

## Research on the Influence Mechanism of Multi-level Information Ecological Environment on Entrepreneurial Intention

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**Abstract:** Entrepreneurial intention refers to one's attitude towards carrying out entrepreneurial activity. It can effectively predict one's entrepreneurial behavior. With the rapid development of science and technology, entrepreneurial activity is closely associated with information. It is necessary to explore the relationship between information ecological environment and entrepreneurial intention. The study divides the information ecological environment into three levels: macro information environmental factors, basic environmental factors and supporting environmental factors, and all of them have great impact on the formation of entrepreneurial intention. The study analyzes macro information environment factors, basic environmental factors and supporting environmental factors, and explores the relationship between these elements. Then the research proposes several models to explain the role of information ecological environment in the formation of entrepreneurial intention from the perspective of different levels of information ecological environment.

### 1. Introduction

The entrepreneurial activity is the endogenous impetus to promote regional economy, and the development of entrepreneurial activities has attracted great concern from all walks of life. Entrepreneurial intention contributes to predict the occurrence of entrepreneurial behavior, and it is the premise of entrepreneurship activities. The research on entrepreneurial intention is of great vitality. In the information age with rapid development of science and technology and increasingly complex competitive environment, the environmental balance is constantly broken, and existing competitive advantages are continuously threatened by environmental turbulence, thus the higher entrepreneurs' ability to cope with the dynamic changes of the environment is increasingly required by entrepreneurship activities. Entrepreneurs need to collect and analyze information from the environment, and flexibly cope with the environmental dynamism. Entrepreneurial environment is a macro institutional environment, including norms, rules and cognitive system (Gompers and Lerner, 2003). Some scholars regard the entrepreneurial environment as a complex social system, which is an organic whole composed of multiple levels (Luthans, Stajkovic and Ibrayeva, 2000). Entrepreneurs face hierarchical environment. Different levels of environment have different effects on the process of collecting, screening, identifying and applying entrepreneurship information, which will affect the whole process of entrepreneurial activity. The quantity and quality of entrepreneurial information resources are important criteria for measuring the merit of entrepreneurial information environment. The open information ecosystem provides the advantageous policies, information resources and technical support for entrepreneurial activities, and is of great benefit to one's entrepreneurship enthusiasm and entrepreneurial intention. Therefore, based on the hierarchy of entrepreneurship environment, this paper proposes several models to analyzes the influence mechanism of dynamic information environment on entrepreneurial intention from the perspective of the three levels of information ecological environment: macro information environment factors, basic environmental factors and supporting environmental factors.

## **2. Literature review of entrepreneurial intention**

### **2.1 The Connotation of Entrepreneurial Intention**

Intention is one of the human psychological processes. The individual's intention represents a commitment to carrying out an action. As for the connotation of entrepreneurial intention, Bird (1988) believed that entrepreneurial intention can reflect the individual's psychological state, which will promote entrepreneurs to make the critical decision, and strive to achieve the desired goal. Krueger (1993) regarded that entrepreneurial intention is individuals' commitment to entrepreneurship. The higher the degree of commitment is, the stronger the entrepreneurial intention will be. Thompson (2009) pointed out that entrepreneurial intention refers to individuals' conviction to set up a new venture, and they will consciously implement the business plan at some point in the future. But the point in the future is unidentified. Individuals may start their own businesses immediately or after a long time, or it may even never happen. Entrepreneurial intention can effectively predict whether an individual can set up a new business venture, but it is only a mental state. The relationship between entrepreneurial intention and entrepreneurial behavior needs to be further studied in order to clarify the influence mechanism of entrepreneurial intention on entrepreneurial activity.

### **2.2 The Model of Entrepreneurial Intention**

In order to get a better understanding of entrepreneurial intention and its subsequent behavior, scholars have constructed several entrepreneurial intention models. There are mainly two models of entrepreneurial intention from the perspective of social psychology, which are the planned behavior theory model and the entrepreneurship event model. The planned behavior theory model is proposed on the basis of the rational behavior model. Ajzen (1991) proposed TPB (The Theory of Planned Behavior), and studied the relations among "attitude, subjective norm and perceived behavioral control ---intention ---behaviour". TPB verifies that entrepreneurial behavior is directly determined by individual's entrepreneurial intention. The theory of planned behavior provides a theoretical basis for explaining how potential entrepreneurs start to set up a new venture.

