

# Attitude towards entrepreneurship, individual entrepreneurship orientation and entrepreneurial self-efficacy among start-ups in China: Basis for entrepreneurial competency framework

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## Abstract

While the entrepreneurial spirit thrives in China, a meticulous understanding of the unique factors influencing the aspirations and competencies of its start-up founders remains elusive. Despite existing research on entrepreneurial attitudes, individual entrepreneurial orientation (EO), and self-efficacy, crucial knowledge gaps persist. This study aimed to examine the attitude towards entrepreneurship, entrepreneurship orientation and entrepreneurial self-efficacy among start-ups in China and laying the foundation for an entrepreneurial competency framework tailored to the distinct challenges and opportunities of the Chinese entrepreneurial landscape. By exploring the specific attitudes, entrepreneurial orientation dimensions, and self-efficacy levels prevalent among Chinese start-up founders, this research aimed to bridge the gap between existing models and the on-the-ground realities of entrepreneurship in China, ultimately informing the development of a competency framework that empowers and equips the next generation of Chinese entrepreneurs for sustainable success. Descriptive research was utilized in the study as it allows to gather detailed information about the characteristics, patterns, and variations among Chinese start-up founders. This design was used as it is relatively quick and efficient way to gain initial insights and can be particularly advantageous for exploratory studies in an understudied environment like entrepreneurship in China. Using a survey questionnaire as the data gathering instrument presents a practical and efficient way to collect valuable data among a large sample of Chinese start-up founders. The respondents of the study were the 384 start-up entrepreneurs in Shandong, Zhejiang, Jiangsu and Sichuan provinces in China who are in the early stages of developing their business. Based from the results, the respondents generally agreed on the entrepreneurial attitude of start-ups as to perceived behavioral control, entrepreneurial intention and subjective norms which implies that there is a fertile ground for startups to flourish, with individuals feeling empowered, incentivized, and

ready to act. Respondents revealed a remarkable agreement on their individual entrepreneurial orientation characterized by proactiveness, innovativeness, and a well-balanced tolerance for calculated risks. The respondents' agreement on their entrepreneurial self-efficacy paints a confident picture of their ability to navigate key entrepreneurial hurdles. They believe in their capacity to innovate and carve out market niches (developing new product and market opportunities), actively build connections with potential investors (initiating investor relationships), and weather unforeseen difficulties (coping with unexpected challenges). This implies that a well-equipped and self-assured set of individuals were ripe for tackling entrepreneurial challenges. A significant relationship was found among entrepreneurial attitude, individual entrepreneurial orientation and entrepreneurial self-efficacy and a start-up competency framework was developed for start-up entrepreneurs in China. The research can bridge the gap between theoretical models of entrepreneurship and the lived experiences of start-up founders in China. This can lead to more practical and actionable insights for supporting entrepreneurial success.

**Keywords:** attitude towards entrepreneurship, individual entrepreneurship orientation, entrepreneurial self-efficacy, start-up competency framework

## **Attitude towards entrepreneurship, individual entrepreneurship orientation and entrepreneurial self-efficacy among start-ups in China: Basis for entrepreneurial competency framework**

### **1. Introduction**

China is one of the most dynamic and entrepreneurial countries in the world. In recent years, the number of startups in China has exploded, and the country has become a global hub for innovation. There are many factors that have contributed to the rise of startups in China, including a large and growing population of young, educated people. China has the largest population in the world, and its population is also one of the youngest. This means that there is a large pool of potential entrepreneurs in China.

The Chinese government has made entrepreneurship a priority, and it has implemented a number of policies to support startups. These policies include providing financial assistance, tax breaks, and access to government-backed incubators and accelerators. A favorable business environment. China has a rapidly growing economy and a large consumer market. This creates a favorable environment for startups to grow and succeed. As a result of these factors, China has become a hotbed of startup activity. In 2021, China was home to more than 200 unicorns (startups with a valuation of over \$1 billion). Some of the most successful Chinese startups include Alibaba, Tencent, and Xiaomi. The rise of startups in China is having a major impact on the global economy. Chinese startups are developing innovative new products and services that are being used by consumers around the world. They are also creating new jobs and driving economic growth in China. The future of startups in China looks bright. The country has all the ingredients necessary for continued growth in the startup ecosystem. With a large and young population, a supportive government, and a favorable business environment, China is poised to remain a global leader in entrepreneurship for years to come.

