

Factors Influencing Nascent Entrepreneurs in an e-Marketplace

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Abstract

Based on previous studies a model was formulated of the determinants of the use of e-Marketplaces by nascent entrepreneurs for the purpose of business start-up. Factors concerned with self-efficacy, personality traits, internet usage habits, facilitating conditions, and behavioural intention were included and the model was tested and developed using data collected by questionnaire from 379 nascent entrepreneurs in Indonesia. The results from the final model confirmed or partially supported many theoretical relationships that have been reported in previous studies and there were new findings of causal effects on intention to use and actual use of e-Marketplace systems due to entrepreneurial self-efficacy, internet usage habits, and facilitating conditions. Apart from the theoretical contribution of the findings practical conclusions are presented as a means of increasing the use of e-Marketplaces by nascent entrepreneurs for the purpose of business start-up.

Keywords: behavioural intention e-Marketplaces, facilitating conditions, internet usage habits, personality traits, self-efficacy

1. Introduction

The development of the internet and the World Wide Web in the 1990s as a tool for the global sharing of information has made a wide variety of business services and activities commonly available such as e-Mail, e-Shopping, e-Procurement, crowd sourcing, e-Marketplaces and online payment gateways. Not only established organizations utilize the internet as a medium for information exchange, but also many new ventures and small or medium businesses seek benefit from the increasing number of internet users.

The existence of marketplaces in human society has a long history preceding the online trading places or e-Marketplaces of the 21st century. Trading of goods and services for other goods or for money is central to the concept of human socialization. The advent of an electronic environment has not changed fully the principles of markets and marketplace trading, merely the way in which society interacts in selling and buying activities. In essence, the technology facilitates the business of the market, but it is not the reason

Published by Asian Society of Business and Commerce Research

for the market to exist. Online markets must offer an advantage over traditional markets if they are to succeed and encourage nascent entrepreneurs to overcome any difficulties arising from using the technology. Consequently, an online market must be as rich, complex, and complete as a traditional market and must create extra value for its users.

The e-Marketplace, as one of the major trading platforms supported by internet technology has made a significant contribution to internet use particularly by nascent entrepreneurs who want to use the benefits of internet infrastructure as a means of selling their merchandizes. There are many nascent entrepreneurs and business owners who are eager to compete in the electronic environment and selling online can help businesses to reach new markets and increase sales and revenue gains. The internet can be used to find sales leads, announce calls for tender, and to offer products for sale either through personal websites or e-Marketplace sites. Searching for products and services online can save time and money by allowing people to find the best prices without having to do all the legwork. The internet can also be used to find new suppliers, post buying requests or search for products and services. The benefits of effective selling online include lower costs associated with selecting suppliers, establishing prices, ordering, and finalizing transactions. The e-Marketplace system features may also be used to support efficient information exchange between buyers and sellers. The development of e-Marketplaces followed swiftly on the use of the internet for business purposes, for this reason the definition of an e-Marketplace continues to evolve in order to take account of changes in the internet environment.

McElroy et al. (2007) studied the effects of personality and cognitive style on internet use. The results support the use of personality, but not cognitive style, as an antecedent for internet usage. After controlling for computer anxiety, self-efficacy, and gender, including the Big Five personality factors derived from Costa & McCrae (1992) in the analysis added significantly to the prediction of internet use but including cognitive style did not. Their results suggested several more specific observations about the role of personality. Neuroticism was a strong predictor of online selling behaviour and just missed the standard statistical cut-off for internet use significance. Seeking information, socializing, and selling goods online may enable neurotic people to escape the stress of face-to-face interaction. Openness played a smaller, although still significant, role in predicting internet use. Curious and open-minded people are more likely to use the internet to seek information, and visit chat-rooms and bulletin boards. One might have expected openness to also predict an individual's e-buying and e-selling behaviours, but the financial, effort, and time obligations of such behaviours may overcome their curiosity. Visiting chat rooms and bulletin boards, in contrast, carries no financial obligation. Although care must be taken in drawing causal inferences, personality clearly temporally precedes internet use and e-Commerce behaviours. However, studies that measure the relationship among entrepreneurship, e-Commerce (more specifically e-Marketplace) and technology adoption are needed.

This study aims to formulate, test, and develop a theoretical causal model incorporating factors and their relationships derived from previous studies which influence nascent entrepreneurs to start-up their business using an e-Marketplace system. Factors include: their entrepreneurial self-efficacy, computer self-efficacy, personality traits, and habits regarding internet use, and facilitating conditions. A review of related literature is presented next in section 2 followed by the research design and methodology (section 3) and the theoretical model (section 4). Data collected by questionnaire is prepared and analyzed (section 5) and this leads to the testing and further development of the theoretical model (section 6). Section 7 presents a discussion of the findings including a comparison with the results from previous studies, new findings, and practical implications of the findings. This leads to the conclusion (section 8) summarizing

theoretical and practical implications of the study, its limitations, and suggestions for further related research.

2. Related Literature

Studies related to defining basic terminology used in the study are discussed first. This is followed by an overview of the nature of recent studies. These previous studies were influential in determining the variables and their relationships which are discussed and form the basis for the formulation of the theoretical model in section 4.

2.1 Basic Terminology

Entrepreneurship: The concepts such as entrepreneur, entrepreneurship, and entrepreneurial all remain under active discussion (Mitchelmore & Rowley, 2010). Academics have long debated the definition of an Entrepreneur. Over 200 years of the study of entrepreneurship have provided many definitions of an entrepreneur. The Schumpeter economic-outcome-based concept (Schumpeter, 1934; 1942) that an entrepreneur creates value by carrying out new combinations causing discontinuity is the most widely used and embodied in many of the definitions offered within the last 50 years. Following his idea, Bull & Willard (1993) offer the following tentative entrepreneurship theory, extracted from anecdotal observations and extant literature, in the hope that they will better explain and begin to define an entrepreneur as *“A person who will carry out a new combination, causing discontinuity, under conditions of task-related motivation, expertise, expectation of personal gain, and a supportive environment”*.

More specifically, entrepreneurial self-efficacy refers to the strength of an individual’s belief that he or she is capable of successfully performing the roles and tasks of an entrepreneur (Boyd & Vozikis, 1994). Consistent with previous research on career related self-efficacy, they proposed entrepreneurial self-efficacy as *“an important explanatory variable in determining both the strength of entrepreneurial intentions and the likelihood that those intentions will result in entrepreneurial actions”*. Meanwhile, another terminology *nascent entrepreneur* coined by McGee, Peterson, Mueller, & Sequeira (2009) is an individual who engages in activities that are meant to result in a feasible business start-up.

E-Commerce and e-Marketplace: E-commerce today means many things to different people. There exists a wide variety of e-Commerce definitions and conceptualizations covering a plethora of issues, applications, and business models. Zwass (1996), for example, defines e-Commerce as *“the sharing of business information, maintaining business relationships and conducting business transactions by means of telecommunications networks”*. In addition to capturing and presenting information to support customers and business decision-making, an e-Commerce website enables organizations to market their products and services online and provide a range of services that customers themselves can perform without direct human assistance.

Sahney (2008) defines online retailing in an e-Marketplace as a subset of e-Commerce which uses electronic media through which the buyer and the seller enter into a transaction for sale and purchase, to the benefit both parties. An e-Marketplace system provider makes available hardware infrastructure and software systems to facilitate the interaction between buyer and seller. The facilities may be as simple as just product catalogues or can be as sophisticated as facilitating transactions with secured payment gateways.

Personality Factors: Personality is a stable set of characteristics and tendencies that determine peoples' commonalities and differences in thoughts, feelings, and actions. Personality theorists have offered hundreds of candidates and for decades factor analysts attempted to bring order to the resulting confusion by factoring personality scales. In the 1980s, researchers from many different traditions were led to conclude that there were five fundamental dimensions of people's personality. The five factor (Big Five) model of personality is a hierarchical organization of personality traits in terms of five basic dimensions: Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness to Experience (McCrae & John, 1992).

Each Big Five personality factor represents a collection of unique personality traits. Agreeableness represents the tendency to be sympathetic, good-natured, cooperative, and forgiving. Highly agreeable people help others and expect help in return. Conscientiousness represents the tendency to be self-disciplined, strong-willed, deliberate, and reliable. Conscientious people actively plan, organize, and carry out tasks. Extraversion represents sociability, cheerfulness, and optimism. Extraverts seek out new opportunities and excitement. Neuroticism represents a lack of psychological adjustment and emotional stability. Highly neurotic people tend to be fearful, sad, embarrassed, distrustful, and have difficulty managing stress. Finally, openness to experience represents one's curiosity and willingness to explore new ideas. Open individuals tend to devise novel ideas, hold unconventional values, and willingly question authority (McCrae & John, 1992). Taken together, the Big Five model captures the essence of one's personality.