Shapero and Sokol (1982) proposed the Model of Entrepreneurial Event (SEE), pointing out that the direct explanatory variables of entrepreneurial intention are perceived desirability, perceived feasibility and propensity to act. Perceived desirability refers to the degree of attraction of individuals to create new enterprises. Perceived feasibility refers to the degree to which individuals feel they have the ability to establish new enterprises. The propensity to act refers to the probability that the behavior may occur. The model assumes that inertia guides the human behavior until it is interrupted or replaced by other things. An entrepreneurial event is due to a change in the individual's life. This change can be negative or positive. The negative changes may include unemployment and divorce, and the positive changes may refer to lottery winning or inheritance succession.

Besides TPB model and SEE model, Bird's entrepreneurial intention model has also aroused wide concern. Bird (1988) proposed a model of entrepreneurial intention from the perspective of process analysis, and pointed out that entrepreneurial intention is impacted by both personal factors and external environmental factors. Under the influence of these two kinds of factors, individuals utilize rational thinking and intuitive thinking to continuously cultivate and strengthen entrepreneurial intention and make business decisions. Boyd and Vozikis (1994) improved the model. They introduced the factor of self-efficacy into the model. Self-efficacy refers to one's belief, subjective judgment or feelings whether he or she can achieve the goals. It is vital for understanding entrepreneurial intention and its subsequent behavior.

### **2.3 The Influencing Factors of Entrepreneurial Intention**

The influencing factors of entrepreneurial intention can be divided into two aspects: individual factors and environmental factors. Individual factors mainly include demographic characteristics, personality traits and psychological cognition, etc. It is noteworthy that the individual's psychological cognitive characteristics can reflect his or her beliefs and attitudes towards

entrepreneurship, which can be helpful to reveal the formation path of entrepreneurial intention. Boyd and Vozikis (1994) introduced self-efficacy into the entrepreneurial intention research, and provided an important factor for exploring the formation process of entrepreneurial intention from a cognitive perspective. Environmental factors refer to the economic, institutional, cultural and educational factors of a country or region. Entrepreneurial researches have always paid great attention to the political, economic, social and cultural factors, which play great influences on entrepreneurial activities (Fayolle and Liñán, 2014). The connotation of entrepreneurial intention could be more comprehensively understood by taking the environmental factors into consideration.

Although the existing studies on the influencing factors of entrepreneurial intention achieve quite a lot, the discrepancy of influence mechanism of different levels of environment has not been clearly distinguished. As a kind of strategic resources, information plays an increasingly important role in economic activities. As an important component of the entrepreneurial environment, the information ecological environment plays an important role in the formation of entrepreneurial intention, and entrepreneurs need to pay close attention to the changes of the information environment at all times. It is a new challenge to entrepreneurs that entrepreneurs' intention and behavior will change due to the dynamic change of multi-level information environment.

Dynamic information environment reduces the ability of entrepreneurs to examine and judge the whole information environment, and increases the difficulty for entrepreneurs to identify, search, acquire information resources and formulate the rational entrepreneurial decisions. Therefore, the in-depth analysis of dynamic information environment factors is helpful to the acquisition, integration and utilization of entrepreneurial information, the opportunity identification. Entrepreneurs need to analyze the information environment elements from various perspectives, fully understand the internal and external information resources that they have, and screen, analyze and allocate the information resources, so as to enhance the possibility for potential entrepreneurs to start a new business.

### **3. Information ecological environment for entrepreneurs**

The information ecological environment is the sum of the information ecological factors that directly or indirectly affect the person. The positive information ecological environment can encourage entrepreneurship. A good information environment, such as network environment, communication environment, is conducive to the transmission of information, making the entrepreneurs be able to gain information, capture opportunities, and acquire resources quickly. Also, a good information environment is reflected in very small scale of information pollution and less external interference information, which is conducive to build positive and fair entrepreneurial environment. Therefore, this paper explores the three levels of the information ecological environment, which are the macro information environmental factors, basic environmental factors and supporting environmental factors, and analyzes the role of each factor in individual's entrepreneurial intention, so as to promote the coordinated allocation of resources and environment, provide the guarantee for the development of entrepreneurship.

