SEM STATISTICAL ANALYSES IN MANAGEMENT STRATEGIES

Ren Gui[1], KaiMan Zeng[2], NanSong Wu[2] and Liang Huang[3]

[1]San Jose City College, Business and Information Technology Management School, CA, USA
[2]Department of Electrical Engineering, Arkansas Tech University, Russellville, Arkansas, USA
[3]Department of Information & Electronic Engineering, Zhejiang Gongshang University, HangZhou, ZheJiang, China

ABSTRACT

This paper was to analyse what factors will affect online shoppers' purchase intention in the e-business environment. This paper discussed a number of conceptual models and following hypotheses. Two typical e-business companies (Alibaba and Amazon) were ideal comparative analysis models. Structural Equation Modelling (SEM) and the factor analysis were adopted for statistical and empirical analyses. The results showed highly positive correlations among the identified factors. The factors indicated a large innovative performance influence. The factors also verified the huge impact in the sustain ability development. These results may provide some vision on how e-business companies can win a competition and increase their profit.

KEYWORDS

E-commerce, sustainable innovations, sustainability, management strategies, e-purchase intention, EFA, SEM, path analysis.

1. INTRODUCTION

As organizations go online, they have to decide which e-business models best suit their goals. A business model is defined as the organization of products, services and information flows, serving as a source of revenues and benefits for suppliers and customers [1][2]. The concept of an e-business model is the same as that of traditional businesses but used in the online context [3][4]. The various types of business models determine marketing strategies [5][6]. For instance, as Alibaba entered into the North American territory, or when Amazon penetrated into the Asian markets, the innovativeness, or the adoption of innovations into their market strategies, varied [7] Wei Cai et al. obtained some numerical results and plotted the optimal energy consumption and efficiency of the medical device, which indicates that the optimal size of those device topology [8].

A marketing strategy is based on customers' behavior expected in a certain market [8][9]. In order to understand the customers and their buying behavior, a process of segmenting and positioning is needed [10][11]. This process consists of the three main activities: segmenting, targeting and positioning. In the present study, the author mainly focuses on two of them: segmenting and positioning [12][13]. Also, factors that influence the consumers' purchase intention are many, e.g., environmental elements, products' life cycle, competitive pressures, patents, R&D funding and organizational structure [14][15]. While some researchers have focused on either marketing strategies or innovation adoptions, surprisingly little research has

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been conducted on the correlations between those two factors and their influence on consumers' purchasing behaviour [16][17][18].

Some researchers have explored the theoretical foundations of value creation in e-business by examining how American and European e-businesses that have recently become publicly-traded corporations create value. Others have found that in e-business new value can be created while transactions are enabled[19][20][21]. Based on the rich data obtained from case studies and informed by theories in entrepreneurship and strategic management, these researchers have developed models on the sources of value creation. Some of these models suggest that the value-creating potential of e-businesses hinges on four interdependent dimensions: efficiency, complementarities, lock-in, and novelty [22][23][24]. Studies based on these models suggest that no single entrepreneurship or strategic-management theory can fully explain the value-creating potential of an e-business. Rather, an integration of these theoretical perspectives is needed. To facilitate such an integration, some scholars offer the business-model construct as a unit of analysis for future research on value creation in e-business[25][26]. A business model depicts the design of transactional content, structure, and governance so as to create value through the exploitation of business [27][28][29]. Some papers propose that a firm's business model is an important locus of innovation opportunities and a crucial source of value creation for itself and its suppliers, partners, and customers. However, such models have delineated different effects [30][31][32].

Hassan and Stephen (2005) describes segmenting as the process of dividing the market into segments based on customers' characteristics and needs[33][34]. The main segmenting activity consists of four parts: determining who the actual and potential customers are, identifying segments, analyzing the intensity of competitors in the market, and selecting the attractive customer segments [35][36]. It is well known that a company is almost never alone in a market--competitors have a great influence on a business's motivation to enter a certain market [37][38]. When there is a high intensity of competition, it is so hard to obtain a profitable market that a company may decide not to enter a certain market. The third step of segmenting is the first part of a competitor analysis [39]. The need for segmenting a market often arises from the fact that no markets are homogeneous. For a given product, the market can be divided into different customer groups [40].

The variables involved in this kind of segmenting are usually geographical, behavioral and demographic in nature [41][42]. When these segments are known, it is important to determine which market to target. Not every market is an attractive market to enter[43]. A little filtering is usually done in this activity, but there are more factors to take in account before targeting a certain market segment. This process is called targeting[44][45]. After the most attractive segments are selected, a company should not directly start targeting all of them -- other important factors come into play in defining a target market [46][47]. Four sub-activities form the basis for deciding on which segments will actually be targeted[48]. One other critical factor is novel performance in corporation management, which in the present study is defined as in four aspects: financial, marketing, technological and sustainable[49].

E-Commerce Platforms: In this section, the various e-commerce platforms adopted by Alibaba and Amazon will be compared and contrasted [50].

