This interpretation is aligned with recent evidence from reward crowdfunding, where quality and trust signals, including risk-related disclosure, are associated with funding success (Elrashidy et al., 2024). Therefore, risk communication should be understood as part of professional project governance rather than as a weakness of the campaign.

Investor willingness has the strongest direct relationship with perceived crowdfunding success, which supports the behavioural logic of TPB and the acceptance logic of TAM. Project information, platform characteristics and risk disclosure and control matter because they shape attitudes, perceived credibility and perceived behavioural control. In signalling terms, the model shows how external information becomes economically consequential only after it is interpreted and accepted by potential funders.

6.3 Theoretical Contributions

This study makes theoretical contributions in the following areas. First, the study extends the literature on the determinants of perceived crowdfunding success. Existing studies have mostly explored the factors influencing perceived crowdfunding success from the perspectives

of project characteristics, platform characteristics, or investor characteristics. This study constructs a comprehensive theoretical model of "project - platform - risk - willingness - success", which more comprehensively reflects the multiple factors influencing the perceived crowdfunding success among student entrepreneurs. The results show that the basic information of the project, the crowdfunding platform, and the risk disclosure and control have complementary effects on perceived crowdfunding success, jointly explaining the variation of perceived crowdfunding success.

Second, the study identifies the mediating role of investors' willingness to participate. Existing research has paid less attention to the role of investor psychological factors in perceived crowdfunding success. This study, based on the theory of planned behavior and the technology acceptance model, introduced investor willingness to participate as a mediating variable into the model to verify its mediating effect between external factors and perceived crowdfunding success. This finding deepens understanding of the intrinsic mechanism of perceived crowdfunding success and reveals how external factors influence behavioral outcomes by influencing investors' psychological cognition and attitudes.

Third, the focus on student entrepreneurs broadens the empirical scope of crowdfunding research. College student entrepreneurship has unique group characteristics such as lack of experience, limited resources, and small social networks, and its perceived crowdfunding success mechanism may differ from that of general entrepreneurs. This study focuses on this group, providing a new perspective for understanding the financing problem of college students' entrepreneurship and laying the foundation for further research.

Fourth, the findings support the applicability of the Theory of Planned Behavior and the Technology Acceptance Model in the crowdfunding context. The study found that external factors (project information, platform characteristics, risk disclosure and control) influence perceived crowdfunding success (behavioral outcomes) by influencing investors' willingness to participate (attitude variables), consistent with the predictions of the theory of planned behavior and the technology acceptance model, indicating that these theories have good explanatory power in the context of crowdfunding.

6.4 Managerial Implications in the Digital Economy

This study offers the following practical insights for college student entrepreneurs and crowdfunding platforms:

Implications for college student entrepreneurs:

Focus on the completeness and quality of project information. When starting a crowdfunding project, college student entrepreneurs should carefully design the project introduction to ensure that the information is clear and complete; Set a reasonable target amount, taking into account both actual needs and feasibility; Design an attractive return plan that meets investors' expectations; Regularly update on project progress and maintain communication with investors. These measures help boost investors' confidence and increase their willingness to invest.

Choose the right crowdfunding platform. College student entrepreneurs should choose the appropriate crowdfunding platform based on the type of project and the target investor group. Choose a platform with a good reputation, a large user base and high service quality, which can attract more investors through the brand effect of the platform and get better service support at the same time.

Reasonably assess and disclose project risks. College student entrepreneurs should objectively assess project risks, disclose risk information truthfully, and demonstrate risk control measures. This will not undermine investor confidence. Instead, it will enhance the credibility of the project and make investors feel the sincerity and professionalism of the initiators.

Pay attention to the psychological experience of investors. College student entrepreneurs should pay attention to the psychological needs of investors and enhance their willingness to participate by optimizing project presentations, strengthening interactive communication, and responding promptly to questions. A good investor experience not only contributes to the success of the current project, but also builds trust and word-of-mouth for future projects.

Lessons for crowdfunding platforms:

Strengthen platform credibility building. Crowdfunding platforms should establish strict review mechanisms to screen out high-quality projects, eliminate fraud, and maintain their reputation. A good platform reputation can attract more quality projects and investors, creating a virtuous cycle.

Improve the quality of service on the platform. Crowdfunding platforms should optimize their operational processes to provide a convenient user experience; Establish a sound customer service system and respond to user demands in a timely manner; Provide data analysis tools to help project initiators optimize project presentations. Quality service can enhance user satisfaction and loyalty.

Improve risk control mechanisms. Crowdfunding platforms should establish project evaluation systems to screen out potential projects; Provide fund custody services to ensure the safety of investors' funds; Establish a default accountability mechanism to reduce moral hazard. Sound risk control can reduce investors' perceived risk and increase their willingness to participate.

Promote investor community building. Crowdfunding platforms should encourage investors to interact and build a community atmosphere; Organize both online and offline activities to enhance investors' sense of belonging; Establish an investor education system to enhance investor professionalism. An active investor community can boost investor engagement and contribute to perceived crowdfunding success projects.