2.2 Overview of Previous Studies

Table 1 presents an overview of recent studies related to entrepreneurship, the five factors model of personality, computer self-efficacy, habits with technology use, e-Commerce, and technology adoption in order to identify factors that contribute to e-Marketplace entrepreneurship success.

Table 1: Overview of Previous Studies

Project Focus	References
Five factor (Big Five) model of personality	McCrae & John (1992)
The Big Five and venture survival	Ciavarella et al. (2004)
The Big Five personality dimensions and entrepreneurial status	Zhao & Seibert (2006)
Dispositional factors in internet use: personality versus cognitive style	McElroy et al. (2007)
Computer self-efficacy	Compeau & Higgins (1995)
The effects of self-efficacy on computer usage and TAM	Igbaria & Iivari (1995)
Force of habit and information systems usage	Limayem & Hirt (2003)
Two competing perspectives on automatic use	Kim et al. (2005)
How habit limits the predictive power of intention	Limayem et al. (2007)
A process model of entrepreneurial venture creation	Bhave (1994)
Entrepreneurship field of research	Shane (2003)
Key components and implications of entrepreneurship	Ma & Tan (2006)

Project Focus	References
Entrepreneurial self-efficacy	Chen et al. (1998)
Strategic Decision Making on Entrepreneurial Self-Efficacy	Forbes (2005)
Entrepreneurial self-efficacy and business start-up	Drnovsek et al. (2010)
Entrepreneurial opportunity identification and development	Ardichvili et al. (2003)
Value of business planning before start-up	Chwolka & Raith (2012)
Value of planning in new venture creation (Firm)	Gruber (2007)
The lean start-up and continuous innovation (Firm)	Ries (2011)
Sustainability-driven entrepreneurship	Parrish (2010)
Market information processing and new venture performance	Song et al. (2010)
Competency factors affecting e-business success	Eikebrokk & Olsen (2007)
Electronic commerce adoption in SME US businesses	Grandon & Pearson (2004)
Classification of online retailers	Vliet & Pota (2001)
Technology adoption behavior of internet technologies in small business	Lee (2004)
Electronic commerce acceptance with the TAM	McCloskey (2004)
Critical success factors in online retail	Sahney (2008)
Competitive advantages through a functionality grid for website evaluation	Yeung & Lu (2004)
B2C e-Commerce success	Brown & Jayakody (2008)
Perceived usefulness, perceived ease of use, and user acceptance of IT	Davis (1989)
Technology acceptance model comparison	Davis et al. (1989)
Technology adoption in SMEs	Badrinarayanan & West (2010)
Unified theory of acceptance and use of technology	Venkatesh et al. (2003)
Mixed methods approach to technology acceptance	Wu (2012)

Note: The unit of analysis in all of the studies is an individual with the exception of the studies by Gruber (2007) and Ries (2011) where the unit of analysis is a firm.

From Table 1 it is seen that despite the large number of related studies in: Entrepreneurship, Personality, Computer self-efficacy, Habit and technology use, E-commerce, and Technology adoption there is still no comprehensive theoretical causal model to explain which factors contribute to entrepreneurs' use of e-Marketplace systems.

2.3 Important Variables and Relationships

The 11 important variables derived from previous studies that are proposed to affect the use of an e-Marketplace system by nascent entrepreneurs are organized into five categories: Self-efficacy (two variables); Personality (five variables), Habit (a single variable), Facilitating Conditions (a single variable) and Technology Adoption (two variables).

2.3.1 Self-Efficacy

This category includes two variables (Entrepreneurial Self-Efficacy and Computer Self-Efficacy) that characterize the degree to which an individual believes that they are capable of performing particular tasks.

Entrepreneurial Self-Efficacy refers to the degree to which an individual believes that they are capable of performing the tasks associated with new-venture creation (Boyd & Vozikis, 1994; Chen et al., 1998; Forbes, 2005; McGee et al., 2009; Drnovsek et al., 2010). High Entrepreneurial Self-Efficacy people are likely to associate challenging situations with rewards such as profit, community recognition, and psychological fulfilment (Hisrich & Brush, 1986), whereas low Entrepreneurial Self-efficacy people are likely to harbour images of failures, such as bankruptcy, disgrace, and psychological stress. For these reasons, individuals who consider themselves efficacious in performing entrepreneurial roles and tasks are more likely to have intention to enter the entrepreneurial environment than those who do not. Chen et al. (1998) confirmed that those with stronger entrepreneurial self-efficacy also expressed a stronger intention to start a business of their own. The scale to measure Entrepreneurial Self-efficacy developed by Chen et al. (1998) was improvised by Forbes (2005) to accommodate differences between the environment faced by the individuals in their study managing relatively established firms drawn from multiple industries and the environment faced by entrepreneurs managing new ventures in a dynamic environment such as the internet sector. The improvised measure for entrepreneurial self-efficacy combines all five tasks of entrepreneurship into a variable with fifteen items. Higher entrepreneurial self-efficacy will be positively related to the behavioural intention in using e-Marketplace system.

Computer Self-Efficacy refers to the degree to which an individual believes that they have the capability to use a computer. Individuals in a study by Compeau & Higgins (1995) with high self-efficacy used computers more, derived more enjoyment from their use, and experienced less computer anxiety. In addition, outcome expectations, in particular those relating to job performance were found to have a significant impact on affect and computer use. Another study by Igbaria & Iivari (1995) concluded that Computer Self-Efficacy had both direct and indirect effects on usage, demonstrating its importance in the decision to use computer technology.

2.3.2 Personality

The five factor model of personality is a hierarchical organization of personality traits in terms of five basic dimensions: Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness to Experience (McCrae & John, 1992).

Extraversion describes the extent to which people are assertive, dominant, energetic, active, talkative, and enthusiastic (Costa & McCrae, 1992). People are high on Extraversion tend to be cheerful, like people and large groups, and seek excitement and stimulation. People who score low on Extraversion prefer to spend more time alone and are characterized as reserved, quiet, and independent. Extraversion of the entrepreneur will be positively related to the behavioural intention in using e-Marketplace system.

Agreeableness assesses one's interpersonal orientation. Individuals high on Agreeableness can be characterized as trusting, forgiving, caring, altruistic, and gullible. The high end of Agreeableness represents someone who has cooperative values and a preference for positive interpersonal relationships. Someone at the low end of the dimension can be characterized as manipulative, self-centred, suspicious, and ruthless (Costa & McCrae, 1992; Digman, 1990). Although Agreeableness may lead one to be seen as trustworthy and may help one form positive, cooperative working relationships, high levels of Agreeableness may inhibit one's willingness to drive hard bargains, look out for one's own self-interest, and influence or manipulate others for one's own advantage. Agreeableness of the entrepreneur will be positively related to the behavioural intention in using e-Marketplace system.

Conscientiousness indicates an individual's degree of organization, persistence, hard work, and motivation in the pursuit of goal accomplishment. Some researchers have viewed this construct as an indicator of volition or the ability to work hard (Barrick & Mount, 1991). It has been the most consistent personality predictor of job performance across all types of work and occupations (Barrick et al., 2001). Many scholars regard Conscientiousness as a broad personality dimension that is composed of two primary facets: achievement motivation and dependability (e.g. Mount & Barrick, 1995). Achievement motivation has been widely studied in the context of entrepreneurship (Shaver, 1995), but dependability has received much less explicit attention. We therefore examine Conscientiousness as a unitary construct and the two primary facets of Conscientiousness separately in our analyses. Conscientiousness of the entrepreneur will be positively related to the behavioural intention in using e-Marketplace system.

Neuroticism represents individual differences in adjustment and emotional stability. Individuals high on Neuroticism tend to experience a number of negative emotions including fearful, sad, embarrassed, distrustful, anxiety, hostility, depression, self-consciousness, impulsiveness, and vulnerability (Costa & McCrae, 1992). People who score low on Neuroticism can be characterized as self-confident, calm, even tempered, and relaxed. Neuroticism of the entrepreneur will be negatively related to the behavioural intention in using e-Marketplace system.