#### **3.1 The Macro Information Environmental Factors for Entrepreneurs**

The macro information ecological environment is the external element that impact individuals, enterprises and other organizations in a particular environment, mainly including the political, economic, technological, social and cultural factors. in which individuals carry out entrepreneurial activities. The macro information ecological environment for different entrepreneurs is basically the same. The degree of entrepreneurs' understanding of the macro environment will impact entrepreneurs' attitude toward carrying out entrepreneurial activities. Political factors directly impact the macro economy, and they are the top-priority factors for entrepreneurs to choose the appropriate industries for starting a business. Also they are the important basis for entrepreneurs to formulate long-term strategic planning. Economic factors impact entrepreneurial opportunities and the availability of entrepreneurial resources. Technological factors are the factors that influence the technological progress which bring great changes for entrepreneurs in the design, production and

sale of products or services, including computer technology, communication technology, network technology, etc. Social and cultural factors are the social structure, code of ethics, customs and traditions, beliefs, values of all people in a given country or region (Thornton, Ribeiro-Soriano and Urbano, 2011). They play a guiding role in the construction of entrepreneurial information ecosystem and influence the formation of entrepreneurs' intention. The coordination and stability of macro information ecological environment is vital to stimulating the individuals' entrepreneurial enthusiasm.

### **3.2 The Basic Environmental Factors for Entrepreneurs**

In an information ecosystem, entrepreneurs' intention will be directly or indirectly influenced by the basic information environmental factors. The information ecological environment is a complex system composed of many factors, including information infrastructure, information resources, information ethics, information regulations, etc. Information infrastructure includes individuals, tools, processes, procedures facilities and technology which can support information circulation (Pironti, 2006). Information infrastructure can effectively prevent information overload or information ecological imbalance, and provide a healthy atmosphere for the development of entrepreneurial activities. Information resources are one of the core elements of the information ecological environment. With the help of information resources, entrepreneurs can communicate and cooperate with the entrepreneurial environment. Information resources can be seen as the bonding agents for various information ecosystem elements, they are the basic factors for the development of the whole entrepreneurial information ecosystem. Information ethics is the ethical requirements and criteria concerning the creation, dissemination, management and utilization of information for entrepreneurs, which are restricted by traditional customs and public opinion. Information ethics mainly include personal privacy, network security, information freedom, intellectual property rights. Information regulations are the important guarantee for the whole information ecological environment. Accompanied by the widespread use of information technology, illegal and harmful information exists in the process of information dissemination and utilization. It is necessary to regulate the individuals' information behavior to create an environment for successful entrepreneurship.

### **3.3 The Supporting Environmental Factors for Entrepreneurs**

The supporting environmental factors mainly focus on the individual characteristics of entrepreneurs, such as achievement needs, internal locus of control, entrepreneurial alertness, prior experience and social network. Achievement needs focus on the entrepreneurs' desire to achieve the goal through efforts. Entrepreneurs with higher achievement needs would more probably start their own businesses (Rauch and Frese, 2000). The locus of control is the individual's belief in his or her ability to control over the outcomes of the events (Rotter, 1966). Entrepreneurs with internal locus of control can independently complete their tasks and have the ability to take the consequences of their entrepreneurial activities. Entrepreneurial alertness is the entrepreneurs' sensitivity to the changes in external environment. It is one of the important factors for entrepreneurs to identify entrepreneurial opportunities (Tang, Kacmar and Busenitz, 2012). Prior experience is the entrepreneurs' information resources and knowledge about entrepreneurship, which is conducive to transforming entrepreneurial opportunities into business value. Social network is the resources of social relations possessed by entrepreneurs, which is one of the important resources for them (Birley, 1985). These supporting environmental factors emphasize the importance of people to the construction of information ecosystem. Entrepreneur's ability has the significant influence on the development trend of information ecosystem. The entrepreneurs' personal traits make them have a clear understanding of entrepreneurship activities, and they can identify the opportunities and threats of entrepreneurship clearly, that can benefit enhancing their entrepreneurial intention.

