

The Role of IT on Entrepreneurial Intention: The Effect of General Computer Self-Efficacy and Computer Anxiety

Emergent Research Forum Paper

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Abstract

Entrepreneurs represent valuable assets to any society. They contribute to the economy of nations by creating new ventures and job opportunities. The question of what drives individuals to become entrepreneurs has received much attention by entrepreneurship scholars. However, the entrepreneurship literature is lacking with regard to IT cognitive and emotional factors that can significantly influence individuals to become entrepreneurs. In this study, we propose a theoretical model that extends theory of planned behavior by incorporating the technological role into established entrepreneurial models. In particular, the proposed model explains how general computer self-efficacy and computer anxiety determine entrepreneurial intention. We plan to replicate established hypotheses and test novel ones using a unique design that has a potential methodological contribution.

Keywords

Entrepreneurial intention, IT, TPB, computer self-efficacy, computer anxiety.

Introduction

Entrepreneurial intention has been examined in extant research from various aspects; for example, psychological (Gird & Bagraim, 2008), multi-national (Iakovleva et al., 2011), educational (Solesvik, 2013), social (Xiao & Fan, 2014), regional (Kibler, 2013), and cultural (Solesvik et al., 2014). However, anecdotal evidence suggests that IT skills can play a fundamental role on entrepreneurial intention (Ndubisi & Kahraman, 2005). For instance, individuals skillful at computer use and basic software programs are likely able to find and exploit potential opportunities to start up an IT-related business (Chen, 2014). No doubt that acquiring IT skills is critical to streamline the process of starting up an IT business. However, it is argued that acquiring such skills is even necessary for starting up a non-IT business, considering today's technological and highly competitive business environment. To the best of our knowledge, there is only one study (Chen, 2014) that has investigated the role of IT on entrepreneurial intention. This study has shown that personal innovativeness with IT and computer self-efficacy significantly explain intention to start up an IT business (Chen, 2014). However, the results from this study are limited to entrepreneurial intention in the context of IT business. Against the backdrop of limited research on this phenomenon, we will empirically test the role that IT skills play in entrepreneurial intention in a broader domain. In particular, we develop a theoretical model that explains how general computer self-efficacy and computer anxiety influence intention to become an entrepreneur, regardless of the business domain. Our research question is: How do general computer self-efficacy and computer anxiety impact entrepreneurial intention? We position these IT constructs by drawing upon theory of planned behavior (TPB) and the literature on IS and entrepreneurship to develop our theoretical model and build a set of hypotheses.

General computer self-efficacy is a fundamental IT construct that refers to an individual's judgment of his/her competency across multiple computer application domains while computer anxiety represents an emotional factor defined as an expressive state of apprehension and fear to use a computer (He & Freeman,

2010a). Both general computer self-efficacy and computer anxiety reflect the state of capability, knowledge, and apprehension among individuals towards IT. The importance of computer interface with most business startups nowadays highlights its pivotal role. And as business is becoming heavily dependent on computer usage, studying individuals' cognitive and emotional state towards computer when engaging in business startups becomes a driving need. Individuals who intend to start a new business could be affected by the level of techno-competency and techno-phobia. These distinct *technos* can be represented by general computer self-efficacy and computer anxiety, which reflect IT-specific individual differences. We integrate them into TPB to examine their impact on creating new ventures.

This study will contribute to both IS and entrepreneurship literatures. In particular, it incorporates the technological role into established entrepreneurial theoretical models. It accounts for emotional factors, such as computer anxiety, that can address the recognized limitation in TPB (Rapaport & Orbell, 2000). It also provides practical insights that can be communicated to policy makers in order to reinforce the mindset of entrepreneurs. The study also has a methodological contribution. Four distinct groups with different levels of computer experience will be used to account for potential heterogeneity in the study sample (more details are provided in the method section). The rest of this paper is structured as follows: theoretical background in section two followed by hypotheses development in section three, then, a research method in section four, and lastly conclusion and expected contribution in section five.

Theoretical Background

This section presents the theory of planned behavior as the overarching theory used to understand the drivers of entrepreneurial intention. We highlight the wide applications of TPB and prior research conducted in the area of entrepreneurial intention. Also, we identify some limitations of TPB and introduce the constructs of general computer self-efficacy and computer anxiety to address these limitations.

Theory of Planned Behavior (TPB)

TPB developed by Ajzen (1991) suggests that an individual's behavioral intention is influenced by three major factors: attitude, subjective norms, and perceived behavioral control. Attitude is defined as the extent to which an individual has a positive or negative assessment toward a specific behavior (Bergevoet et al., 2004). Subjective norms refer to the degree of social pressure on an individual to perform or avoid a specific behavior while perceived behavioral control refers to the degree of perceived ease or difficulty to perform a particular behavior (Grid & Bagraim, 2008). TPB has been extensively used. Its popularity could be attributed to the fact that it can explain human social behavior effectively (Ajzen, 2011) and can be applied across multiple contexts like consumer behaviors (Weisheng et al., 2014).