Openness to Experience refers to a personality dimension that characterizes someone who is intellectually curious and tends to seek new experiences and explore novelty ideas. Someone high on Openness to Experience can be described as creative, innovative, imaginative, reflective, and untraditional. On the other hand someone with low score on Openness to Experience can be characterized as conventional, narrow in interests, and un-analytical. Openness to experience is positively correlated with intelligence, especially aspects of intelligence related to creativity, such as divergent thinking (McCrae & Costa, 1987). Openness to experience of the entrepreneur will be positively related to the behavioural intention in using e-Marketplace system.

2.3.3 Habit

This category includes a single but important variable Habit which refers to the degree to which an individual automatically (sub-consciously) believes that the use of internet technology has benefits when creating a new venture. Habits reflect automatic behaviour tendencies developed during the past history of the individual, such that particular stimuli elicit the behaviour even when the individual does not instruct himself or herself to perform it. Five reflective items (indicators) were used by Limayem & Hirt (2003) to measure the extent to which the act of using internet technology became automatic (a habit) for the respondent. It is proposed that this internalized behaviour has a positive effect on the entrepreneur's use of e-Marketplace systems.

2.3.4 Facilitating Conditions

This category includes a single variable Facilitating Conditions which is described as the extent to which an individual believes that an organizational and technical infrastructure exists to support the use of the system. Facilitating conditions are objective environmental factors that make an act easier to do (Triandis, 1980). Venkatesh et al. (2003) describe facilitating conditions as the degree to which an individual believes that an organizational and technical infrastructure exists to support use of the system. This definition captures concepts embodied by three different constructs: perceived behavioural control, facilitating conditions, and compatibility. Each of these constructs is operationalized to include aspects of the technological and/or organizational environment that are designed to remove barriers to use. A list of indicators for measuring facilitating conditions is provided by either Limayem&Hirt (2003) or Venkatesh et al. (2003). Facilitating conditions will have a significant impact on actual system use due to the nature of e-Marketplace system is still considered new phenomenon for entrepreneurs (McElroy et al., 2007), particularly when applying principles of marketing, innovation, risk-taking, management and financial control over the internet.

2.3.5 Technology Adoption

This category includes two variables (Behavioural Intention and Actual System Use) that originated from the Theory of Reasoned Action (Ajzen&Fishbein, 1980) and were consequently confirmed in the Technology Acceptance Model (TAM) (Davis, 1989; Davis et al., 1989; Venkatesh et al., 2003). The TAM was specifically developed to measure the determinants of computer usage. The model states that Perceived Usefulness and Perceived Ease of Use impact Behavioural Intention, which in turn impacts Actual System Use. Bandura (1982) suggested that in any given instance, behaviour would be best predicted by both self-efficacy and outcome judgments. In this study, only Behavioural Intention and Actual System Use are used from the TAM model.

Behavioural Intention is the extent to which an individual intends to continue to use e-Marketplace systems for the purpose of starting a new business (Davis, 1989).

Actual System Use refers to the extent to which an individual uses e-Marketplace systems for the purpose of: innovation; marketing; and financial activities in relation to a business start-up (Davis, 1989; Forbes, 2005).

3. Research Design and Methodology

The study aims to develop theoretical knowledge with practical implications about effects on the use made by entrepreneurs of e-Marketplace systems for the purpose of business start-ups. The target population was Indonesian entrepreneurs who have experience in the business start-up cycle (innovation → marketing → sales transactions) using an e-Marketplace system. The research is: partly basic and applied; partly descriptive and explanatory; cross-sectional in time, and employs descriptive statistical techniques for data preparation and analysis and structural equation modelling (SEM) techniques for the analysis and development of a theoretical model which was derived from existing theory and previous studies of technology acceptance, entrepreneurship, personality, and electronic commerce.

A self-administered questionnaire was designed to measure the variables in the theoretical model and other variables used to describe the personal characteristics of the respondents. English and Indonesian language versions of the questionnaire were reviewed by a focus group of five representatives of the

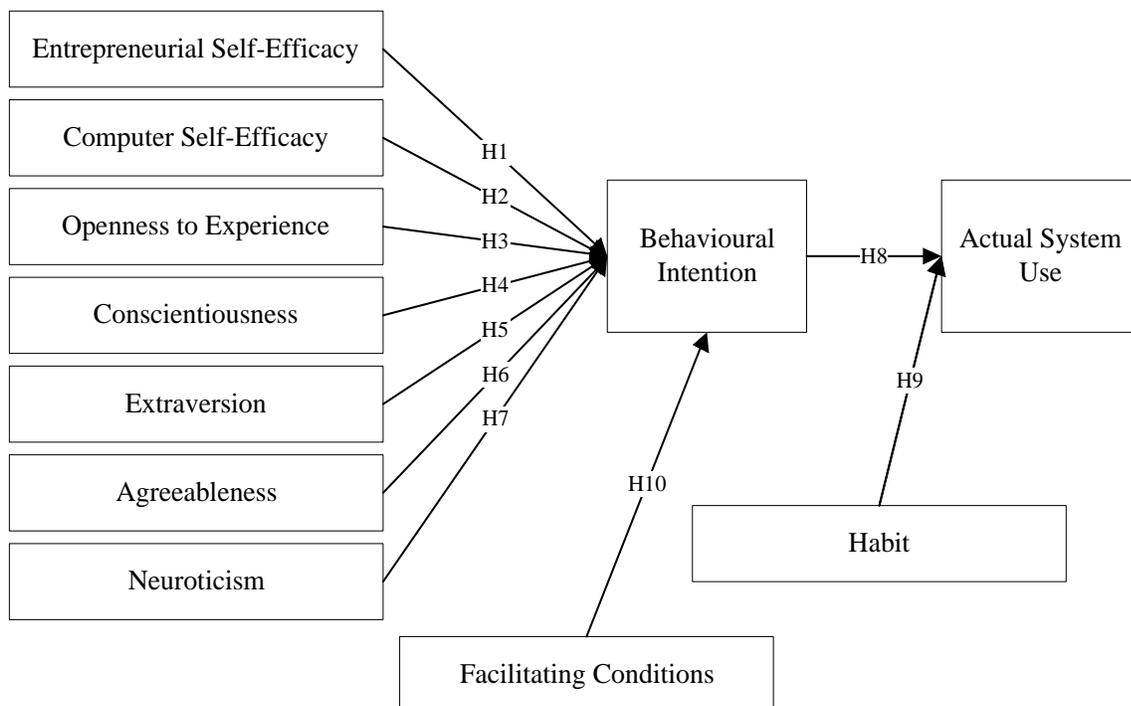
target population. Suggested modifications were included in revised versions of the questionnaire which was then administered in a pilot study using a sample of 10 participants. Their responses and comments were noted and any modifications were incorporated into the final English and Indonesian versions of the questionnaire. The Indonesian language version was then used in the full study. The English version notated to indicate measuring scales and labels used for variables and indicators.

The size of the target population in Indonesia is unknown but expected to exceed 100,000. Consequently, using a level of precision of 0.05, and a 95 percent confidence interval the sample size for the study was determined to be 400 (<http://edis.ifas.ufl.edu/pd006> accessed on October 18, 2012). This sample size also ensured the statistical validity of the SEM and other statistical techniques used in the analyses (Kline, 2005).

It was not possible to obtain sampling frames that could be used to randomly select the sample so in accordance with Neuman (2006) a purposive (judgmental) non probability method was used and this is appropriate in cases where individuals with particular experience are required. Sampling was done in stages mainly by contacting participants through access provided by organizations and the researcher's personal contacts.

4. Theoretical Model

Based on the related literature in section 3, the theoretical model in Figure 1 was developed. The 10 research hypotheses associated with the cause and effect relationships in Figure 1 are specified in Table 2 together with references to studies that identified these relationships.



Figure

1.Theoretical model.

Table 2. Research hypotheses associated with the theoretical model

Research Hypothesis	Reference
H1: Entrepreneurial Self-Efficacy has a significant positive direct effect on Behavioural Intention	Chen et al. (1998), Forbes (2005), McGee et al. (2009), Drnovsek et al. (2010)
H2: Computer Self-Efficacy has a significant positive direct effect on Behavioural Intention	Compeau & Higgins (1995), Lee (2004)
H3: Openness to Experience has a significant positive direct effect on Behavioural Intention	Costa & McCrae (1992), McElroy et al. (2007)
H4: Conscientiousness has a significant positive direct effect on Behavioural Intention	Costa & McCrae (1992), McElroy et al. (2007)
H5: Extraversion has a significant positive direct effect on Behavioural Intention	Costa & McCrae (1992), McElroy et al. (2007)
H6: Agreeableness has a significant positive direct effect on Behavioural Intention	Costa & McCrae (1992), McElroy et al. (2007)
H7: Neuroticism has a significant negative direct effect on Behavioural Intention	Costa & McCrae (1992), McElroy et al. (2007)
H8: Behavioural Intention to use Online Retail System has a significant positive direct effect on Actual System Use	Davis (1989)
H9: Habit has a significant positive direct effect on Actual System Use	Triandis (1980), Limayem & Hirt (2003)
H10: Facilitating Conditions has a significant positive direct effect on Behavioural Intention	Triandis (1980), Venkatesh et al. (2003)

Note: Significant effects are statistically significant at a level of 0.05 or less.