Entrepreneurship is a complex process that involves a variety of factors, including the individual's attitude towards entrepreneurship, their entrepreneurial orientation, and their entrepreneurial self-efficacy. Attitude towards entrepreneurship is a person's overall evaluation of entrepreneurship. It is influenced by a variety of factors, including their personal values, beliefs, and experiences. People with a positive attitude towards entrepreneurship are more likely to be attracted to entrepreneurial opportunities and to take the necessary risks to start their own businesses (Li, et al., 2018). According to the study of Liu, et al., (2020), attitude towards entrepreneurship is positively associated with entrepreneurial intention among Chinese college students. This means that people who have a positive attitude towards entrepreneurship are more likely to intend to start their own businesses. Similarly, the study of Zhang, et al., (2021) revealed that attitude towards entrepreneurship is positively associated with entrepreneurial intention among Chinese university students. This means that people who have a positive attitude towards entrepreneurship are more likely to intend to start their own businesses. The three dimensions of attitude towards entrepreneurship (perceived benefits, perceived barriers, and entrepreneurial self-efficacy) all have positive effects on entrepreneurial intention. This means that people who believe that entrepreneurship has more benefits than barriers, and who have high entrepreneurial self-efficacy, are more likely to intend to start their own businesses.

Individual entrepreneurship orientation is a person's tendency to engage in entrepreneurial activities. It is influenced by a variety of factors, including their need for achievement, their risk-taking propensity, and their innovativeness. Individuals with a high individual entrepreneurial orientation are more likely to start and to succeed in their own businesses. They are also more likely to be creative, innovative, and risk-taking in their work (Krueger, et al., 2019). The findings of Chen and Chen (2018) disclose that individual entrepreneurship orientation (IEO) is positively associated with entrepreneurial intention among college students in China. This means that people who have a high IEO are more likely to intend to start their own businesses. Similarly, the study of Wang,

et al., (2021) found out that individual entrepreneurship orientation (IEO) is positively associated with entrepreneurial performance. This means that people who have a high IEO are more likely to be successful in their entrepreneurial ventures.

Entrepreneurial self-efficacy is a person's belief in their ability to successfully start and manage a business. It is influenced by a variety of factors, including their previous experiences, their education, and their social support network. People with high entrepreneurial self-efficacy are more likely to take the necessary steps to start their own businesses. They are also more likely to persevere in the face of challenges and to achieve success in their businesses. Entrepreneurial self-efficacy is an important predictor of entrepreneurial behavior (Miao, et al., 2018). Chinese start-ups likewise experience challenges in venturing into business. They experience difficulty to access to capital. China's financial system is not as developed as those of many other countries, and it can be difficult for startups to obtain the capital they need to grow their businesses. This is due in part to the fact that banks are often reluctant to lend money to startups, and the venture capital market in China is still relatively small. As a result, many entrepreneurs in China have to rely on personal savings or informal sources of financing, such as loans from friends or family (Fang et. al., 2019).

Another challenge is high competition. The Chinese market is very competitive, and there are many established businesses that are already well-positioned to compete with startups. This can make it difficult for startups to break into the market and gain a foothold. Additionally, the Chinese government has been cracking down on monopolies and unfair competition in recent years, which has made it even more difficult for startups to compete with large, established businesses (Li et. al., 2019). Further, the Chinese government has a number of regulations that startups must comply with. These regulations can be complex and time-consuming to navigate, and they can add to the challenges that startups face. For example, startups in China are required to obtain a number of licenses and permits before they can operate, and they may also be subject to government inspections (Sun et. al., 2019).

The present study will provide a useful insight for start-up entrepreneurs so they will understand the factors that influence entrepreneurial intention and success among startups in China. The study's findings can be used to develop entrepreneurial competency frameworks that can help to identify and develop the skills and knowledge that are necessary for successful entrepreneurship in China. The researcher may provide a valuable opportunity to contribute to the body of knowledge on entrepreneurship. The study's findings can be used to inform future research on entrepreneurship, as well as to develop practical applications for entrepreneurs and policymakers. This study can also provide valuable insights into the factors that influence entrepreneurial success. This information can be used to develop policies and programs that support entrepreneurship and to help more people start their own businesses in China.

**Objectives of the Study** - The study aimed to examine the attitude towards entrepreneurship, Entrepreneurship orientation and entrepreneurial self-efficacy among start-ups in China that will be basis in developing an Entrepreneurial Competency Framework. Specifically, this study determined the attitude of start-ups towards entrepreneurship in terms of perceived behavioral control, entrepreneurship intention and subjective norms; described their individual entrepreneurship orientation as to innovativeness, pro-activeness and risk taking; assessed their entrepreneurial self-efficacy as to developing new product and market opportunities, initiating investor relationships and coping with unexpected challenges; tested the significant relationship among attitude towards entrepreneurship, individual entrepreneurship orientation and entrepreneurial self-efficacy and developed an entrepreneurial competency framework.

## 2. Methods

**Research Design** - The study will adopt a descriptive design because the study aims to describe the attitudes towards entrepreneurship, individual entrepreneurship orientation, and entrepreneurial self-efficacy among start-ups in China. A descriptive research design is used to collect data about a particular group or phenomenon. This

type of research design does not attempt to explain or predict the phenomenon, but simply to describe it (Creswell, 2014). In the study on Attitude towards Entrepreneurship, Individual Entrepreneurship Orientation and Entrepreneurial Self-Efficacy Among Start-Ups in China: Basis for Entrepreneurial Competency Framework, the researchers used a survey to collect data from start-ups in China. The survey asked the respondents about their attitudes towards entrepreneurship, their individual entrepreneurship orientation, and their entrepreneurial self-efficacy. The data collected from the survey will be used to describe the attitudes towards entrepreneurship, individual entrepreneurship orientation, and entrepreneurial self-efficacy among start-ups in China. The researchers also will use the data to identify the factors that are associated with these three constructs. The descriptive research design is a useful tool for researchers who want to describe a particular group or phenomenon. This type of research design is relatively easy to implement and does not require a lot of resources. However, it is important to note that descriptive research designs cannot be used to explain or predict the phenomenon being studied.