## 4. The influence mechanism of information ecological environment on entrepreneurial intention

### 4.1 The Influence Mechanism of Macro Information Environmental Factors on Entrepreneurial Intention

In the entrepreneurial information ecosystem environment, individuals can be divided into four types of information subjects, which are information suppliers, information disseminators, information users and information reorganizers, and each subject is interrelated and interdependent. In a favorable external information environment, entrepreneurial information resources share among various information subject to create a good atmosphere for entrepreneurs, which contribute to identifying entrepreneurial opportunities and enhancing entrepreneurial intention. This paper proposes the model of influence mechanism of macro information environmental factors on entrepreneurial intention (Figure 1). The influence of political factors on entrepreneurial intention is mainly reflected in policy guidance, such as fiscal and taxation policies, laws and regulations, industrial policies, etc. The existing entrepreneurship is mainly concentrated on self-employment and SMEs, and the preferential policies, such as simplifying registration procedures, promulgating fee reduction and exemption, can create favorable conditions for the coordinated development of entrepreneurial environment. The economic factors provide an information exchange platform for entrepreneurs, breed a large number of entrepreneurship opportunities, and improve the availability of entrepreneurial resources. The progress of information technology plays an important role in the development of science and technology, and it provides effective support for the development of entrepreneurial activities. Social and cultural factors have a far influence on the entrepreneurial intention. The positive and tolerant social-cultural environment can create entrepreneurial atmosphere and enhance entrepreneurial intention.

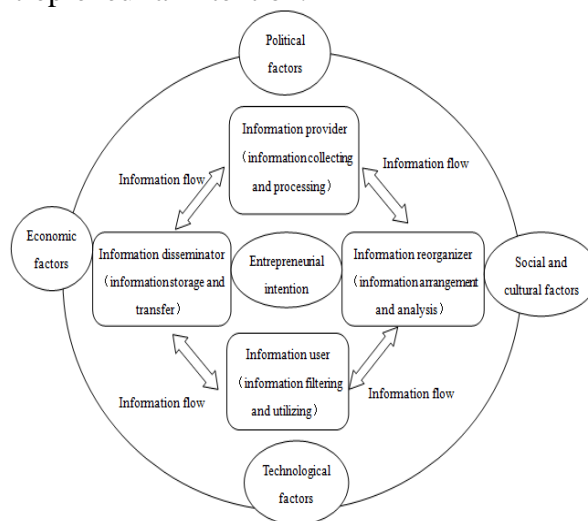


Figure 1: The influence mechanism of macro information environmental factors on entrepreneurial intention.

### 4.2 The Influence Mechanism of Basic Environmental Factors on Entrepreneurial Intention

The basic environmental factors are composed of information infrastructure, information resources, information ethics and information regulations. This paper proposes a model of the influence mechanism of the basic environmental factors on entrepreneurial intention (Figure 2). Entrepreneurial information infrastructure provides platform for entrepreneurs to obtain and analyze information resources. The quantity and quality of information resources determine the effectiveness of entrepreneurial activities. Adequate and effective entrepreneurial information resources provide important support for entrepreneurship by broadening the space for entrepreneurial activities and enhancing the entrepreneurial enthusiasm. Information ethics involves the ethical requirements, codes and norms of information creation, dissemination, management and

utilization, which can adjust the information relationship between entrepreneurs and the society, ensure the reliability of entrepreneurial information and provide effective guarantee for entrepreneurship. Entrepreneurial information regulations are the code of conduct to regulate and control the development of entrepreneurial information, involving the production, distribution, exchange and consumption of information. The information regulations can effectively regulate the information environment from the legal point of view, effectively guide the development of entrepreneurship and enhance the potential entrepreneurs' entrepreneurial intention.

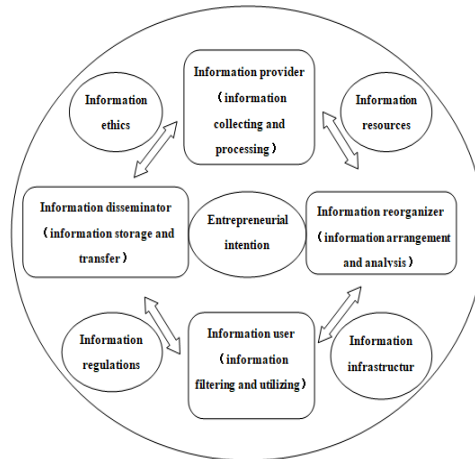


Figure 2: The influence mechanism of basic environmental factors on entrepreneurial intention.