All of the model variables in Figure 1 are latent variables measured with the indicators based on the measuring instruments shown in Table 3. Each indicator is measured on a 5 point Likert scale and the measures are treated as interval scale measures in analyses.

Table 3. Indicators and measuring instruments for latent variables

Variable (Label)	Type of Measure	Measuring Instrument
Actual System Use (AU)	3 indicators: au1, au2, au3	Davis (1989), Forbes (2005)
Entrepreneurial Self-Efficacy (ESE)	15 indicators: ese1, ese2, ese3, ese4, ese5, ese6, ese7, ese8, ese9, ese10, ese11, ese12, ese13, ese14, ese15	Forbes (2005)
Computer Self-Efficacy (CSE)	4 indicators: cse1, cse2, cse3, cse4	Compeau & Higgins (1995), Lee (2004), Venkatesh et al. (2003)
Openness to Experience (OE)	5 indicators: oe1, oe2, oe3, oe4, oe5	Costa & McCrae (1992)
Conscientiousness (CO)	5 indicators: co1, co2, co3, co4, co5	
Extraversion (EX)	5 indicators: ex1, ex2, ex3, ex4, ex5	
Agreeableness (AG)	5 indicators: ag1, ag2, ag3, ag4, ag5	
Neuroticism (NE)	5 indicators: ne1, ne2, ne3, ne4, ne5	
Habit (H)	5 indicators: hab1, hab2, hab3, hab4, hab5	Limayem & Hirt (2003)
Facilitating Conditions (FC)	4 indicators: fc1, fc2, fc3, fc4	Venkatesh et al. (2003)
Behavioural Intention (BI)	3 indicators: bi1, bi2, bi3	Davis (1989)

5. Data Preparation and Preliminary Analyses

5.1 Data Preparation

The obtained data from 400 respondents was entered into an SPSS (Version 19) worksheet. A random 10 percent of the responses were checked for accuracy of data entry and no errors were found. Twenty one questionnaires were found to include at least one outlier value for a model variable (i.e. a value 3 or more standard deviations from the mean) and these 21 questionnaires were removed from the sample to give a final sample size of 379 which was considered satisfactory according to the determination of the sample size for the study.

Principal Component factor analysis was used to test the construct (discriminant and convergent) validity of the measures of the latent model variables. Each latent variable was measured by a set of indicators with factor loadings of magnitude at least 0.4 and an associated eigenvalue of at least 1 (Straub et al., 2004). As a result of the factor analysis 11 indicators were retained as valid measures for Entrepreneurial Self-Efficacy while the other four indicators ESE 1, 5, 6, and 13 were removed because they all had significant cross loadings on another factor and were consequently not measuring only the variable ESE.

The internal consistency reliability of the sets of indicators that resulted from the factor analysis was assessed using Cronbach alpha coefficients. From that measurement the result shows numbers above 0.7 which indicates the reliability coefficients are all good (George and Mallery, 2003) and for Neuroticism the coefficient is excellent.

5.2 Preliminary Analyses

5.2.1 Profile of the Respondents

A profile of the respondents was developed from the responses in section 1 of the questionnaire. Among the final sample of 379 respondents there were 136 males (36 percent) and 243 females (64 percent). The largest proportion of the respondents (37 percent) was 21-27 years of age followed by 29 percent who were less than 20 years of age and among these age groups most were high school students, college/university students, or others who still had not yet established a definite career. On the other hand, the older age groups 28-34 years with 81 respondents (21 percent) and 35 years or older with 50 respondents (13 percent) were represented in smaller numbers because most of them were busy and had less time for completing the questionnaire. Respondents' levels of education varied from high school to post graduate degrees. The majority of 194 (51 percent) have bachelor degrees followed by 158 (42 percent) high-school graduates and 27 (7 percent) with post graduate degrees.

Most of the respondents (54 percent) describe themselves as self-employed and this includes high-school students and college/university students who normally do not have work permanent positions and are selling products and services in an e-Marketplace as a side job and consequently consider themselves as self-employed. The other two groups worked for private organizations (44 percent) and government institutions (2 percent) and they also treated online selling as a side job in order to obtain another source of income or as a stepping stone to a better income.

The majority of respondents (52 percent) have 3 years or less work experience while 31 percent have 4-6 years of work experience and this aligns with the 66 percent of respondents who were 27 years of age or less. Only 64 respondents (17 percent) had more than 7 years of work experience, which may mean that the more work experience a person has the less likely they are to become nascent entrepreneurs who sell products or services in e-Marketplaces.

The entrepreneurial activities and experience of the respondents were categorized into six areas: 85 percent of respondents had experience in introducing new products; 84 percent had opened new markets; 29 percent had experience in restructuring an organization; 33 percent had managerial experience; 54 percent had introduced new methods of business operation; and 77 percent had found new sources or materials for products or services. It is suggested that those with managerial experience may normally enjoy a higher salary than average and thus the urgency to have a side job selling products or services in e-Marketplace was unnecessary.

5.2.2 Preliminary Descriptive Analyses

For the purpose of preliminary descriptive analyses each latent variable was also represented as a single interval scale variable based on the means of the values which respondents assigned to the indicators. These simplified measures of each latent variable were used in the analyses reported in this section but the separate measures for indicators were used in the SEM analyses throughout section 6.

T-tests were used to test for a statistically significant difference between the mean values of the model variables:

a. And the *neutral* point 3 on their measurement scales. All of the model variables had a mean value which was significantly greater than 3 ($p < 0.000$) except Neuroticism with a mean value which was significantly less than 3. Neuroticism refers to the extent to which an individual displays a lack of individual adjustment and emotional stability and these negative characteristics were not evident among

the respondents whereas all of the other model variables which represented desirable characteristics and attitudes were strongly evident among the respondents.

b.For males and females. There were no significant differences ($p < 0.05$) between the means for males and females for any of the model variables except for Facilitating Conditions and Computer Self-Efficacy where in both cases the mean for males is significantly greater than the mean for females. Facilitating Conditions reflects the extent to which an individual believes that an organizational and technical infrastructure exists to support the use of the system and it appears that the males were more concerned with organizational and technical infrastructures than the females. Computer Self-Efficacy which reflects the degree to which an individual believes that they have the capability to use a computer was also a stronger held belief among males than females.

c. For those with and without managerial experience. The mean values of Neuroticism, Habit, Conscientiousness, and Actual Use are significantly different ($p < 0.05$) for those with and without managerial experience. The mean for Neuroticism was significantly less for those with managerial experience compared to those without managerial experience and because the mean for Neuroticism for all of the respondents was significantly low this placed those with managerial experience among the group with the lowest scores for Neuroticism. It may be that respondents with managerial experience have more exposure to challenges and problems and so they need to be more emotionally stable and not easily depressed compared to others who do not have managerial experiences.

For Habit, Conscientiousness, and Actual Use the mean for those with managerial experience was significantly greater than the mean for those without managerial experience. In daily life many managerial administrative tasks are done using email and other internet based applications and this develops automaticity (habit) with internet use when starting new businesses compared to others who do not have managerial experience (Gefen, 2003). Organ and Lingl (1995) argued that Conscientiousness leads to a greater likelihood of obtaining satisfying work rewards, both formal (e.g., pay and promotions) and informal (e.g., recognition, respect, and feelings of personal accomplishment). Thus those with managerial experience are expected to have higher scores on Conscientiousness. Actual Use reflects the extent to which an individual uses e-Marketplace systems for the purpose of innovation, marketing, and financial activities in relation to a business start-up. Respondents with managerial experience had a higher tendency to use an e-Marketplace to accomplish their innovations, marketing, and financial activities which aligns with their higher mean value for Habit with internet use.

6. Model Analysis and Development

Figure 2 shows the results of the SEM analysis of the theoretical model using Amos 18 software.