**Participants of the Study** - The target respondents of the study were the 384 start-up entrepreneurs in Shandong, Zhejiang, Jiangsu and Sichuan provinces in China who are in the early stages of developing their business. Start-up entrepreneurs are a unique group of people who have chosen to take on the risks and challenges of starting their own businesses. They are typically motivated by a desire to be their own boss, to create something new, and to make a difference in the world. They are the ones who are most directly involved in the entrepreneurial process. They have the most experience with the attitudes, beliefs, and behaviors that are associated with entrepreneurship. They are a relatively small and well-defined group, which makes it easier to collect data from them. They are also a group that is of interest to policymakers and other stakeholders who are concerned with promoting entrepreneurship.

**Instrument of the Study** - A survey questionnaire will be used by the researcher as the data gathering instrument in the study. A survey questionnaire is the data gathering instrument to be used in the study because it is a versatile tool that can be used to collect a variety of information from a large number of people. It is also relatively easy to administer and analyze, making it a cost-effective way to collect data. The survey questionnaire will be used to collect data on the attitudes towards entrepreneurship, individual entrepreneurship orientation, and entrepreneurial self-efficacy of start-up entrepreneurs in China. The questionnaire will be designed to be clear and concise, and it will be pilot tested to ensure that it is easy to understand and complete. The data collected from the survey questionnaire will be used to describe the attitudes towards entrepreneurship, individual entrepreneurship orientation, and entrepreneurial self-efficacy among start-up entrepreneurs in China. The researchers will also use the data to identify the factors that are associated with these three constructs and their implications for entrepreneurship. The survey questionnaire were self-constructed by the researcher. A self-constructed questionnaire is a survey that is developed by the researcher. It is used to collect data on a specific topic or issue. The first part of the questionnaire describes the attitudes towards entrepreneurship which includes the dimensions of perceived control behavior, entrepreneurial intention and subjective norms. The second part focused on entrepreneurial orientation which includes pro-activeness, innovativeness and risk taking as the dimensions. The last part of the questionnaire describes the entrepreneurial self-efficacy which includes dimensions about developing new products and market opportunities, initiating investor relationships and coping with unexpected challenges.

Based on result, the Attitude towards Entrepreneurship, Individual Entrepreneurship Orientation and Entrepreneurial Self-Efficacy Instrument has an Excellent consistency as exhibited by the Cronbach's Alpha value of (.971). This was validated by the Excellent remarks from Attitudes Toward Entrepreneurship (.965); it was confirmed by the Excellent results from Perceived behavior control (.953), Entrepreneurship intention (.934), and Subjective Norms (.970); Also, it was validated by the Excellent remarks from Individual Entrepreneurship Orientation (.970); it was confirmed by the Excellent result from Proactiveness (.939), Innovativeness (.914) and Good result from Risk Taking (.892). It was further validated by the Good result from Entrepreneurial Self-efficacy (.849); it was confirmed by the Excellent results from Developing new product and market opportunities (.939), and Good results from Initiating Investor relationship (.882), and Coping with unexpected challenges (.895); which

shows that the instrument at hand passed the reliability index test. Thus, the researcher can now proceed to the actual survey using the aforementioned instrument.

**Data Gathering Procedure** - The survey questionnaire will be developed by the researcher. It will be designed to be clear, concise, and relevant to the purpose of the study. The questions will be based on the existing literature on attitudes towards entrepreneurship, individual entrepreneurship orientation, and entrepreneurial self-efficacy. Next is to pilot test the survey questionnaire. The survey questionnaire will be pilot tested with a small group of start-up entrepreneurs to ensure that it is easy to understand and complete. The pilot test will also help to identify any problems with the questions or the format of the questionnaire. Next step is to revise the survey questionnaire based on the results of the pilot test. The survey questionnaire will be revised based on the feedback from the pilot test. The questions will be modified to improve clarity and comprehension. Next process is to identify the actual respondents of the study who will be start-up entrepreneurs from the provinces of Shandong, Zhejiang, Jiangsu and Sichuan, China. The survey questionnaire will be distributed to start-up entrepreneurs in China through an online survey platform. The survey will be promoted through social media and email. The survey data will be collected through the online survey platform. The data will be stored in a secure database. The survey data will be analyzed using statistical software. The researchers will use descriptive statistics to describe the attitudes towards entrepreneurship, individual entrepreneurship orientation, and entrepreneurial self-efficacy among start-up entrepreneurs in China. They will also use inferential statistics to test the relationships between these constructs.

