

**Determinants of Entrepreneurship from the Kentucky Entrepreneurship Survey**

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## **I. Introduction**

The purpose of this report is to provide a detailed description of information collected through the Kentucky Entrepreneurship Survey (KES), conducted by a team of researchers at the University of Kentucky in collaboration with other academic institutions. The KES was created to elicit information on different facets of entrepreneurship in Kentucky, with the goal of filling gaps in current literature in this area. The survey reveals a number of interesting dynamics of entrepreneurship. Literature has identified external factors, such as local public policy and the community's support of entrepreneurs, and internal factors, including household environment and cognitive predilections toward the business startup process, as important determinants of entrepreneurship. The KES data provides new evidence for these factors and proposes new angles to approach entrepreneurship for further research. In this report, we explore the relationships between the determinants of entrepreneurship in detail and investigate how these factors interact to shape an individual's decision to start a business.

## **II. Data**

The survey sampled 79 counties throughout Kentucky and included 12 rural mining counties, 56 rural farming counties, and 11 urban counties, all selected to obtain a representative sample of Kentucky's population. Of the total number of surveys sent out, about 47% included households with a self-employed household head in management, professional/technical, sales/marketing, clerical, or blue-collar industries. Approximately 17% of the total number of surveys were sent to household heads that are farmers, and the remaining 36% included randomly selected households whose heads are neither self-employed nor farmers.

Addresses in the sample were obtained from USADATA, a data-driven marketing firm that offers its clients lists of addresses disaggregated by household characteristics (e.g., type of employment). Surveys were sent only to addresses of single family dwellings to avoid high turnover characteristic of multiple family dwellings (such as apartments). Households in the study population were recruited through a randomized sampling of residential addresses in the counties identified above. The number of surveys distributed between each county was proportional to the number of available addresses in the USADATA database.

The survey was designed to gauge different facets influencing an individual's decision to start a business. The core of the survey was divided into five sections, each with a focus on a specific tenet of entrepreneurship. Part I was designed to elicit an individual's perception of his/her community's support for entrepreneurs and an individual's expectation of the same in the future. Part II contained questions regarding individual level factors that might influence the decision to become an entrepreneur. These questions collected information on demographics and factors that influence entrepreneurial self-efficacy, described as the individual's belief in his/her capability to succeed at a business venture. Part III was directed only at individuals who either had experience with entrepreneurship or had the intention of becoming entrepreneurs at any time in the previous decade. This section included questions regarding motivations for starting a