In B2B e-commerce, Alibaba has solved the one problem Amazon can't. In the platform of Alibaba's wholesale market, people everywhere can get access to the Chinese supply chain, through Alibaba.com and 1688.com [51]. This means tinkerers, builders, entrepreneurs and small business operators can order custom motors and parts from Chinese factories without having to travel there, find a scout, and forge a relationship with a manufacturer before doing business [52][53]. It opens up the world of Chinese suppliers to people who wouldn't normally have

access to it [54]. They can now buy in bulk through Alibaba, which acts as a trusted third party, vouching for the transaction [55].

Alibaba's advantage comes from its proximity to so many of the world's manufacturing assets[56]. Alibaba's wholesale revenue in fiscal 2014 was $1 billion, versus $8 billion from its retail operations [57]. The company processed a total of $296 billion's worth of sales on its platform in its last full fiscal year.

E-Commerce Strategies: In this section, different e-commerce strategies adopted by Alibaba and Amazon will be reviewed. Alibaba's business model is not capital intensive. For their last reported financial years, Amazon (December 2014) and Alibaba (March 2015) both generated nearly $6 billion cash from operations[58]. Amazon spent more than $4 billion of this cash in capital expenditure, which was primarily towards developing additional capacity for its operations. Of this, $500 million was spent towards internally used software and website development. Alibaba, on the other hand, spent only $769 million on capital expenditure in the fiscal year of 2014 (China Internet Watch, 2014). Since Alibaba's capital expenditure is primarily on its technological platforms, it is much lower than that of Amazon[59].

For the present study, eight different models were selected for an analysis of factors detected from Model 1 to Model 7.

2. BACKGROUND

2.1 MODEL 1: AN ALTERNATIVE THEORETICAL MODEL OF INNOVATIVENESS

In an attempt to understand the role of individual innovativeness in the acceptance of IT-based innovations, Fiedler and Park (2006) illustrate the relationship among innovativeness, innovation characteristics and behavioural intention (see Figure 1)[60].

As shown in Figure 1, under innovativeness there are two independent variables: adopter category innovativeness and personal innovativeness in. Another group of independent variables (usefulness, ease of use, compatibility) are found in the group of innovation characteristics. Both groups have relationship to the depend variable of behavioural intention[61].

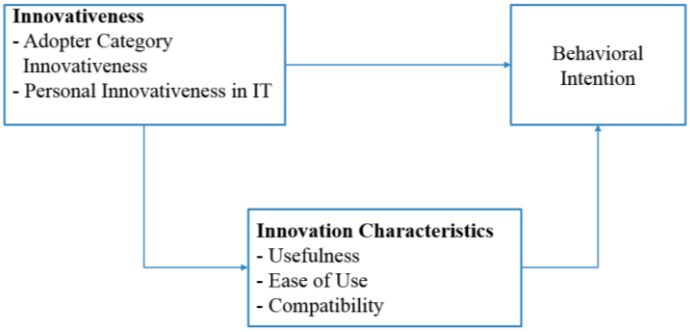

Figure 1. Alternative Theories of Innovativeness

2.2 MODEL 2: TECHNOLOGY ACCEPTANCE MODEL

In a paper on e-commerce adoptions, Lee and Ahn (2004) describe the relationship among external variables, perceived usefulness, perceived ease of use, attitudes toward using and behavioral intention (see Figure 2)[62][63].

In Figure 2, there are interrelationships among the independent variables: external variables, perceived usefulness, perceived ease of use to perceived usefulness, perceived usefulness to attitude toward using, perceived ease of use, attitudes toward using, and behavioural intention [64].

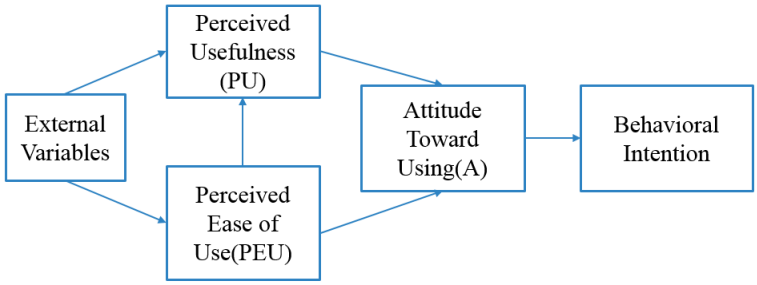

Figure 2. A Model of Technology Acceptance

2.3 Model 3: New Product Evaluation

On the topic of purchase intentions and the dimensions of innovation, Holak and Lehmann (2005) depict the complex relationships among communicability, complexity, divisibility, relative advantages, compatibility, perceived risks and purchase intention (see Figure 3)[65].