**Data Analysis** - Weighted mean and rank were used to determine the attitude of start-ups towards entrepreneurship in terms of perceived behavioral control, entrepreneurship intention and subjective norms; to describe their individual entrepreneurship orientation as to innovativeness, pro-activeness and risk taking; and to assess their entrepreneurial self-efficacy as to developing new product and market opportunities, initiating investor relationships and coping with unexpected challenges. The result of Shapiro-Wilk Test showed that p-values of all variables were less than 0.05 which means that the data set was not normally distributed. Therefore, Spearman rho was used as part of the non-parametric tests to determine the significant relationship. All analyses were performed using SPSS version 28.

**Ethical Consideration** - The following ethical considerations need to be taken into account when conducting research. The participants must be given informed consent before they participate in the study. This means that they must be told about the purpose of the study, the procedures involved, the risks and benefits of participating, and their right to withdraw from the study at any time. The participants' data must be kept confidential. This means that the researchers must take steps to protect the participants' privacy and ensure that their data is not shared with unauthorized individuals or organizations. Also, the participants must be protected from harm. This means that the researchers must take steps to ensure that the participants do not experience any physical or psychological harm as a result of participating in the study.

### 3. Results and discussion

**Table 1**

*Summary Table on Attitude of Start-ups towards Entrepreneurship*

Key Result Areas	Composite Mean	VI	Rank
Perceived Behavioral Control	3.46	Agree	2
Entrepreneurship Intention	3.47	Agree	1
Subjective Norms	3.44	Agree	3
Grand Composite Mean	3.46	Agree	

Legend: 3.50-4.00=Strongly Agree; 2.50-3.49=Agree; 1.50-2.49=Disagree; 1.00-1.49=Strongly Disagree

Table 1 summarize the attitude of start-ups towards entrepreneurship. The grand composite mean is 3.46 and the respondent generally agreed on all the dimensions cited. Among the dimensions, entrepreneurship intention ranked the highest. Entrepreneurship allows individuals to pursue their unique ideas and passions, fostering creativity and innovation. This flexibility and opportunity to build something from scratch can be especially appealing to people who find traditional work environments too restrictive. Based on the findings of Krueger et.

al., (2017) many individuals are drawn to the idea of being their own boss, setting their own schedule, and having greater control over their work and destiny. This desire for autonomy can contribute to high entrepreneurial intentions. Studies suggest that individuals with higher risk tolerance and an optimistic outlook are more likely to consider and pursue entrepreneurial ventures. Also, entrepreneurship can offer the possibility of significant financial success, personal growth, and the ability to make a positive impact on society. This perceived potential for reward can be a strong motivator for individuals with ambitious goals. In addition, the study of De Clercq et. al., (2020) revealed that regions or industries with thriving start-up environments, access to funding, mentorship programs, and positive societal views of entrepreneurship can cultivate stronger entrepreneurial intentions among individuals within those contexts.

**Table 2**  
*Summary Table on Individual Entrepreneurship Orientation*

Key Result Areas	Composite Mean	VI	Rank
Pro-activeness	3.47	Agree	3
Innovativeness	3.49	Agree	2
Risk Taking	3.50	Strongly Agree	1
Grand Composite Mean	3.49	Agree	

*Legend: 3.50-4.00=Strongly Agree; 2.50-3.49=Agree; 1.50-2.49=Disagree; 1.00-1.49=Strongly Disagree*

Among the dimensions, risk-taking ranked first with a composite mean of 3.50 and strongly agreed by the respondents. While risk-taking is a prominent aspect of IEO, it's important to remember that IEO is a multi-faceted construct encompassing several related traits, such as innovation, proactiveness, autonomy, competitive drive, and opportunity seeking. Startups might express overall IEO agreement while valuing and displaying strengths across various dimensions, with risk-taking not necessarily dominating as the absolute singular focus. The context in which startups operate can significantly influence the relative importance of different IEO traits, including risk-taking. Startups facing high uncertainty or intense competition might prioritize risk-taking more heavily, while those in more stable environments might emphasize different aspects of IEO like innovation or opportunity seeking. As revealed by the study of Brixly et. al., (2020), individuals with a strong individual entrepreneurship orientation (characterized by innovation, proactiveness, and risk-taking) were more likely to engage in risky behavior compared to those with a weaker IEO. This supports the notion that entrepreneurs need a certain level of comfort with risk to venture into new and uncertain territories. As uncertainty in the environment increased, individuals were generally less likely to take risks. This aligns with the natural tendency to avoid potential losses in situations with unclear outcomes. The study highlights the importance of considering both IEO and proactive personality when predicting risk-taking behavior in uncertain environments. Entrepreneurs with a strong combination of these traits are more likely to thrive in volatile and unpredictable situations. Understanding individual differences in IEO and proactive personality can help tailor support and guidance for aspiring and early-stage entrepreneurs. Those with low levels of these traits might benefit from interventions aimed at developing entrepreneurial skills and promoting proactive behaviors. Cultivating a proactive culture within entrepreneurial ecosystems can encourage risk-taking behavior and support venturing into new and uncertain opportunities.