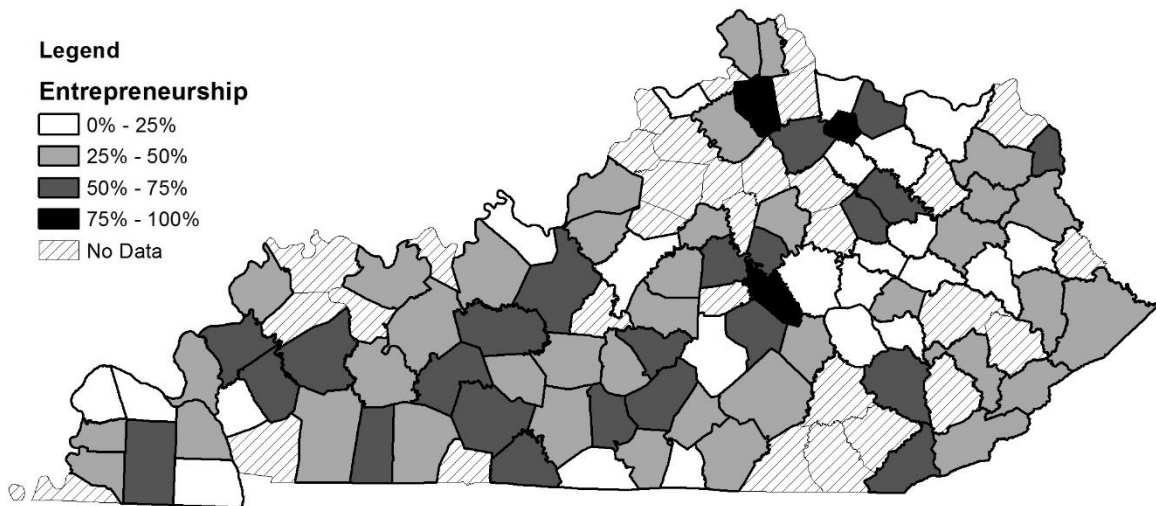
<b>Table 1. Comparison of AFRI Sample to Kentucky Population Statistics</b>		
<b>Descriptive Statistics</b>	<b>Kentucky</b>	<b>KES Sample</b>
Population	4,340,167	1481
Median Age	38	56
Female	50.8%	59.5%
Median Age Male	37	58
Median Age Female	39	55
White	88.1%	94.4%
Black	7.8%	4.1%
Asian	1.1%	0.3%
Less than high school	17.6%	7.1%
High school	34%	28.9%
Some college	27.4%	26.7%
College graduate	12.5%	18.8%
Graduate degree	8.5%	16.7%
Employed	54.7%	59.2%
Employed on-farm	3.7%	3%
Self-employed	20.4%	20.3%
Income: <\$20,000	24%	19.2%
Income: \$20,000 to \$40,000	23.3%	20.4%
Income: <\$40,000 to \$60,000	17.4%	17.6%
Income: <\$60,000 to \$100,000	20.7%	24.6%
Income: >\$100,000	14.6%	18.2%

*Source: American Community Survey, 2008-2012 estimates.*

business and the obstacles faced in the startup process. Finally, Part IV aimed to gain insight into entrepreneurship in farming.

There are several statistical differences between the sample generated by the Kentucky Entrepreneurship Survey (KES) and the Kentucky population. Table 1 shows a snapshot of these statistical differences. First, the KES oversamples older individuals in the state. This is an expected outcome due to the design of the survey. KES was directed at collecting information from household heads and does not include data on all members of the household (which may include young adults). As a result, the median age of respondents in KES is 56 years while the median age for the Kentucky population is 38 years. For the same reason, the survey oversamples individuals with a higher education degree relative to less educated individuals. Kentucky population statistics include young adults who might be at earlier stages of educational attainment and may not qualify as household heads. Furthermore, KES respondents generally earn higher incomes than the Kentucky population average. This is consistent with the presence of older and more educated individuals in the KES sample. In addition, the composition of KES

**Figure 1. Percentage of Entrepreneurs by County**



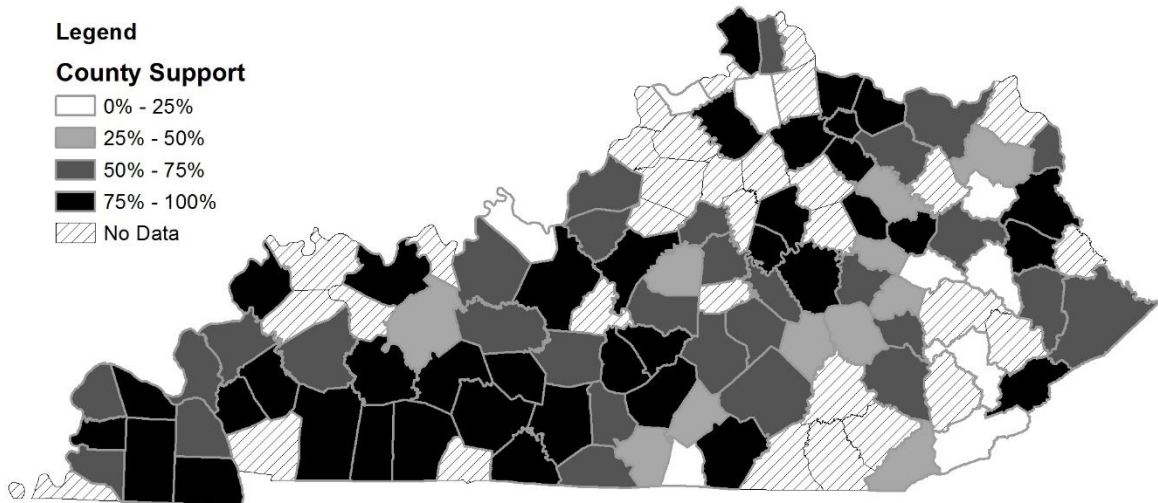
respondents is about 60% female relative to Kentucky’s 51% female population. White households are significantly overrepresented and households of other races are under-sampled in the survey. Finally, there may be geographical dissimilarities between entrepreneurs in the KES sample and entrepreneurs in Kentucky as the survey is not representative of the entrepreneur population in the state. Figure 1 shows the percentage of respondents from each county that are entrepreneurs. As is apparent from the map, most entrepreneurs in the sample reside in the western half of the state while eastern Kentucky counties either have few or no entrepreneurs or were not part of the KES sample.