#### 4.3 The Influence Mechanism of Supporting Environmental Factors on Entrepreneurial Intention

This paper proposes the model of the influence mechanism of the supporting environment factors on entrepreneurial intention (figure 3). The entrepreneurs who have higher achievement needs would more likely to build their self-worth by carrying out entrepreneurial activities, so their entrepreneurial intention will be stronger. The entrepreneur with internal control has stronger self-control ability to face the changes of external environment, and guide his or her behavior in a reasonable way. The entrepreneurs with high alertness are eager for entrepreneurial information, they can quickly respond to the changes in the external environment, and identify entrepreneurial opportunities. The entrepreneurs with prior experience have sufficient information resources for future market change, which are vital for the future entrepreneurial behavior. Entrepreneurs can obtain key entrepreneurial information resources from their social network to enhance the risk-taking abilities in the changing environment. On the basis of fully collecting, analyzing and utilizing information resources, individuals can cope with the dynamic environmental changes, enhance their self-confidence, and enhance their entrepreneurial intention.

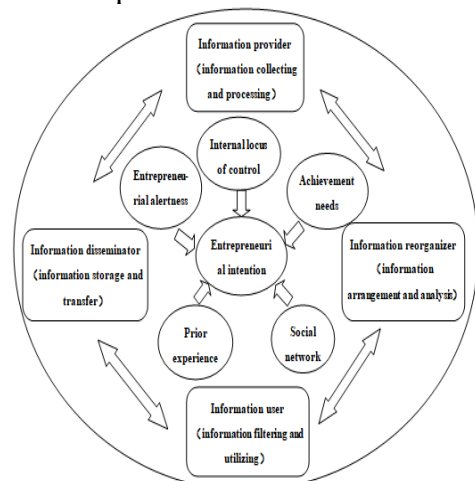


Figure 3: The influence mechanism of supporting environmental factors on entrepreneurial intention.

#### 4.4 The Influence Mechanism of Dynamic Information Ecological Environment on Entrepreneurial Intention

Confronted with the dynamic changes of the information ecological environment, a systemic analysis of multi-level environment is the key factor to determine the success of entrepreneurship. The information ecosystem in which entrepreneurs live is a diversified and complex environment. Under the interaction of information subjects, the information ecological environment will evolve into a relatively dynamic balance environment for entrepreneurs. In the process of the continuous renewal and development of the information ecological environment, potential entrepreneurs analyze, adjust and adapt to the macro information environmental factors, the basic environmental factors and the supporting environmental factors in order to fully utilize the information resources, and carry out entrepreneurial activities successfully. In the formation of entrepreneurial intention, all levels of environmental factors stimulate potential entrepreneurs to seek and grasp entrepreneurial opportunities. The change of information ecological environment is an important source for entrepreneurial opportunities. The factors of the information ecological environment are interacted and interrelated, and the factors at different levels are not statically arranged, but dynamically changing. Therefore, this study proposes the model of the influence mechanism of the dynamic information ecological environment on entrepreneurial intention (Figure 4), and analyzes the role of environmental factors in the different phases of the entrepreneurial intentions formation.

In the early stage of the entrepreneurial intention formation, the emergence of entrepreneurial ideas may come from the relevant people in individual's social network. Through the exchange of information with the stakeholders such as relatives, classmates, colleagues, the information support can be provided for potential entrepreneurs. The entrepreneurs' achievement needs, entrepreneurial alertness, and the internal locus of control will also stimulate individuals to have entrepreneurial tendencies. When the original idea of entrepreneurship has been analyzed, the feasible idea can be transformed into commercially viable opportunities with the help of information resources. In this process, entrepreneurs need to consider about the development of information technology in this industry, the degree to which information infrastructure support for entrepreneurial projects, and whether the information laws and regulations can provide the progressive support for the entrepreneurial opportunities exploration. Good conditions can stimulate the entrepreneurs to strive to put entrepreneurial opportunities into practice. At the same time, macro information environmental factors such as political system, social culture, technology and economy run through the whole process of the entrepreneurial intention formation. The development of information environment has created an independent and open macro information environment for entrepreneurs. The coordinated development of multi-level environmental factors can lead to the integrated development of information resources and information environment, gradually transform entrepreneurial ideas into achievable opportunities, and entrepreneurial intention continues to mature.



Figure 4: The Influence Mechanism of Dynamic Information Ecological Environment on Entrepreneurial Intention.