**Table 3**  
*Summary Table on Entrepreneurial Self-efficacy*

Key Result Areas	Composite Mean	VI	Rank
Developing New Product and Market Opportunities	3.47	Agree	2
Initiating Investor Relationships	3.45	Agree	3
Coping with Unexpected Challenges	3.48	Agree	1
Grand Composite Mean	3.47	Agree	

*Legend: 3.50-4.00=Strongly Agree; 2.50-3.49=Agree; 1.50-2.49=Disagree; 1.00-1.49=Strongly Disagree*

Table 3 shows the summary table on entrepreneurial self-efficacy with a grand composite mean of 3.47. This implies that the respondents generally agreed on their entrepreneurial self-efficacy as to developing new product and market opportunities initiating investor relationships and coping with unexpected challenges. Overall, the dimensions were agreed as crucial part of an entrepreneurial self-efficacy. Entrepreneurs face a constant stream of unforeseen obstacles and disruptions. Their success often hinges on their ability to **adapt, adjust, and overcome**

these challenges. This focus on resilience and adaptability might lead entrepreneurs to feel most confident in this specific dimension of self-efficacy.

The study of Shepherd et. al., (2019) revealed that entrepreneurs often adopt a **growth mindset**, viewing challenges as opportunities for learning and growth rather than insurmountable roadblocks. This positive framing can boost their self-efficacy in handling unexpected situations and contribute to a higher perceived competence in this area. While the study of Brixy et. al., (2020) disclosed that entrepreneurs with high entrepreneurial orientation and a proactive personality might demonstrate higher tolerance for uncertainty and actively seek challenges, potentially leading to stronger self-efficacy in coping with unexpected situations. Moreover, the findings of Luthje et. al., (2019) discovered the crucial role of resilience in entrepreneurial success. Entrepreneurs who perceive themselves as highly resilient and demonstrate perseverance might feel more confident when tackling unforeseen challenges, contributing to higher self-efficacy in this area. In addition, Unger et. al., (2020) revealed that prior experience navigating challenging situations can shape risk-taking behavior and lead to higher self-efficacy in coping with future unexpected challenges. Entrepreneurs who have successfully overcome past obstacles might feel more confident in their ability to do so again.

**Table 4**  
*Relationship Between Attitude and Entrepreneurship Orientation*

Variables	rho	p-value	Interpretation
<b>Perceived Behavioral Control</b>			
Pro-activeness	0.010	0.045	Significant
Innovativeness	0.068	0.018	Significant
Risk Taking	-0.014	0.058	Not Significant
<b>Entrepreneurship Intention</b>			
Pro-activeness	0.073	0.049	Significant
Innovativeness	-0.061	0.051	Not Significant
Risk Taking	0.008	0.045	Significant
<b>Subjective Norms</b>			
Pro-activeness	-0.012	0.533	Not Significant
Innovativeness	-0.108	0.503	Not Significant
Risk Taking	-0.031	0.546	Not Significant

*Legend: Significant at p-value<0.01*

As seen in table 4, the computed rho values ranging from 0.010 to 0.068 indicate a very weak direct relationship between perceived behavioral control and the sub variables of entrepreneurship orientation namely pro-activeness and innovativeness. While the computed rho-value of -0.014 indicates a very weak indirect relationship between perceived behavioral control and risk taking. In this case, the very weak direct relationships between perceived behavioral control and proactiveness and innovativeness (rho values between 0.010 and 0.068) suggest that an entrepreneur's belief in their own control doesn't have a significant influence on these aspects of their entrepreneurial orientation. The very weak indirect relationship between perceived behavioral control and risk-taking (rho value of -0.014) indicates that even indirectly, control beliefs don't seem to significantly affect their risk-taking behavior.

These findings might suggest that other factors play a more significant role in shaping an entrepreneur's proactiveness, innovativeness, and risk-taking behavior than their perceived control over their own actions. Perhaps personality traits, external factors like market conditions, or specific experiences in their ventures have a stronger impact on these aspects of entrepreneurship orientation. The study of Zhao, et al., revealed that individual entrepreneurship orientation (EO) contributes to proactiveness and innovativeness, though other factors like team dynamics and social capital can also play a role. While focusing on team settings, it suggests how individual EO, encompassing aspects of control belief, might not always exert a strong direct influence on specific sub-variables like proactiveness or innovativeness. Further, the findings of Luthje et. al., (2019) disclosed the interplay between perceived control, self-efficacy, and risk-taking behavior. It highlights how individual vulnerability and low resilience can weaken the positive relationship between control beliefs and risk-taking, potentially explaining the weak indirect relationship you observed.