### **III. Major Findings**

#### External Factors

While most literature has focused on individual level factors that affect entrepreneurship, some researchers have recently begun to identify entrepreneurship-determining factors that stem from the external environment. The external environment can include anything that is exogenous to the individual’s decision to start a business. Following the Theory of Planned Behavior (Ajzen, 1991), which proposes that social norms are an important determinant of individual’s intention to carry out a task, and applying it to entrepreneurship researchers have identified a number of environmental factors that measure social norms. Among these proposed factors are opportunity creation, institutional support (Gnyawali and Fogel, 1994; Xie, 2014), financial and non-financial community support (Gnyawali and Fogel, 1994), social networks or “relational embeddedness” (Elfring & Hulsink, 2003), and physical proximity to venture firms (Nijkamp, 2003).

**Figure 2. Positive Perception of County Support towards Entrepreneurs**



### *General Environment*

The survey asked a series of questions to gauge the individual's perception of the external environment in his/her county. These questions were mainly aimed at eliciting impressions regarding community support. In the sample, about 72% of respondents agreed that their county is generally supportive of entrepreneurs. In addition, an overwhelming majority of respondents supported the idea that local, small businesses are valued by all members of their community, with about 90% of respondents either agreeing or strongly agreeing with the statement. Figure 2 shows a geographic depiction of the percentage of respondents in each county who stated having a positive perception of their county's support of entrepreneurs. While most counties have a substantial proportion of respondents who hold a favorable opinion of county support towards entrepreneurs, counties with a 0 to 25% positive response rate are largely concentrated in the eastern half of Kentucky.

Responses to questions that further explored individuals' general impression of community support reveal a few noteworthy factors. Among the 72% of individuals who had a positive view of their county's general support for entrepreneurs, a few statements were ranked unusually high. About 86% of individuals in this subsample held the opinion that entrepreneurs are considered valuable components of their local community and are well-respected by other community members. Furthermore, 72% of the subsample either agreed or strongly agreed that civic groups in their county were very active. Finally, 82% of respondents in the subsample agreed with the statement that the local Chamber of Commerce works hard to support, promote, and encourage local businesses and entrepreneurs.

Of the 28% of individuals who did not have a positive view of their county's support for entrepreneurs, the common grievance seemed to revolve around the role of the local government in the economy. These respondents showed little support for the idea that the local government is doing everything it can to help small businesses financially or through other forms of encouragement with only about 9% agreeing with this statement. Moreover, about 71% of these respondents seemed to think that their governments were too involved in supporting large businesses instead of assisting local start-ups. Finally, 64% of this subgroup agreed with the statement that their local community has powerful elite that block change.