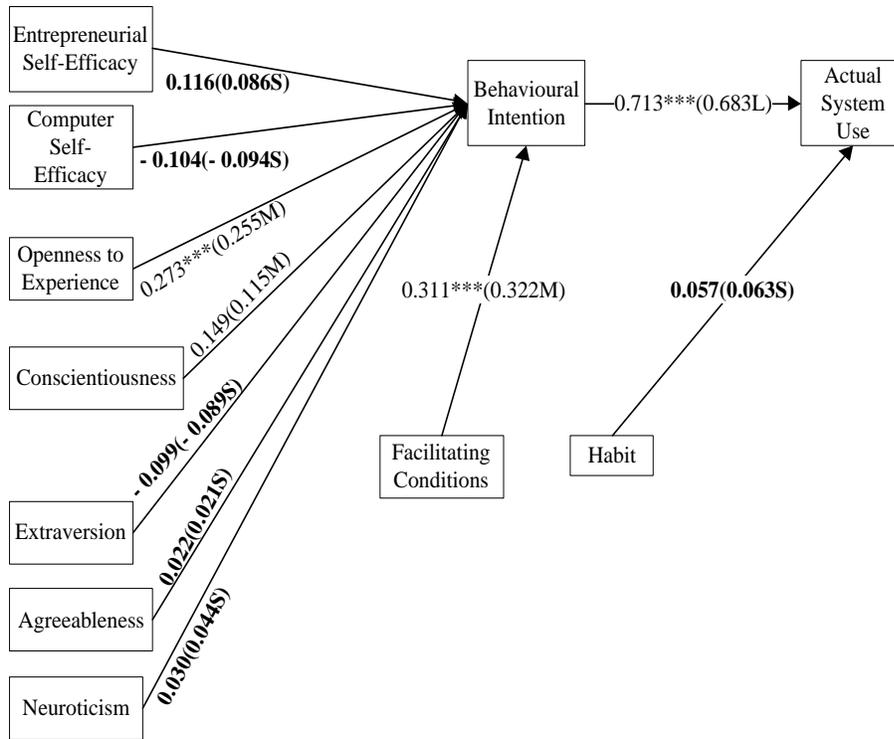


Figure 2. Direct effects in the theoretical model.

In Figure 2 and throughout the subsequent results for effects the following notation is used: the unstandardized effect is shown first with the symbol *, **, or *** to indicate statistical significance at a level of 0.05, 0.01, or 0.001, respectively, and no symbol indicates that the effect is not statistically significant at a level of 0.05 or less. In parentheses the standardized effect is shown and classified as: small (S) if its magnitude is less than 0.1; medium (M) if its magnitude is greater than or equal to 0.1 but less than 0.5; or large (L) if its magnitude is greater than or equal to 0.5 (Cohen, 1988).

The model fit statistics for the theoretical model in Figure 2 are displayed in Table 4.

Table 4. Fit statistics for the theoretical model

Model	N	N _c	NC (χ^2/df)	RMR	GFI	AGFI	NFI	IFI	CFI	RMSEA
Theoretical Model	379	229	387.815/157 = 2.407	0.026	0.812	0.790	0.817	0.912	0.911	0.045
			R ² : Behavioural Intention (0.276), Actual System Use (0.492)							

Note: R² is the proportion of the variance of each endogenous variable that is explained by the variables affecting it.

From Table 4 it is seen that although some of the fit statistics have acceptable values (NC, IFI, and CFI) it may be possible to improve the fit statistics by adding plausible causal effects suggested by statistically significant correlations or by removing effects that are small and not statistically significant which are highlighted in Figure 2. Table 5 summarizes the proposed modifications.

Table 5. Summary of suggested modifications to the theoretical model

Proposed Modification to the Theoretical Model	Direct Effects	Suggested By:
Additional Direct Effects	NE → AU, EX → AU, AG → AU, OE → AU, CO → AU, CSE → AU, ESE → AU, FC → AU, and H → BI	Significant Correlations
Deletion of Existing Direct Effects	ESE → BI, CSE → BI, EX → BI, AG → BI, NE → BI, and H → AU	Small and not statistically significant direct effects in the Theoretical Model

In a revised version of the theoretical model the 15 causal effects identified in Table 5 were made optional thus forming a hierarchy of $2^{15} = 32,768$ possible models. This hierarchy was analyzed using the Specification Search facility in Amos 18 and following the advice from Kline (2005) the model with the smallest value for Normed Chi-square (NC) was selected as the final model shown in Figure 3 below.

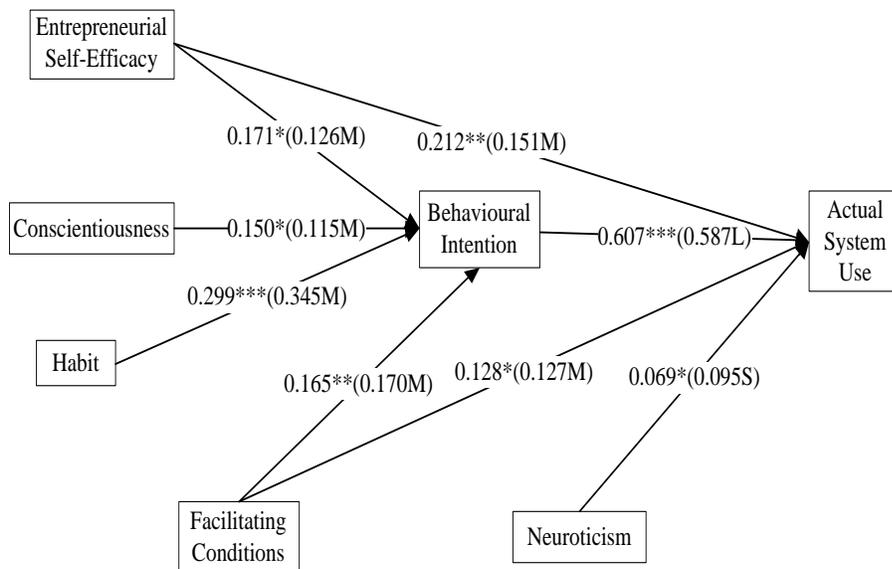


Figure 3. Direct effects in the final model.

The fit statistics for the final model in Figure 3 are displayed in Table 6.

Table 6. Fit statistics for the final model

Model	N	N _c	NC (χ^2/df)	RMR	GFI	AGFI	NFI	IFI	CFI	RMSEA
Final Model	379	234	387.815/157 = 1.718	0.023	0.915	0.904	0.912	0.917	0.916	0.044
			R² :Behavioural Intention (0.300), Actual System Use (0.539)							

Note: R² is the proportion of the variance of each endogenous variable that is explained by the variables affecting it.

From Table 6 it is seen that the fit statistics are much improved on those associated with the theoretical model (Table 5) and with the exception of the small effect of Neuroticism on Actual Use all of the effects are statistically significant at a level of 0.05 or less and either medium or large in magnitude. In addition, very reasonable proportions of the variance of the endogenous variables Behavioural Intention and Actual System Use are explained by their causes (30 percent and 54 percent, respectively).

Table 7 shows the complete analysis of all of the effects in the final model. The determination of the statistical significance of indirect effects and the totals of effects follow the method proposed by Sobel(1986) and the results of nonparametric bootstrapping using a random sample of size 1000, respectively.

Table 7. Analysis of the final model

Variable		Effect	Endogenous Variable	
			Intervening	Dependent
			Behavioural Intention (BI)	Actual System Use (AU)
Exogenous	Entrepreneurial Self-Efficacy (ESE)	Direct	0.171*(0.126M)	0.212**(0.151M)
		Indirect	Nil	ESE-BI-AU 0.104*(0.074S)
		Total Indirect	Nil	0.104*(0.074S)
		Total	0.171*(0.126M)	0.316*(0.225M)
	Conscientiousness (CO)	Direct	0.150*(0.115M)	Nil
		Indirect	Nil	CO-BI-AU 0.091*(0.068S)
		Total Indirect	Nil	0.091*(0.068S)
		Total	0.150*(0.115M)	0.091*(0.068S)
	Habit (H)	Direct	0.299*** (0.345M)	Nil
		Indirect	Nil	H-BI-AU 0.181*** (0.203M)
		Total Indirect	Nil	0.181*** (0.203M)
		Total	0.299*** (0.345M)	0.181*** (0.203M)
	Facilitating Conditions (FC)	Direct	0.165** (0.170M)	0.128* (0.127M)
		Indirect	Nil	FC-BI-AU 0.100** (0.100M)
		Total Indirect	Nil	0.100** (0.100M)
		Total	0.165** (0.170M)	0.228* (0.227M)
	Neuroticism (NE)	Direct	Nil	0.069* (0.095S)
		Indirect	Nil	Nil
		Total Indirect	Nil	Nil
		Total	Nil	0.069* (0.095S)
Intervening	Behavioural Intention (BI)	Direct	Nil	0.607*** (0.587L)
		Indirect	Nil	Nil
		Total Indirect	Nil	Nil
		Total	Nil	0.607*** (0.587L)

From Table 7 it is seen that:

- a. All of the effects are positive and statistically significant at a level of 0.05 or less;
- b. There are several small effects which are statistically significant which highlights the importance of considering the magnitude of effects and not only their statistical significance;
- c. There are no situations where the direct effect of one variable on another is less than the indirect effect through intervening variables.