6.5 Research Limitations and Future Prospects

This study has several limitations that define the scope of interpretation and point to specific priorities for future research.

First, the sample is restricted to college students in Jiangsu Province, China. Although Jiangsu provides a relevant setting for examining student entrepreneurship and crowdfunding, the findings should not be generalized automatically to other Chinese regions or national contexts. Future studies should replicate the model across provinces with different levels of economic development, entrepreneurial ecosystems, and digital-finance adoption, and then test whether the structural relationships remain stable across regions.

Second, the cross-sectional design captures all constructs at a single point in time and therefore supports evidence of statistical associations rather than definitive causal relationships. Longitudinal designs could follow crowdfunding projects and potential investors across campaign stages, allowing researchers to examine whether project information,

platform perceptions, risk disclosure, and investor willingness change over time and whether earlier perceptions predict later participation or funding outcomes.

Third, the model deliberately focuses on three external antecedents—basic project information, crowdfunding platform characteristics, and risk disclosure and control—but other theoretically relevant determinants remain outside its scope. Future extensions could incorporate founder credibility, social-network strength, investor trust, perceived value, campaign category, competitive intensity, and macroeconomic conditions, while testing whether these variables add explanatory power beyond the present framework.

Fourth, all focal constructs are based on self-reported questionnaire data. Although procedural controls, Harman's single-factor test, and the supplementary common latent factor sensitivity check reduce concern that common method bias fully explains the observed relationships, they cannot eliminate this possibility. Future research should triangulate perceptual measures with archival platform data, observed campaign performance, behavioural investment records, or experimental evidence. This would also allow perceived crowdfunding success to be compared directly with objectively realized funding outcomes.

Fifth, investor willingness only partially mediates the relationships between the three external factors and perceived crowdfunding success. This indicates that additional mechanisms may operate alongside willingness. Future studies could test theoretically specified parallel or sequential mediators, such as investor trust, perceived credibility, perceived risk, attitude, or perceived value, to clarify how crowdfunding signals are translated into participation and funding-related evaluations.

Future Research Directions

Building on these limitations, future research should prioritize designs that strengthen external validity, temporal inference, and behavioural measurement rather than simply replicate the present cross-sectional model.

Cross-regional and cross-cultural studies could test measurement and structural invariance before comparing path coefficients, thereby establishing whether the proposed project–platform–risk–willingness–success mechanism operates similarly across institutional and cultural settings.

Longitudinal and campaign-level studies could connect survey responses to successive stages of real crowdfunding campaigns, including launch, early backing, momentum formation, and final funding outcomes. Such designs would help distinguish antecedents of initial willingness from factors that sustain actual participation over time.

Multi-method research could combine SEM-based surveys with experiments, digital trace data, campaign text or multimedia analysis, and archival funding records. This would provide stronger evidence on whether the relationships observed in self-reported perceptions are also present in actual investor behaviour and campaign performance.

Multi-actor designs should collect matched information from project initiators, investors, and platform operators. Comparing these perspectives could reveal whether founders' intended signals are interpreted by investors as expected and how platform governance strengthens or weakens that transmission process.

Finally, future research could evaluate specific platform or communication interventions, such as standardized risk-disclosure formats, credibility cues, project-information templates, or investor-engagement tools, using experimental or quasi-experimental designs. This would

move the literature from identifying associations toward testing which mechanisms can improve informed participation and responsible crowdfunding outcomes.

Conclusion

This study finds that project information, platform characteristics, and risk disclosure and control are positively associated with perceived crowdfunding success among student entrepreneurs, while investor willingness provides the central behavioural pathway through which these signals become likely participation. Theoretically, integrating Signaling Theory, TAM, and TPB explains how information can reduce uncertainty, how platform acceptance enables technology-mediated participation, and how attitudes and perceived control translate signals into intention.

The applied economic contribution is to position crowdfunding as an alternative-finance and financial-inclusion mechanism for young entrepreneurs, with implications for early-stage capital allocation and innovation financing in China. Student founders should improve disclosure and interaction, while platforms and policymakers should strengthen screening, transparency, investor protection, and responsible data governance. Because the evidence is provincial, cross-sectional, self-reported, and based on perceived rather than objectively realized crowdfunding success, the findings should be interpreted within these boundaries. Future research should therefore combine longitudinal or archival campaign data with cross-regional, multi-actor, and behavioural validation of the proposed mediation mechanism.

CRedit Author Statement

Hanbing Li: Conceptualization, Methodology, Investigation, Data curation, Formal analysis, Writing – original draft. Ali Khatibi: Supervision, Validation, Writing – review & editing. S. M. Ferdous Azam: Supervision, Methodology, Validation, Writing – review & editing.

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Data Availability Statement

The anonymised survey data supporting the findings of this study are available from the corresponding author upon reasonable request, subject to applicable institutional and privacy requirements.

Ethical Approval Statement

This study involved an anonymous questionnaire survey. Participation was voluntary, informed consent was obtained before completion, and the study was conducted in accordance with applicable institutional ethical requirements.

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