A few common themes emerge from the responses mentioned above. Individuals who perceive their county as entrepreneur-friendly generally agree with statements that highlight social support in the form of respect and reassurance from the community. They tend to believe that their community values small businesses over large enterprises and the local Chamber of Commerce is an important component in creating that environment. On the other hand, individuals who do not view their external environment as favorable for entrepreneurship mainly attribute that towards an ineffective local government that is influenced by large corporations and does not prioritize small businesses.

### *Support Group*

In addition to the series of questions regarding individual perception of entrepreneurship, respondents who had entrepreneurial intention, measured by either previous experience in starting a business or serious consideration towards starting a business, were asked to complete a supplement that collected information on the impediments they faced in the startup process. The highest ranked impediments included difficulty in navigating through government regulations and acquiring startup funds. About 22% of respondents that completed the supplement indicated that dealing with government regulations was very problematic while 13% stated that it was somewhat problematic. The negative effect of government regulations is even more pronounced among individuals who have had experience starting multiple businesses. About 24% of individuals that have started more than one business in the past classified government regulations as a severe obstacle and 16% classified it as a somewhat severe obstacle in starting a business. In addition, approximately 21% of respondents that completed the supplement chose the impediment of acquiring startup funds as highly problematic and about 11% stated it was somewhat problematic.

Of the individuals who ranked government regulations as a severe or somewhat severe hurdle, most entrepreneurs sought help from their local Chamber of Commerce and were moderately satisfied with the assistance they received. Of the individuals who ranked startup fund acquisition as a severe or somewhat severe difficulty, most reached out to a financial institution or their local Chamber of Commerce. These individuals were slightly dissatisfied with the assistance they received.

A few important distinctions can be made between respondents from urban and rural counties. The largest difference in responses to questions regarding county culture is apparent in the ranking of the statement “My county is fairly negative about its economic future.” About 41% of rural residents agreed with this statement in contrast with only 21% of urban residents. Rural residents also ranked lower on other statements such as “My county is fairly forward-looking” and “Things are now looking up for small, local businesses in my county.” Only 48% of rural respondents relative to 69% urban residents agreed to the former statement whereas 29% of rural residents relative to 46% of urban residents agreed with the latter. This is a strong indicator that although rural residents do not significantly differ from urban residents regarding their opinion of the current economic outlook of their county, they view the prospect of progress in the near future as bleak. In addition, responses of rural and urban entrepreneurs to questions related to impediments to starting a business are slightly heterogeneous. For example, about 26% of rural entrepreneurs relative to about 16% of urban entrepreneurs indicated that finding information on starting a business was either somewhat or very difficult. Surprisingly, there was no significant difference between rural and urban entrepreneurs in the level of difficulty of dealing with government regulations.

Some inference can be drawn from the observations described above. The most significant impediments in the startup process faced by entrepreneurs are navigating through the regulatory framework and acquiring startup funds. However, there seems to be no significant difference between urban and rural entrepreneurs regarding the severity of these impediments. While in general both urban and rural residents are equally confident that their counties are entrepreneur-friendly and foster an environment conducive to starting a business, rural residents are less optimistic about their county’s future relative to urban entrepreneurs. In addition, there is a trivial difference between entrepreneurs and non-entrepreneurs on their opinion of county culture. This is an indication of little to no information asymmetry regarding community resources that are important in entrepreneurship.

### Internal Factors

Recent literature on entrepreneurship has also focused on individual level factors that determine entrepreneurship. They could range from demographic characteristics to more complex measures of cognitive faculties that may differentiate entrepreneurs from non-entrepreneurs.

### *Demographics*

The KES collects detailed information on demographic characteristics of the respondents from which several facets of entrepreneurship can be gleaned. While the survey clearly oversamples older individuals (as mentioned above) the median age of entrepreneurs from the sample is 57 years and the median age of non-entrepreneurs is 55 years. In other words, in the sample age does not significantly differentiate entrepreneurs from non-entrepreneurs or from the median

respondent. In addition, about 56% of males in the sample indicated they are entrepreneurs while 38% of sampled females indicated being entrepreneurs.