In the context of entrepreneurial intention, several scholars have adopted and supported the predictive power of TPB. For instance, Bergevoet et al. (2004) have shown that attitude, subjective norms, and behavioral control (i.e. the three pillars of TPB) significantly predict entrepreneurial intention and behaviors of dairy farmers. Grid and Bagraim (2008) tested TPB among senior commerce students. They found support for its three pillars in addition to prior exposure to entrepreneurship in predicting entrepreneurial intention. In a cross-cultural study, Iakovleva et al. (2011) have shown support for TPB's three pillars based on data collected from thirteen countries. Solesvik (2013) have found similar results and provided evidence that individuals with higher education are more likely to become entrepreneurs. In general, many other studies, with some exceptions, have replicated these findings and supported the significant role of attitude, subjective norms, and behavioral control in predicting entrepreneurial intention (e.g. Kibler, 2013; Vinogradov et al., 2013).

Although TPB has been validated by several studies, some scholars have argued that TPB lacks sufficiency as it does not involve any emotional factors that can play a significant role in individuals' behavioral intention (Rapaport & Orbell, 2000). Also, most prior research in the entrepreneurship literature has overlooked IT-related factors that can represent important predictors of entrepreneurial intention. Today's business environment is highly dependent on information technology. It is plausible to argue that entrepreneurs, while expected to have knowledge and experience in the certain domain of business in which they plan to invest, are equipped with IT skills that they exploit at the early and later stages in their businesses. In a recent study, Chen (2014) emphasized the important role of IT skills in the context of entrepreneurship and called for future research examining this phenomenon. In this study, we incorporate

general computer self-efficacy (a cognitive factor) and computer anxiety (an emotional factor) into TPB to explain entrepreneurial intention (Figure 1). By doing so, we are able to extend TPB's explanatory power from an IT perspective while addressing its limited consideration of emotional factors. In the following section, we briefly discuss the established links between the predictors of TPB and entrepreneurial intention. But we focus our discussion more on theorizing and developing the novel hypotheses pertaining to the impact of general computer self-efficacy and computer anxiety on entrepreneurial intention.

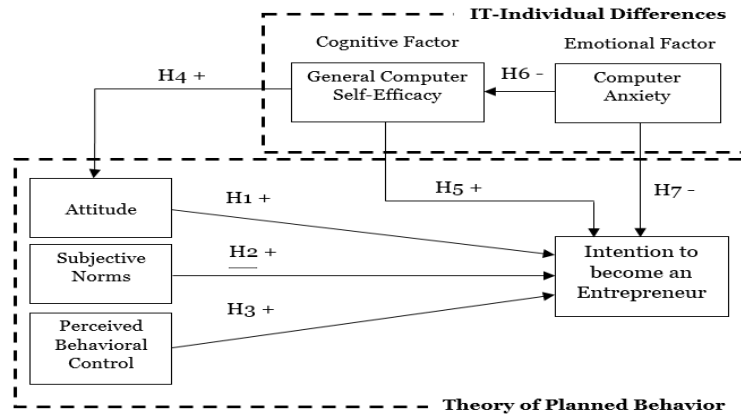


Figure 1. Research Model

Hypotheses Development

The Three Pillars of Theory of Planned Behavior

Our suggested hypotheses are developed and rationalized based on prior research. According to Gird and Bagraim (2008), the thinking process to start a new venture is a planned behavior. This process can be affected by having a positive attitude, perceiving the ease of this behavior, and receiving social support from surrounding community. Positive attitude towards starting a new business can influence behavioral intention of such action. For example, those who think of entrepreneurship as an attractive job with promising benefits may tend to take such a career path. Acquiring approval of the social circle and obtaining necessary practical details to be an entrepreneur are also other critical drivers of behavioral intention to starting up a new business. For instance, entrepreneurial-minded individuals who are encouraged by their families and friends besides showing capability of running and controlling their career would have a high intention to be involved in creating a new firm. These three pillars of TPB can empirically determine entrepreneurial intention among individuals as suggested by the literature (Kibler, 2013; Solesvik, 2013). Thus, we replicate the three hypotheses tested in prior research:

H1: Attitude is positively related to an individual's intention to become an entrepreneur.

H2: Subjective norms are positively related to an individual's intention to become an entrepreneur.

H3: Perceived behavioral control is positively related to an individual's intention to become an entrepreneur.