## 5. Conclusion

The entrepreneurial information ecological environment is composed of three levels: macro information environmental factors, basic environmental factors and supporting environmental factors. These three levels of entrepreneurial information ecological environment have great influence on entrepreneurial intention.

The supporting environmental factors consisting of entrepreneurs' personal traits can stimulate potential entrepreneurs' entrepreneurial intention, which run through the whole process from the entrepreneurial intention formation to the development of entrepreneurial activities. Since personal traits are only a kind of single factor influencing entrepreneurs, the basic environmental factors provide important support for the maturity of entrepreneurial intention. Effective information resources combined with advanced information technology provide broad development space for entrepreneurial activities. Under the influence of both supporting environmental factors and basic environmental factors, entrepreneurs have the ability to use the entrepreneurial information. In addition, entrepreneurs need to be prepared for entrepreneurial activities. By analyzing the information of macro environment ---such as the government policies on entrepreneurship, the economic situation, the technological changes and cultural trend ---, entrepreneurs formulate the corresponding measures to reduce the uncertainty of entrepreneurship and improve the success rate of entrepreneurship. The macro information environmental factors, the basic environmental factors and the supporting environmental factors are closely related. The integration of the three factors is vital to the establishment of entrepreneurship supporting system. Entrepreneurs should pay more attention to the information environment from various levels, so as to obtain effective information resources conducive to entrepreneurial success.

## References

- [1] Ajzen, I., 1991. The theory of planned behavior, *Organizational behavior and human decision processes*. 50 (2), pp. 179-211.
- [2] Bird, B., 1988. Implementing entrepreneurial ideas: the case for intention, *Academy of management review*. 13(3), pp. 442-453.
- [3] Birley, S., 1985. The role of networks in the entrepreneurial process, *Journal of business venturing*. 1(1), pp. 107-117.
- [4] Boyd, N., Vozikis, G., 1994. The influence of self-efficacy on the development of entrepreneurial intentions and actions, *Entrepreneurship theory and practice*. 18(4), pp. 63-77.
- [5] Fayolle, A., Liñán, F., 2014. The future of research on entrepreneurial intentions, *Journal of business research*. 67(5), pp. 663-666.
- [6] Gompers, P. A., Lerner, J., 2003. The really long-run performance of initial public offerings: the pre-nasdaq evidence, *The journal of finance*. 58(4), pp. 1355-1392.
- [7] Krueger, N. F., 1993. The impact of prior entrepreneurial exposure on perceptions of new venture feasibility and desirability, *Entrepreneurship theory and practice*. 18(1), pp. 5-21.
- [8] Luthans, F., Stajkovic, A. D., and Ibrayeva, E., 2000. Environmental and psychological challenges facing entrepreneurial development in transitional economies, *Journal of world business*. 35(1), pp. 95-110.
- [9] Pironti, J. P., 2006. Key elements of a threat and vulnerability management program, *Information systems control journal*. 3, pp. 52-56.
- [10] Rauch, A., and Frese, M., 2000. Psychological approaches to entrepreneurial success: A general model and an overview of findings, In *International review of industrial and organizational psychology*, Edited by: Cooper, C. L., and Robertson, I. T. New York: Wiley. Pp. 101-141.
- [11] Rotter, J. B., 1966. Generalized expectancies for internal versus external control of



reinforcement, *Psychological monographs: general and applied*. 80(1), pp. 1-28.

[12] Shapero, A., Sokol, L., 1982. The social dimensions of entrepreneurship. In *Encyclopedia of entrepreneurship*, Edited by: Kent, C. A., Sexton, D. L., Vesper, K. H. Englewood Cliffs, NJ: Prentice Hall. Pp. 72-90.

[13] Tang, J., Kacmar, K., and Busenitz, L., 2012. Entrepreneurial alertness in the pursuit of new opportunities, *Journal of business venturing*. 27(1), pp. 77-94.

[14] Thompson, E. R., 2009. Individual entrepreneurial intent: construct clarification and development of an internationally reliable metric, *Entrepreneurship theory and practice*. 33(3), pp. 669-694.

[15] Thornton, P. H., Ribeiro-Soriano, D., and Urbano, D., 2011. Socio-cultural factors and entrepreneurial activity: An overview, *International small business journal*. 29(2), pp. 105-118.