The level of educational attainment is a nontrivial predictor of entrepreneurship. Entrepreneurs in the sample tend to be more educated than non-entrepreneurs. For example, about 51% of individuals who are at least college graduates (including those who hold a graduate level degree) become entrepreneurs while only 43% of those whose highest level of education is less than a four year college degree become entrepreneurs. Similarly, among individuals who have completed at least a high school education (including those with a college and/or a graduate degree) about 47% are entrepreneurs relative to only 28% entrepreneurs in the group of respondents whose highest level of education is less than a high school degree. These statistics clearly indicate that higher levels of education tend to increase the probability of individuals becoming entrepreneurs. The shift is particularly pronounced at the level of a high school degree. A possible reason for education's influence on entrepreneurship is the development of critical skills that are needed to undertake different entrepreneurship tasks such as identifying a gap in the market, working through financial statements, and developing a business plan. Education may also add to an individual's confidence in his/her ability to succeed as an entrepreneur.

### *Self-Efficacy*

Entrepreneurial self-efficacy is defined as “the strength of a person's belief that he or she is capable of successfully performing the various roles and tasks of entrepreneurship” (Chen, Greene, and Crick, 1998). A section of the survey is dedicated to eliciting factors that affect an individual's entrepreneurial self-efficacy which range from an individual's cognitive framework to attitude regarding entrepreneurship related tasks. There is ample evidence in literature that entrepreneurial self-efficacy is an important determinant of an individual's decision to start a business. Chen *et al.* (1998) specify a measure of entrepreneurial self-efficacy by incorporating factors such as an individual's ability to market, innovate, manage, and take risk. Bonte and Jarosch (2010) also generate a measure for individual-specific characteristics which they term the Individual Entrepreneurial Aptitude (IEA), consisting of 8 personality indicators including autonomy, risk taking, innovativeness, proactiveness, competitiveness, general optimism, general self-efficacy, and internal locus of control. Wang and Wong (2004) show that demographic factors, including gender and education, and the presence of a role model in the family significantly determines an individual's interest in pursuing entrepreneurship

The survey reveals a number of factors that contribute towards building entrepreneurial self-efficacy. Individuals whose parents have had entrepreneurial experience are more likely to become entrepreneurs. About 52% of entrepreneurs came from households where parents had either run a business or worked for themselves relative to about 40% of individuals who grew up with non-entrepreneur parents. In other words, parents being involved in entrepreneurial activity leads to a 12% increase in the unconditional probability of an individual becoming an entrepreneur. In a similar vein, about 51% of entrepreneurs had worked either part time or full time for their parents' farm or business compared to only 42% who did not. These two variables



provide evidence that having entrepreneurial parents can be a substantial encouraging factor in an individual's decision to start a business. There can be a number of reasons for this correlation. Entrepreneurial parents, regardless of whether their experience was positive or negative, can provide guidance and mentorship to individuals who have the intention to start a business. Moreover, children of these parents might be inclined to imitate the entrepreneurial aspirations of their parents either through the parents' desire for their children to follow in their footsteps or from more subtle observation gleaned from living in a household involved in entrepreneurship.

In the same vein, having the immediate social group involved in entrepreneurship has a positive impact on the probability of an individual starting a business. The probability of becoming an entrepreneur if relatives, close friends, or neighbors have experience running a business is 48% compared to only 26% for individuals with a non-entrepreneurial social group. This is further substantiated by the fact that about 55% of entrepreneurs in the survey indicate they have a positive impression from observing their social group run a business while only about 37% of non-entrepreneurs answer with an affirmative to having a positive impression. These statistics show that not only parents but also other members of the individual's immediate social group influence entrepreneurial self-efficacy. In other words, the social environment outside of the household matters as well.