7. Discussion

7.1 Interpretation of Causal Effects

As a basis for the discussion of effects Table 8 is derived from Table 7 and describes the nature of the effects in the final model based on the total of direct and indirect effects among the variables.

Table 8. Summary of total effects in the final model

Variable		Endogenous Variable	
		Intervening	Dependent
		Behavioural Intention	Actual System Use
Exogenous	Entrepreneurial Self-efficacy	Positive, Medium, Only direct	Positive, Medium, Mainly direct
	Conscientiousness	Positive, Medium, Only direct	Positive, Small, Only indirect
	Habit	Positive, Medium, Only direct	Positive, Medium, Only indirect
	Facilitating Conditions	Positive, Medium, Only direct	Positive, Medium, Mainly direct
	Neuroticism	Nil	Positive, Small, Only direct
Endogenous	Behavioural Intention	Nil	Positive, Large, Only direct

It is noted that all of the effects in Table 8 are positive and statistically significant at a level of 0.05 or less even though some are small.

Actual System Use: Among all of the variables which have an effect on this dependent variable the intervening variable Behavioural Intention has the largest effect followed by Facilitating Conditions, Entrepreneurial Self-Efficacy, and Habit all of which are medium effects. However, the effects due to Neuroticism and Conscientiousness are only small.

Behavioural Intention: All of the independent variables except for Neuroticism have positive medium direct effects on Behavioural Intention. The largest effect is due to Habit followed in decreasing order by Facilitating Conditions, Entrepreneurial Self-Efficacy, and Conscientiousness.

Considering the influences of the exogenous independent variables separately it is seen that:

Entrepreneurial Self-Efficacy is the extent to which nascent entrepreneurs believe that they are capable of performing the tasks associated with new-venture creation and it has a direct medium effect on Behavioural Intention and Actual System Use where the effect on Actual System Use is the larger. Also it has an indirect but small effect on Actual System Use through the intervening variable Behavioural Intention.

Conscientiousness is the extent to which an individual displays organization, persistence, hard work, and motivation in the pursuit of goals. It has a direct medium effect on Behavioural Intention but only a small indirect effect on Actual System Use.

Habit has a direct medium effect on Behavioural Intention and a medium indirect effect through Behavioural Intention on Actual System Use. This is in contrast with the single direct effect on Actual System Use hypothesized in the theoretical model and indicates that the important influence of Habit on Actual System Use follows indirectly its important effect on establishing strong intentions which in turn leads to high use.

Facilitating Conditions refers to the belief that organizational and technical infrastructure exists to support the operational use of the e-Marketplace system. Facilitating Conditions has a medium direct effect on Behavioural Intention and Actual System Use where the effect on Behavioural Intention is the larger. It also has a medium indirect effect on Actual Systems Use through its influence on Behavioural Intention.

Neuroticism refers to an individual's ability to adjust to the environment and maintain emotional stability. Neuroticism only had a direct small effect on Actual System Use even though this small effect was statistically significant. In this case the small magnitude of this effect is the dominant feature and the conclusion is that the individual's level of Neuroticism is of little importance as a determinant of the extent of Actual System Use. If this direct small effect is removed from the final model then the value of the fit statistic Normed Chi-square increases and this was not done because the final model was selected as the model with the smallest value for Normed Chi-square (Kline, 2005).

7.2 Comparison of the Findings with Results from Previous Studies

Tables 9, 10, and 11 show the decisions related to the research hypotheses in Table 3. which were derived from the findings of previous studies. Table 9 shows hypotheses that are supported by the study, Table 9 shows hypotheses for which significant direct causal effects were not found but there were significant correlations between the variables, and Table 11 shows hypotheses for which there was no support among the findings of the study. Throughout these tables "significance" refers to statistical significance at a level of 0.05 or less. However, although an effect may be statistically significant it may have a small magnitude. In cases where the effect in the final model is statistically significant but small in magnitude the decision for the hypothesis is that it is not supported.

Table 9. Hypotheses supported by the findings

Research Hypothesis	Reference
H1: Entrepreneurial Self-Efficacy has a significant positive direct effect on Behavioural Intention	Chen et al. (1998), Forbes (2005), McGee et al. (2009), Drnovsek et al. (2010)
H4: Conscientiousness has a significant positive direct effect on Behavioural Intention	Costa & McCrae (1992), McElroy et al. (2007)
H8: Behavioural Intention to use Online Retail System has a significant positive direct effect on Actual System Use	Davis (1989)
H10: Facilitating Conditions has a significant positive direct effect on Behavioural Intention	Triandis (1980), Venkatesh et al. (2003)

The hypotheses supported by the findings in Table 9 confirm the importance of the direct effect of: (a) Entrepreneurial Self-Efficacy, Conscientiousness, and Facilitating Conditions on Behavioural Intention; and (b) Behavioural Intention on Actual System Use which is a well-known feature of the Technology Acceptance Model (Davis, 1989). These effects are supportive of important parts of the theoretical model which was derived for previous studies.

Table 10. Hypotheses partially supported by the findings

Research Hypothesis	Reference	Correlation	Comment
H2: Computer Self-Efficacy has a significant positive direct effect on Behavioural Intention	Compeau & Higgins (1995), Lee (2004)	Positive, significant	Computer Self-Efficacy has no significant direct or indirect effect on Behavioural Intention
H3: Openness to Experience has a significant positive direct effect on Behavioural Intention	Costa & McCrae (1992), McElroy et al. (2007)	Positive, significant	Openness to Experience has no significant direct or indirect effect on Behavioural Intention
H5: Extraversion has a significant positive direct effect on Behavioural Intention	Costa & McCrae (1992), McElroy et al. (2007)	Positive, significant	Extraversion has no significant direct or indirect effect on Behavioural Intention
H6: Agreeableness has a significant positive direct effect on Behavioural Intention	Costa & McCrae (1992), McElroy et al. (2007)	Positive, significant	Agreeableness has no significant direct or indirect effect on Behavioural Intention
H9: Habit has a significant positive direct effect on Actual System Use	Triandis (1980), Limayem & Hirt (2003)	Positive, significant	Habit has only significant indirect medium effect on Actual System Use

From Table 10 it is seen that although these hypotheses of significant positive direct causal effects are not supported in the final model in each case there is a significant positive correlation between the two variables in each of the hypotheses. This is considered to provide partial support for the hypothesized effects and indicates that further studies should reconsider these direct causal relationships.

Table 11. Hypotheses not supported by the findings

Research Hypothesis	Reference	Correlation	Comment
H7: Neuroticism has a significant negative direct effect on Behavioural Intention	Costa & McCrae (1992), McElroy et al. (2007)	Positive, not significant	Neuroticism has no significant direct or indirect effect on Behavioural Intention

From Table 11 it can be seen that there was no support at all for the hypothesis that Neuroticism has a significant negative direct effect on Behavioural Intention. This is complemented by the finding that the sample of entrepreneurial individuals in this study had a mean value for Neuroticism that was significantly low.

Considering the fully or partially supported hypotheses in Tables 9 and 10 there is a reasonable amount of full or partial support for the relationships between variables specified in the previous studies by Chen et al. (1998), Forbes (2005), McGee et al. (2009), Drnovsek et al. (2010), Costa & McCrae (1992), McElroy et al. (2007), Davis (1989), Triandis (1980), Venkatesh et al. (2003), Compeau & Higgins (1995), Lee (2004), and Limayem & Hirt (2003) which were the basis of the formulation of the theoretical model used in this study.

7.3 New Results Not Reported in Previous Studies

Table 12 presents new findings which have not been reported in previous studies.