General Computer Self-Efficacy and Computer Anxiety

He and Freeman (2010a) illustrate that computer self-efficacy is a set of beliefs about having the capability to perform tasks using a computer; these beliefs can have either a direct or indirect effect through attitude on behavioral intention. Computer self-efficacy has been found to determine individuals' attitudes, particularly in the context of information systems (He & Freeman 2010a). Extending this to our context, those who are capable of interacting with various software applications and handling common computer operational problems would be more likely to evaluate themselves positively and to show satisfactory attitude toward initiating a new business.

Krueger et al. (2000) suggest that self-efficacy can predict opportunity recognition and self-employment intention. Accordingly, it can be argued that computer self-efficacy impacts entrepreneurial intention. For

instance, individuals who possess good computer knowledge and skills are likely to show greater beliefs in their ability to develop a new enterprise. From another perspective, perceived feasibility (i.e. an individual competency to perform a specific task) which conforms closely to self-efficacy has been found to explain entrepreneurial intention (Xiao & Fan, 2014). This concept can be expanded to include individuals who are competent at using a computer and various software applications. General computer self-efficacy, which is a special application of computer self-efficacy, also has a tendency to influence one's career interests and choice (He & Freeman, 2010a). According to the above discussion, we hypothesize that:

H4: *General computer self-efficacy is positively related to an individual's attitude.*

H5: *General computer self-efficacy is positively related to an individual's intention to become an entrepreneur.*

Computer anxiety reflects the affective components of "fear and apprehension, intimidation, hostility, and worries that one will be embarrassed, look stupid, or even damage the equipment" (Heinssen et al., 1987, p. 50). Such a psychological state of affect can influence negatively general computer self-efficacy. This is supported by He and Freeman's empirical study (2010b). They indicate that female students feel more anxious towards using computers because they have a lower level of computer learning and experience compared to their counterparts of male students.

Computer anxiety can also have a negative impact on behavioral intention. Rana and Dwivedi (2015) find that anxiety reduces adoption of e-government system. The psychological state embedded in computer anxiety can be extended to individual's behavioral intention in a different context. Consider those who intend to be self-employed but are highly attached to old-fashioned ways to perform their job because of computer phobia. Their intention can be significantly undermined as computer dependency is progressively increasing in today's business world. However, individuals with high-risk propensity are more confident in establishing their own business (Zhao et al., 2005). Expanding this substantiation, individuals who are risk-seekers would tend to experience lower anxiety which increases their intention of pursuing an entrepreneurial career. This suggests a negative relationship between computer anxiety and entrepreneurial intention. According to the above, we hypothesize that:

H6: *Computer anxiety is negatively related to an individual's general computer self-efficacy.*

H7: *Computer anxiety is negatively related to an individual's intention to become an entrepreneur.*

Research Method

The targeted population for this study will be college students. By using students, we will be able to sample distinct groups with different levels of computer experience. We will follow Chen's (2014) suggestion where students will be sampled based on their study focus: entrepreneurship, computer science or engineering, management information system (MIS), and fine arts. More importantly, this methodology will enable us to have a priori knowledge about the heterogeneity in the IT-related factors that can undermine the effect on the dependent variable (i.e. intentions). Such heterogeneity, if not accounted for, can lead to Type II error (Becker et al., 2013). Structural equation modeling (SEM) will be used to test the relationships between latent variables. We will also control for other variables that could influence entrepreneurial intention, for example, age, gender, IT experience, income, and some personality-related factors (e.g., management and marketing skills, innovativeness, and risk-taking).

This study will be conducted using a survey design. The survey will be developed from existing instruments in which all factors are well-established. Those factors are adapted from prior research but modified for the study context. Attitude, subjective norms, and perceived behavioral control are adapted from Vinogradov et al. (2013). Both general computer self-efficacy and computer anxiety are adapted from He and Freeman (2010a). Intention to become an entrepreneur is adapted from Zhao et al. (2005).

Conclusion and Expected Contribution

Entrepreneurs are perceived as valuable assets to any society as they contribute to the economy development by creating new ventures, which in turn leads to more job opportunities. Exploring IT role through general computer self-efficacy and computer anxiety is of a great value as it can help in determining

whether individuals will become entrepreneurs. This study is one of the first attempts to test the relationship between IT-related factors and entrepreneurial intention; hence, the results may lend future research opportunities to build up on them. For example, investigating different but relevant IT-related factors on entrepreneurial intention may shed light on other important drivers to the entrepreneurial development process.

This study is expected to contribute to the literature in several ways. First, it explores how IT can play a role in determining entrepreneurial intention using the theoretical lens of TPB. The IT role in developing future ventures is nascent; thus, it is important to be considered and emphasized in both IS and entrepreneurship literatures. Second, integrating computer anxiety into the theoretical model can complement TPB by addressing its limitation with regard to emotional elements. Third, the study results could identify important practical insights. If we find that IT knowledge and skill can significantly increase entrepreneurial intention, a number of practical implications could be communicated to policy makers in surrounding communities and higher education.

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