The computed rho-values ranging from 0.008 to 0.073 indicate a very weak direct relationship between entrepreneurship intention and the sub variables of entrepreneurship orientation namely pro-activeness and risk taking. While the computed rho-value of -0.061 indicates a very weak indirect relationship between entrepreneurship intention and innovativeness. The very weak direct relationships between entrepreneurship intention and proactiveness and risk-taking (rho values between 0.008 and 0.073) imply that simply wanting to start a business doesn't strongly predict an individual's tendency towards proactive behavior or risk-taking. The very weak indirect relationship between entrepreneurship intention and innovativeness (rho value of -0.061) suggests that having an intention to become an entrepreneur might even slightly discourage innovative tendencies. These findings indicate that other factors beyond mere intention likely play a more significant role in shaping an individual's actual entrepreneurial behavior and orientation. Personality traits, skills, access to resources, market conditions, and specific experiences could be more influential in determining proactiveness, risk-taking, and innovativeness in entrepreneurs.

The computed rho-values ranging from -0.012 to -0.108 indicate a very weak indirect relationship between subjective norms and the sub variables of entrepreneurship orientation. It shows that there was no statistically significant relationship between attitude and entrepreneurship orientation since the obtained p-values were greater than 0.01. The perceived opinions and expectations of others about entrepreneurship don't have a significant influence on an individual's proactiveness, innovativeness, or risk-taking behavior. External pressure based on social expectations seems to have minimal impact on shaping the internal tendencies associated with EO. As revealed by Caliendo et. al., (2017), the impact of subjective norms on occupational choices is surprisingly weak, even when considering close relationships like family and friends. This implies that individuals prioritize their own preferences, skills, and interests when making career decisions, and social pressure from loved ones has less influence than previously predicted. The research reveals that the influence of subjective norms varies depending on individual characteristics and the specific occupational choices considered.

**Table 5**  
*Relationship Between Attitude and Entrepreneurial Self-efficacy*

Variables	rho	p-value	Interpretation
<b>Perceived Behavioral Control</b>			
Developing New Product and Market Opportunities	0.002	0.044	Significant
Initiating Investor Relationships	0.061	0.041	Significant
Coping with Unexpected Challenges	0.097	0.050	Significant
<b>Entrepreneurship Intention</b>			
Developing New Product and Market Opportunities	-0.057	0.502	Not Significant
Initiating Investor Relationships	0.006	0.007	Significant
Coping with Unexpected Challenges	0.013	0.020	Significant
<b>Subjective Norms</b>			
Developing New Product and Market Opportunities	0.028	0.009	Significant
Initiating Investor Relationships	-0.033	0.556	Not Significant
Coping with Unexpected Challenges	-0.018	0.542	Not Significant

Legend: Significant at p-value<0.01

As seen in table 5, the computed rho-values ranging from 0.002 to 0.097 indicate a very weak direct relationship between perceived behavioral control and the sub variables of entrepreneurial self-efficacy. Perceived behavioral control is a broad concept encompassing an individual's belief in their ability to act and influence outcomes. Its broadness might not translate directly to specific skills or confidence in certain entrepreneurial activities like product development or investor relations. The computed rho-values ranging from 0.006 to 0.013 indicate a very weak direct relationship between entrepreneurship intention and the sub variables of entrepreneurial self-efficacy namely initiating investor relationships and coping with unexpected challenges. While the computed rho-value of -0.057 indicates a very weak indirect relationship between entrepreneurship intention and developing new product and market opportunities. The very weak direct relationships (rho values between 0.006 and 0.013) between entrepreneurship intention and the two sub-variables of self-efficacy implies that simply wanting to start a business doesn't strongly predict an individual's confidence in building investor relationships or handling unexpected challenges. Other factors beyond intention, such as personality traits, skills, knowledge, or access to

resources, might play a more significant role in shaping these crucial aspects of self-efficacy.

The very weak indirect relationship (rho value of -0.057) between entrepreneurship intention and this sub-variable means that having an intention to become an entrepreneur might even slightly discourage confidence in developing new products or market opportunities. These findings challenge the simplistic assumption that intention directly translates into specific entrepreneurial skills and confidence. They highlight the importance of examining other factors beyond mere intention to understand individuals' preparedness and potential for successful ventures. Manik et. al., (2021) found out that focusing on green entrepreneurship means that specific aspects of self-efficacy (opportunity alertness and innovativeness) can sometimes have moderate relationships with entrepreneurial intention when aligned with specific motivations or contexts. This highlights the potential for stronger connections between intention and certain self-efficacy dimensions depending on factors beyond a general desire to start a business. Further, the findings of Zhao, et al., (2018) disclosed how aspects of self-efficacy (proactiveness and innovativeness) might interact with team dynamics and social capital to influence specific entrepreneurial behaviors within teams. While not directly addressing intention, it shows the complex interplay between self-efficacy dimensions and external factors can impact entrepreneurial behavior, potentially influencing the observed weak indirect relationship with product and market development in your study.