Table 12. New findings

Entrepreneurial Self-Efficacy has a significant: Positive direct medium effect on Behavioural Intention Positive mainly direct medium effect on Actual System Use
Habit has a significant positive direct medium effect on Behavioral Intention
Facilitating Conditions has a significant: Positive direct medium effect on Behavioural Intention Positive mainly direct medium effect on Actual System Use
Neuroticism has a significant positive direct small effect on Actual System Use

From the Table 12 it is seen that among these new findings the most important appear to be that:

a. As the entrepreneurial self-efficacy of a nascent entrepreneur increases then their behavioural intention to start-up a business and actual use of an e-Marketplace system also increases

b. Established habits of nascent entrepreneurs in using the internet strengthen their behavioural intention which in turn increases their likelihood of actually using an e-Marketplace system when starting-up their business.

c. Nascent entrepreneurs who believe that organizational and technical infrastructure exists to support their operational use of an e-Marketplace system show strong intentions to use the system and significant levels of actual use of the system.

Even though these new findings appear to be intuitively correct and they are supported in the final model there is a definite need for their validity and reliability to be tested in further studies.

7.4 Practical Implications of the Findings

Based on the final model it was possible to formulate some practical objectives and associated actions which would lead to increasing the actual use of e-Marketplace systems by nascent entrepreneurs. Table 13 sets out, in decreasing order of importance actions to be taken to achieve the hierarchy of objectives. In some cases it is seen that an action may lead to a subsequent practical objective with associated actions.

Table 13. Practical objectives and actions to increase the use of e-Marketplace systems by nascent entrepreneurs

Objectives	Actions	Model Variable
1. (Primary Objective) Increase actual use of e-Marketplace system by nascent entrepreneurs to start-up their business.	1.1 Increase the behavioural intention of the nascent entrepreneurs to use an e-Marketplace system. (See objective 2)	Behavioural Intention
	1.2. Provide excellent customer support to nascent entrepreneurs.	Facilitating Conditions
	1.3 Increase the entrepreneurial self-efficacy of nascent entrepreneurs.	Entrepreneurial Self-efficacy
	1.4 Purposely develop the nascent entrepreneurs' habit of internet use.	Habit
2. Increase the behavioural intention of the nascent entrepreneurs to use an e-Marketplace system	2.1 Purposely develop the nascent entrepreneurs' habit of internet use.	Habit
	2.2. Provide excellent customer support to nascent entrepreneurs.	Facilitating Conditions
	2.3 Increase the entrepreneurial self-efficacy of nascent entrepreneurs.	Entrepreneurial Self-efficacy
	2.4 Accommodate and encourage a conscientious personality trait among nascent entrepreneurs.	Conscientiousness

In relation to the actions specified in the hierarchies of actions in Table 13 it was possible to suggest some of the practical means by which these actions may be executed and these are displayed in Table 14.

Table 14. Practical means associated with actions in Table 13

Actions in Table 7.4	Suggested Means of Executing Actions
<p>1. Provide excellent customer support to nascent entrepreneurs.</p> <p>(Facilitating Conditions)</p>	<p>1.1 Guarantee a 24 hours by 7 days online support to both sellers and buyers.</p>
	<p>1.2 Offer a troubleshooting service, both offline and online.</p>
	<p>1.3 Continually review the usability aspects of e-Marketplace interface.</p>
	<p>1.4 Make available an intelligent “help” facility for both sellers and buyers</p>
<p>2. Increase the entrepreneurial self-efficacy of nascent entrepreneurs.</p> <p>(Entrepreneurial Self-efficacy)</p>	<p>2.1 Train nascent entrepreneurs to think innovatively about their business</p>
	<p>2.2 Train nascent entrepreneurs to manage their business better</p>
	<p>2.3 Train nascent entrepreneurs to market their products or services in e-Marketplace</p>
	<p>2.4 Train nascent entrepreneurs to be able to calculate their risk taking ability</p>
	<p>2.5 Train nascent entrepreneurs to monitor their financial activity in e-Marketplace</p>
<p>3. Purposely develop the nascent entrepreneurs’ habit of internet use.</p> <p>(Habit).</p>	<p>3.1 Establish a paperless policy for all documents such as invoices and brochures.</p>
	<p>3.2Set up online support by using internet infrastructure such as instant messenger and email.</p>
<p>4. Accommodate and encourage a conscientious personality trait among nascent entrepreneurs.</p> <p>(Consciousness)</p>	<p>4.1 Introduce reward programs such as best sales revenue of the year to encourage the conscientiousness.</p>
	<p>4.2 Frequently establish local gatherings among nascent entrepreneurs and allow testimonials from successful sellers to inspire others.</p>
	<p>4.3 Organize the entrepreneurs in the e-Marketplace to form a community.</p>

8. Conclusion

This study examined determinants of actual system use in an e-Marketplace by nascent entrepreneurs who want to start-up their business. The method centred on testing and developing a theoretical causal model derived from the results of previous studies. From a theoretical perspective the study showed that entrepreneurial self-efficacy, computer self-efficacy, personality factors (extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience), habit and facilitating conditions are the

important antecedents for behavioural intention which determines the effect on actual system use. From a comparison with the findings from previous studies it is seen that the study supports fully or partially a number of those findings but also identifies important effects not previously reported concerning effects due to entrepreneurial self-efficacy, habit with internet use, facilitating conditions and neuroticism.

In the light of theory and empirical findings it is seen that companies seeking to implement e-Marketplace systems face significant challenges. In particular, not every nascent entrepreneur has the same level of entrepreneurial self-efficacy related to how to do innovation, marketing, management, risk calculation, and financial control in an online environment which can be quite different from a traditional marketplace. Successful entrepreneurs commonly display a strongly conscientious personality and exhibit motivation in the pursuit of goals. It is advised that e-Marketplace system providers attempt to build on capturing this characteristic by developing challenging environments for them with reward programs such as best sales of the month.

The habits of nascent entrepreneurs who sell their merchandize in e-Marketplace systems also need to be developed by routinely communicating with them using internet applications so as to encourage them to internalize the use of internet systems as an automatic response. For example, instead of using traditional phone calls, e-Marketplace system providers should endorse the use of an online chat system as a primary medium for customer support and any paper or facsimile based correspondence should be shifted to email or digital invoice systems.

Facilitating conditions has proven to be a strong predictor for behavioural intention and actual system use, and this implies that e-Marketplace system providers should provide excellent customer support systems, aligned with results from Abu-ELSamen et al. (2012), so that all merchants feel self-assuredly secure when running their business in an online environment, especially when they have problems and need assistance.

In order to establish the external validity of the results of this study, especially the new findings, there is a need for the study to be repeated particularly in light of the fact that almost half of the respondents (42 percent) are only high school graduates, which may answers for some of the questions. Following studies may endeavour to target individuals with education levels above only high school graduate in order to be able to obtain better informed answers to the questions associated with complex constructs such as entrepreneurial self-efficacy and personality traits. Furthermore, the study did not place any limitation on the distinction between a fully featured sophisticated e-Marketplace system (with financial, marketing support and customer support modules) and a simple e-Marketplace which only acts as an online trading post where transaction were done manually. These two types of e-Marketplace systems may need to be studied separately.