To gauge the respondent's level of risk aversion, the survey asks to imagine a hypothetical scenario in which the individual has a great idea for a new for-profit business. The series of questions that follow reveal different aspects of the respondent's risk-taking ability. These include questions that ask about the likelihood of borrowing money to invest in a startup using residence as collateral, leaving or maintaining current employment to start a new business, starting a business with or without a partner, etc. While entrepreneurs consistently rank their likelihood higher than non-entrepreneurs on all of these questions, a few responses are starkly different between the entrepreneurs and non-entrepreneurs. The questions with the highest proportion of "likely" or "very likely" responses from entrepreneurs include questions regarding borrowing money. In other words, entrepreneurs are more likely to borrow funds to invest in their business relative to non-entrepreneurs. In addition, among responses to the question "How likely are you to quit a job that pays you \$60,000 a year to start your own business?" on average 65% of respondents who replied "likely" or "very likely" were entrepreneurs relative to only about 42% of individuals who responded "unlikely" or "very unlikely." These responses clearly indicate that entrepreneurs who have a great idea for a business are more willing to take on risk relative to non-entrepreneurs. Activities such as borrowing money require a substantial amount of risk because in the case of failure the borrower can face liquidation of personal assets, deterioration of future prospects for obtaining credit, social stigma from bankruptcy, etc. Furthermore, assuming a \$60,000 a year employment guarantees a steady and risk-free stream of income, willingness to relinquish employment for entrepreneurship portrays a lower level of risk aversion.

Moreover, entrepreneurs are more likely to start a business alone than non-entrepreneurs. This is evident from the large difference in the stated likelihood of starting a business alone and

lack of any significant difference in the likelihood of starting a business with a partner, family member or otherwise. About 72% of individuals who stated they are “likely” or “very likely” to start a business alone are entrepreneurs while only about 38% who chose “unlikely” or “very unlikely” are entrepreneurs. Similarly only about 59% of individuals who stated they are “likely” or “very likely” to start a business with a partner who is a family member are entrepreneurs while about 45% of those who chose “unlikely” or “very unlikely” are entrepreneurs. The prospect of starting a business with a partner versus individually can be construed in two ways. First, the involvement of another individual in the startup process could lead to lower risk if the individual shares liability in the case of business failure. In other words, the startup risk is divided between multiple individuals and would reduce the risk undertaken by the entrepreneur. On the other hand, the presence of a partner who shares responsibility for the processes involved in the startup could reduce the control that each individual entrepreneur has on the success of the venture. In this sense, starting business with a partner could increase the risk for each individual.

### *Push and Pull Factors*

Current literature on entrepreneurship categorizes an individual’s motivation to start a business as resulting from “push” and “pull” factors. Push factors are described as those related to dissatisfaction with the individual’s current situation in life and are unrelated to entrepreneurial characteristics. In contrast, pull factors are directly related to entrepreneurial characteristics and include those that lure the individual into starting a business because of the attractiveness of the business activity (Amit & Muller, 2013). The survey attempts to categorize entrepreneurs based on this theory through a series of questions regarding the entrepreneur’s motivation for starting a business.

The survey shows that for entrepreneurs pull factors are generally more important than push factors as motivation to start a business. Based on the survey, one of the strongest motivators for individuals is the prospect of greater financial reward from starting a business. On average, entrepreneurs ranked the financial well-being that may come from starting a business as “Important” or “Very important”. However, the prospect of financial reward is considered to be an important motivation only as a pull factor. This is evident from rankings of the statement that relates the need for paying off debt as a motivation for initiating a business venture, thus framing financial reward as a push factor. It can be argued that individuals who have large amounts of debt are more risk-averse than individuals with no debt and are therefore less prone to entrepreneurship. However, this section of the survey was restricted to a subsample of entrepreneurs only. Therefore, regardless of the level of risk aversion, entrepreneurs consider paying off debt to be only slightly important relative to financial reward as a pull factor.