The computed rho-value of 0.028 indicates a very weak direct relationship between subjective norms and developing new product and market opportunities. While the computed rho-values ranging from -0.018 to -0.033 indicate a very weak indirect relationship between subjective norms and the sub variables of entrepreneurial self-efficacy. It shows that there was no statistically significant relationship between attitude and entrepreneurial self-efficacy since the obtained p-values were greater than 0.01. Caliendo et. al., (2017) revealed that contrary to some expectations, the perceived opinions and expectations of others seem to have minimal direct impact on individuals' confidence in developing innovative ideas, and even slightly discourage confidence in other aspects of self-efficacy. Subjective norms might not directly translate to specific aspects of self-efficacy like investor relations or navigating challenges. Individual personalities, skills, and experiences likely play a larger role in shaping these skills and confidence.

**Table 6**  
*Relationship Between Entrepreneurship Orientation and Entrepreneurial Self-efficacy*

Variables	rho	p-value	Interpretation
<b>Pro-activeness</b>			
Developing New Product and Market Opportunities	0.074	0.042	Significant
Initiating Investor Relationships	0.004	0.032	Significant
Coping with Unexpected Challenges	0.001	0.034	Significant
<b>Innovativeness</b>			
Developing New Product and Market Opportunities	0.080	0.048	Significant
Initiating Investor Relationships	-0.027	0.524	Not Significant
Coping with Unexpected Challenges	-0.061	0.544	Not Significant
<b>Risk Taking</b>			
Developing New Product and Market Opportunities	-0.002	0.548	Not Significant
Initiating Investor Relationships	0.003	0.044	Significant
Coping with Unexpected Challenges	0.014	0.001	Significant

*Legend: Significant at p-value<0.01*

As seen in the computed rho-values ranging from 0.001 to 0.074 indicate a very weak direct relationship between pro-activeness and the sub variables of entrepreneurial self-efficacy. The very weak correlations implies that simply being proactive might not directly translate into significant confidence in specific entrepreneurial skills and tasks. Perhaps, other factors beyond personality traits likely play a crucial role in shaping these aspects of self-efficacy. The impact of pro-activeness on self-efficacy might vary depending on the specific entrepreneurial context or sub-variable considered. For instance, pro-activeness in seeking opportunities might have a weaker correlation with coping with unexpected challenges compared to initiating investor relationships (Zhao, et al., 2018).

The computed rho-value of 0.080 indicates a very weak direct relationship between innovativeness and

developing new product and market opportunities. While the computed rho-values ranging from -0.027 to -0.061 indicate a very weak indirect relationship between innovativeness and the sub variables of entrepreneurial self-efficacy namely initiating investor relationships and coping with unexpected challenges. The **very weak direct relationship** (rho-value of 0.080) implies that being innovative might not directly translate into significant confidence in developing and implementing new products and market opportunities. This seems surprising as innovativeness is often considered a crucial aspect of entrepreneurial success.

The **very weak indirect relationships** (rho-values ranging from -0.027 to -0.061) indicate that innovativeness might even slightly **discourage** confidence in these other aspects of self-efficacy. This further complicates the understanding of how individual characteristics translate into specific entrepreneurial skills and beliefs. Shepherd et. al., (2019) revealed that even individuals with strong innovative tendencies might need specific skills and knowledge to translate their ideas into viable products and attract investors. Lack of these skills could contribute to the weak direct relationship with product development confidence. Highly innovative individuals might be more aware of the inherent risks and uncertainties associated with launching new ventures. This awareness could contribute to the weak indirect relationships with confidence in investor relations and handling challenges.

The computed rho-values ranging from 0.003 to 0.014 indicate a very weak direct relationship between risk taking and the sub variables of entrepreneurial self-efficacy namely initiating investor relationships and coping with unexpected challenges. While the computed rho-value of -0.002 indicates a very weak indirect relationship between risk taking and developing new product and market opportunities. It shows that there was no statistically significant relationship between entrepreneurship orientation and entrepreneurial self-efficacy since the obtained p-values were greater than 0.01. The **very weak direct relationships** (rho-values ranging from 0.003 to 0.014) suggest that a strong willingness to take risks might not directly translate into significant confidence in these specific aspects of self-efficacy. This challenges the common assumption that risk-takers should be inherently confident in interacting with investors and navigating challenges. The **very weak indirect relationship** (rho-value of -0.002) indicates that risk taking might even slightly **discourage** confidence in this aspect of self-efficacy. This is another unexpected finding, as risk-taking is often considered vital for innovation and product development (Caliendo et. al., 2017).

### ***Start-up Competency Framework***

The entrepreneurial competency framework is connected with three aspects namely entrepreneurial attitude, entrepreneurial orientation and entrepreneurial self-efficacy. It identifies specific competencies within each area that individuals can assess and develop to enhance their entrepreneurial potential. This can be used in education and training like designing programs to cultivate entrepreneurial skills and mindset. This is also applicable for identifying areas for personal growth and development. Likewise, this competency framework will be useful for the selection and recruitment in choosing individuals with the right entrepreneurial potential for ventures and for assessing the effectiveness of entrepreneurial endeavors. The entrepreneurial competency framework is connected and interrelated. A positive entrepreneurial attitude fosters the development of an entrepreneurial orientation, while high self-efficacy fuels the confidence to turn plans into action.