References

- Abu-ELSamen, A.A., Akroush, M.N., AL-Sayed, A.L., & Hasan, H.J., (2012). An empirical model of customer service quality and customer loyalty in an international electronics company, *International Journal of Electronic Business*, 10(1), 39-63.
- Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behavior*. Englewood Cliffs, NJ: Prentice-Hall.
- Ardichvili, A., Cardozo, R., & Ray, S. (2003). A theory of entrepreneurial opportunity identification and development. *Journal of Business Venturing*, 18(1), 105–123.
- Badrinarayanan, V., & West, V. L. (2010). Technology Adoption in SMEs: A Strategic Posture Matrix and a Research Agenda. *Journal of Business and Entrepreneurship*, 22(1), 55–68.
- Bandura, A., (1982). Self-efficacy mechanism in human agency. *American Psychologist*, 37, 122-147.
- Barrick, M. R., & Mount, M. K. (1991). The Big Five personality dimensions and job performance: A meta-analysis. *Personnel Psychology*, 44, 1–26.
- Barrick, M. R., Mount, M. K., & Judge, T. A. (2001). Personality and performance at the beginning of the new millennium: What do we know and where do we go next? *International Journal of Selection and Assessment*, 9, 9–30.
- Bhave, M. P. (1994). A process model of entrepreneurial venture creation. *Journal of Business Venturing*, 9(3), 223–242.
- Boyd, N. G., & Vozikis, G. S. (1994). The influence of self-efficacy on the development of entrepreneurial intentions and actions. *Entrepreneurship Theory and Practice*, 18, 63–90.
- Brown, I., & Jayakody, R. (2008). B2C e-Commerce Success: a Test and Validation of a Revised Conceptual Model. *The Electronic Journal Information Systems Evaluation*, 11(3), 167–184.
- Bull, I., & Willard, G. E. (1993). Towards a theory of entrepreneurship. *Journal of Business Venturing*, 8(3), 183–195.
- Ciavarella, M. A., Buchholtz, A. K., Riordan, C. M., Gatewood, R. D., & Stokes, G. S. (2004). The Big Five and Venture Survival: Is there a linkage? *Journal of Business Venturing*, 19(4), 465–483.
- Chen, C. C., Greene, P. G., & Crick, A. (1998). Does Entrepreneurial Self-Efficacy Distinguish Entrepreneurs from Managers? *Journal of Business Venturing*, 13, 295–316.
- Chwolka, A., & Raith, M. G. (2012). The value of business planning before start-up: A decision-theoretical perspective. *Journal of Business Venturing*, 27(3), 385–399.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences (2nd ed.)*, Academic Press, New York.
- Compeau, D. R., & Higgins, C. A. (1995). Computer Self-Efficacy: Development of a Measure and Initial Test. *MIS Quarterly*, 19(2), 189–211.
- Costa, P. T., Jr., & McCrae, R. R. (1992). *Revised NEO Personality Inventory (NEO-PI-R) and NEO Five Factor Inventory (NEO-FFI) professional manual*. Odessa, FL: PAR.
- Davis, F. D. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of IT. *MIS quarterly*, 13(3), 319–339.
- Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User Acceptance Of Computer Technology : A Comparison Of Two. *Management Science*, 35(8), 982.
- Digman, J.M. (1990). Personality structure: Emergence of the five-factor model. *Annual Review of Psychology*, 41, 417-440.

- Drnovsek, M., Wincent, J., & Cardon, M. S. (2010). Entrepreneurial self-efficacy and business start-up: developing a multi-dimensional definition. *International Journal of Entrepreneurial Behaviour & Research*, 16(4), 329–348.
- Eikebrokk, T. R., & Olsen, D. H. (2007). An empirical investigation of competency factors affecting e-business success in European SMEs. *Information & Management*, 44(4), 364–383.
- Forbes, D. P. (2005). The Effects of Strategic Decision Making on Entrepreneurial Self-Efficacy. *Entrepreneurship Theory and Practice*, 29(5), 599–627.
- George, D., Mallery, P., (2003). *SPSS for Windows step by step: A simple guide and reference. 11.0 update*, Allyn and Bacon, Boston.
- Grandon, E. E., & Pearson, J. M. (2004). Electronic commerce adoption: an empirical study of small and medium US businesses. *Information & Management*, 42(1), 197–216.
- Gruber, M. (2007). Uncovering the value of planning in new venture creation: A process and contingency perspective. *Journal of Business Venturing*, 22(6), 782–807.
- Grandon, E.E. & Pearson, J.M., (2004). Electronic commerce adoption: an empirical study of small and medium US businesses, *Information & Management*, 42, 197-216.
- Hisrich, R.D., & Brush, C.G. (1986). *The Women Entrepreneur*. Lexington, MA: Lexington Books.
- Igbaria, M., & Iivari, J. (1995). The Effects of Self-efficacy on Computer Usage. *Journal of Management Science*, 23(6), 587–605.
- Kim, S. S., Malhotra, N. K., & Narasimhan, S. (2005). Two Competing Perspectives on Automatic Use: A Theoretical and Empirical Comparison. *Information Systems Research*, 16(4), 418–432.
- Kline, R.B., (2005). *Principles and Practice of Structural Equation Modeling*, Guilford Press, London.
- Lee, J. (2004). Discriminant Analysis of Technology Adoption Behavior: A Case of Internet Technologies in Small Business. *Journal of Computer Information Systems*, 57–67.
- Limayem, M., & Hirt, S. G. (2003). Force of Habit and Information Systems Usage: Theory and Initial Validation. *Journal of the Association for Information Systems*, 4(1), 65–96.
- Limayem, M., Hirt, S. G., & Cheung, C. M. K. (2007). How Habit Limits The Predictive Power of Intention: The Case of Information Systems Continuance. *MIS Quarterly*, 31(4), 705–737.
- Ma, H., & Tan, J. (2006). Key components and implications of entrepreneurship: A 4-P framework. *Journal of Business Venturing*, 21(5), 704–725.
- McCloskey, D. (2004). Evaluating Electronic Commerce Acceptance with the Technology Acceptance Model. *Journal of Computer Information Systems*.
- McRae, R. (1987). Creativity, divergent thinking and openness to experience, *Journal of Personality and Social Psychology*, 52, 1258–1265.
- McCrae, R. R., & John, O. P. (1992). An Introduction to the Five-Factor Model and Its Applications. *Journal of Personality*.
- McElroy, J. C., Hendrickson, A. R., Townsend, A. M., & DeMarie, S. M. (2007). Dispositional Factors in Internet Use: Personality versus Cognitive Style. *MIS quarterly*, 31(4), 809–820.
- McGee, J. E., Peterson, M., Mueller, S. L., & Sequeira, J. M. (2009). Entrepreneurial Self-Efficacy: Refining the Measure. *Entrepreneurship Theory and Practice*, 33(4), 965–988.
- Mitchelmore, S., & Rowley, J. (2010). Entrepreneurial competencies: a literature review and development agenda. *International Journal of Entrepreneurial Behaviour & Research*, 16(2), 92–111.
- Mount, M. K., & Barrick, M. R. (1995). The Big Five personality dimensions: Implications for research and practice in human resources management. In G. R. Ferris (Ed.), *Research in personnel and human resources management*, 13, 153–200. Greenwich, CT: JAI Press.

- Parrish, B. D. (2010). Sustainability-driven entrepreneurship: Principles of organization design. *Journal of Business Venturing*, 25(5), 510–523. doi:10.1016/j.jbusvent.2009.05.005
- Ries, E. (2011). *The Lean Startup: How Today's Entrepreneurs Use Continuous Innovation to Create Radically Successful Businesses*. Crown Business. English.
- Sahney, S. (2008). Critical Success Factors in Online Retail – An Application of Quality Function Deployment And Interpretive Structural Modeling. *International Journal of Business and Information*, 3(1), 144–163.
- Schumpeter, J. M. (1934). *The Theory of Economic Development*. Cambridge, MA: Harvard University Press.
- Schumpeter, J. M. (1942). *Capitalism, Socialism and Democracy*. New York: Harper and Row.
- Shane, S. (2003). *A general theory of entrepreneurship: The individual-opportunity nexus*. Edward Elgar Publishing. Cheltenham, U.K.
- Sobel, M.E. (1986). *Some new results on indirect effects and their standard errors in covariance structure models*, In N. B. Tuma (Ed.), *Sociological methodology*, San Francisco, Jossey-Bass, 159-186.
- Song, M., Wang, T., & Parry, M. E. (2010). Do market information processes improve new venture performance? *Journal of Business Venturing*, 25(6), 556–568.
- Straub, D., Boudreau, M-C., Gefen, D., (2004). Validation Guidelines for IS Positivist Research, *Communications of the Association of Information Systems*, 13, 380-427.
- Triandis, H. C. (1980). Values, Attitudes, and Interpersonal Behavior. *Nebraska Symposium on Motivation, 1979: Beliefs, Attitudes, and Values*, Lincoln, NE: University of Nebraska Press, 195-259.
- Venkatesh, V., Morris, M., & Davis, G. (2003). User acceptance of information technology: Toward a unified view. *MIS quarterly*, 27(3), 425-478.
- Vliet, P. J. A. V., & Pota, D. (2001). Understanding Online Retail: A Classification of Online Retailers. *Journal of Computer Information Systems*, 41(2), 23–28.
- Wu, P. F. (2012). A Mixed Methods Approach to Technology Acceptance Research. *Journal of the Association for Information Systems*, 13(3), 172–187.
- Yeung, W. L., & Lu, M. (2004). Gaining Competitive Advantages Through A Functionality Grid for Website Evaluation. *Journal of Computer Information Systems*.
- Zhao, H., & Seibert, S. E. (2006). The big five personality dimensions and entrepreneurial status: a meta-analytical review. *The Journal of applied psychology*, 91(2), 259–71.
- Zwass, V. (1996). Electronic commerce: structures and issues. *International Journal of Electronic Commerce*. 1(1), 3-23.