Among other pull factors, the desire to have control over one’s own affairs, to have flexibility to spend time with family or on other interests, to take on a new challenge, and to own a business were highly ranked by entrepreneurs as motivating factors. These responses provide evidence that entrepreneurial individuals seek independence in different aspects of their lives, either in their professional decision-making or in how they choose to allot their time. These

results are consistent with the entrepreneurs' preference to start a business alone than with a partner as being the sole owner lends a considerable amount of independence.

In stark contrast to pull factors, push factors were ranked as having relatively little importance in the decision to start a business. These push factors included dissatisfaction with current work situation and job security, with available employment opportunities in the community, and the desire for greater social status and respect. These results provide strong support for the idea that individuals do not turn to entrepreneurship because they are unhappy with their current situation in life. One of the reasons that might explain this result is that individuals who are unhappy with their current employment might not have a lot of other employment options. As a result, because entrepreneurship is considered a risky venture, if the business idea flopped the entrepreneur might have less of an opportunity to be gainfully employed again. In other words, the opportunity cost of entrepreneurship might be much higher for individuals who are not satisfied with their current position.

#### **IV. Conclusion**

The KES revealed several notable factors that can be considered determinants of entrepreneurship. It provides evidence for factors identified in previous literature while also proposing new avenues that need to be explored through empirical analysis. This comprehensive survey encompassed the effect of both internal characteristics and the external environment on an individual's decision to start a business. Among the external factors, community culture that fosters encouragement and reinforcement from family, friends, and peers was among the strongest factors that have a positive impact on entrepreneurship, while weakness of local institutions in prioritizing small businesses through public policy was one the strongest deterrents. In addition, entrepreneurs list government regulations as the greatest impediment in the startup process. There are non-trivial differences between urban and rural residents in terms of their view of county support of small business as rural residents are less optimistic about the economic future of their county. These responses provide strong evidence that the strength of local institutions can greatly influence entrepreneurship in a county. Among internal factors, high educational attainment, high individual self-efficacy, and low level of risk aversion are all important stimulants of entrepreneurship. Finally, the attraction of the entrepreneurial process which includes bringing an idea to fruition (pull factors) has a stronger impact on individual's decision to start a business relative to dissatisfaction with one's current situation in life (push factors).

## References

- Ajzen, I. (1991). The Theory of Planned Behavior. *Organizational Behavior and Human Decision Processes*, 50(1991), 179-211.
- Amit, R., Muller, E. (1995). "Push" and "Pull" Entrepreneurship. *Journal of Small Business & Entrepreneurship*, 12(4), 64-80.
- Bonte, W., Jarosch, M. (2010). Mirror, Mirror on The Wall, Who Is The Most Entrepreneurial of Them All? *Schumpeter Discussion Papers* 2010-009, School of Business and Economics, University of Wuppertal, Germany.
- Chen, C. C., Greene, P. G., Crick, A. (1998). Does Entrepreneurial Self-Efficacy Distinguish Entrepreneurs from Managers? *Journal of Business Venturing*, 13, 295-316.
- Gnyawali, D. R., Fogel, D. S. (1994). Environments for Entrepreneurship Development: Key Dimensions and Research Implications, *Entrepreneurship Theory and Practice*, 18, 43-62.
- Elfring, T., Hulsink, W. (2003). Networks in Entrepreneurship: The Case of High-Technology Firms. *Small Business Economics*, 21(4), 409-422.
- Nijkamp, P. (2003). Entrepreneurship in a Modern Network Economy. *Regional Studies*, 37(4), 395-405.
- Xie, C. (2014). Why Do Some People Choose to Become Entrepreneurs? An Integrative Approach. *Journal of Management Policy and Practice*, 15(1), 25-38.
- Wang, C. K., Wong, P. K., (2004). Entrepreneurial Interest of University Students in Singapore, *Technovation*, 24(2004), 163-172.