The relationship between attitude and EO is not necessarily one-directional. Experiencing success within an entrepreneurial environment can reinforce a positive attitude towards entrepreneurship. Conversely, facing challenges or failures can potentially dampen an individual's entrepreneurial zeal. The **connection between entrepreneurial attitude and EO is complex and multifaceted**. While a positive attitude can act as a catalyst for developing an entrepreneurial orientation, individual characteristics, external factors, and experiences can influence how and to what extent that orientation is translated into specific behaviors and successes. **By understanding the potential connections between entrepreneurial attitude and orientation, researchers and entrepreneurs can gain valuable insights into fostering a culture of innovation, initiative, and risk-taking that drives successful ventures.**

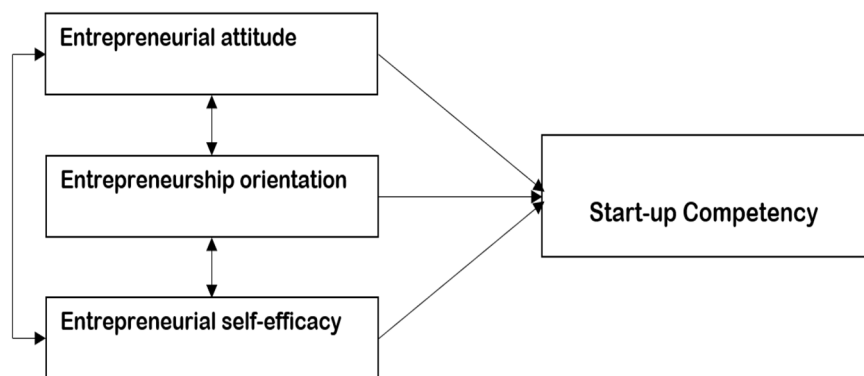


Figure 1: Start-up Competency Framework

**The relationship between entrepreneurial attitude and self-efficacy is not unidirectional or simplistic.** A positive attitude acts as a crucial foundation for building confidence, but the journey from attitude to self-efficacy is shaped by a complex interplay of individual characteristics, experiences, and external factors. **Understanding the complex connection between entrepreneurial attitude and self-efficacy is crucial for fostering a culture of innovation, initiative, and confidence within individuals and organizations seeking to navigate the exciting world of entrepreneurship.** The interaction between entrepreneurial orientation and entrepreneurial self-efficacy can be **cyclical and mutually reinforcing.** A strong EO can nurture individual self-efficacy, while individuals with high ESE can actively contribute to and strengthen the organization's entrepreneurial orientation. This creates a positive feedback loop, where success experiences further elevate both individual confidence and organizational strategic behaviors. **The entrepreneurial competency is not static. It can be developed and cultivated through intentional effort.** Understanding and applying an entrepreneurial competency framework can be a valuable tool for individuals and organizations seeking to navigate the challenging yet rewarding world of entrepreneurship.

#### 4. Conclusions and recommendations

The respondents generally agreed on the entrepreneurial attitude of start-ups as to perceived behavioral control, entrepreneurial intention and subjective norms which means that there is a fertile ground for startups to flourish, with individuals feeling empowered, incentivized, and ready to act. Respondents revealed a remarkable agreement on their individual entrepreneurial orientation characterized by proactiveness, innovativeness, and a well-balanced tolerance for calculated risks. The respondents' agreement on their entrepreneurial self-efficacy paints a confident picture of their ability to navigate key entrepreneurial hurdles. They believe in their capacity to **innovate and carve out market niches (developing new product and market opportunities)**, actively **build connections with potential investors (initiating investor relationships)**, and **weather unforeseen difficulties (coping with unexpected challenges)**. This implies that a well-equipped and self-assured set of individuals were ripe for tackling entrepreneurial challenges. A significant relationship was found among entrepreneurial attitude, individual entrepreneurial orientation and entrepreneurial self-efficacy. A start-up competency framework was developed for start-up entrepreneurs in China.

The start-ups may consider how the unique characteristics of the Chinese market (e.g., digital ecosystem, e-commerce dominance) influence start-up founders' attitudes, orientations, and confidence. The start-ups may examine how technological advancements like AI, big data, and mobile platforms influence start-up founders' entrepreneurial approaches and self-efficacy. They may explore the unique challenges and opportunities faced by tech entrepreneurs in China regarding their attitudes, EO, and self-efficacy. The start-ups may use the research findings to develop interventions and training programs targeted at addressing specific weaknesses in entrepreneurial attitudes, entrepreneurial orientation or self-efficacy among Chinese start-up founders. Future

researchers may delve on other dimensions to analyze the interventions and training programs to enhance entrepreneurial attitudes, entrepreneurial orientation, and self-efficacy.

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