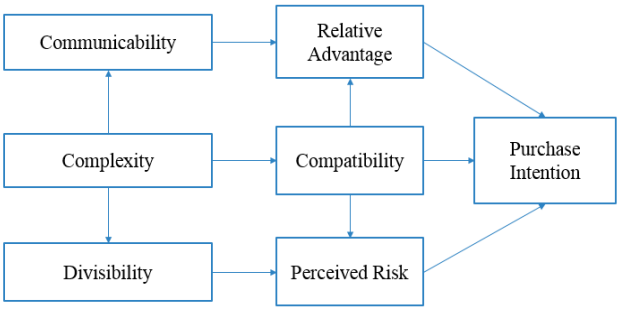

Figure 3. A Model of New Product Evaluation

As shown in Figure 3, model of new product evaluation, there are some relationship between complexity and communicability, complexity and divisibility, communicability and relative advantage, complexity and compatibility, compatibility and relative advantage, compatibility and perceived risk, relative advantage and purchase intention, compatibility and purchase intention, perceived risk and purchase intention[66].

2.4. Model 4: Extended Relationships Among Price, Information On Product Attributes And Purchase Intention

In the paper on the effect of online consumer reviews on consumer purchasing intention. Park et al. (2007) offer a detailed description of the relationships among information on product attributes, objective price, reference price, perceived quality, perceived price, perceived value and purchase intention (see Figure 4)[67].

Figure 4. Extended Relationships among Price, Information on Product Attributes and Purchase Intention.

As shown in Figure 4, there are some relationships among information on product attributes, perceived quality, objective price, perceived price, reference price, perceived price, perceived quality, perceived value, perceived price, perceived value, and purchase intention[68].

2.5 Model 5: Online Purchase Intention

In a study of user expertise in contemporary information systems, Sedera and Dey (2013) elaborate on the relationships among usability, website design, information quality, trust, perceived risks, empathy, and online purchase intention (see Figure 5). As shown in this figure, all the independent variables (usability, website design, information quality, trust, perceived risks, empathy) have some impact on the dependent variables--online purchase intention[69][70].

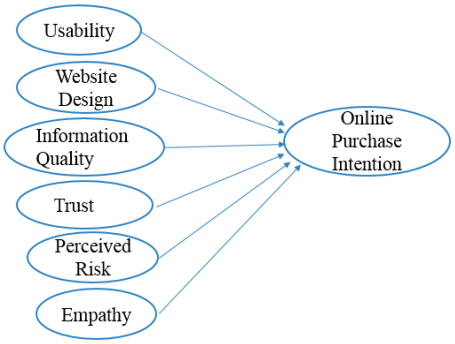

Figure 5. Variables Underlying Online Purchase Intention

2.6 Model 6: Matrix Of Management Strategies

Linking global market-segmentation decisions with strategic-position options, Hassan and Stephen (2005) illustrate the relationships among, focused strategies, geo-centric strategies, optimization strategies, localization strategies, and consumers' purchase intention, see Figure 6 as the following[71][72].

As show in Figure 6, there are inter-relationships among independent variables listed under focused strategy, those listed under optimization strategies, those under geo-centric strategies (geo-demographics, micro-demographics, attitude and usage of products), those under localization strategies , and the dependent variable: consumers' purchase intention[73].

Interestingly, targeting can only be done when segments have been defined, as these segments allow firms to analyze the competitors in the same market [74]. When the process of targeting is ended, the markets to target are selected, but the way to use marketing in these markets is not yet

defined[75]. To decide on the actual marketing strategies, knowledge of the various advantages of each segment is needed (See Figure 6).

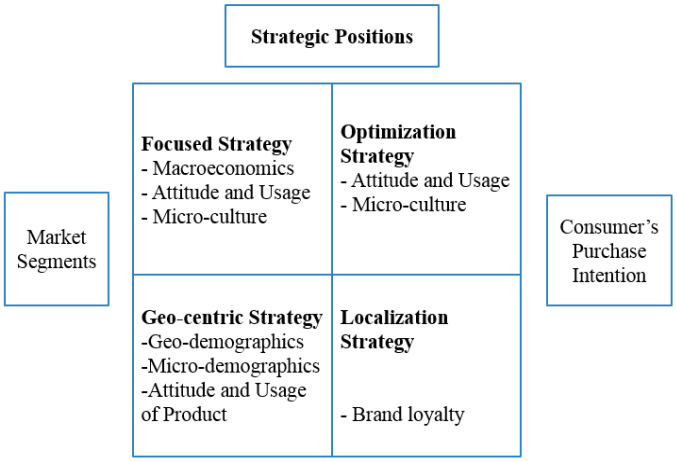

Figure 6. Matrix of Management Strategies for Consumer Marketing

The process-data model shows the concepts underlying the different activities before and during positioning. It shows how the pre-defined concepts are the basis for the positioning statement. The analyses done on the market, competitors and ability of the company are necessary for creating a good positioning statement. Aided with this statement, one can start on creating the marketing mix[76].

The process described above can be used for both business-to-customer and business-to-business marketing. Although most variables used in segmenting the market are based on customer characteristics, business characteristics can be described with the variables which are not depending on the type of buyers. There are, however, methods for creating a positioning statement for both B2C and B2B segments. One of these methods is MIPS, a method for managing industrial positioning strategies created by Hassan and Stephen[77].

2.7. Model 7: Effects Of Brands' Credibility And Prestige On Consumers' Purchasing Intention

Working on the adoption of software measures, Wallace and Sheetz (2014) explored the relationships among brand credibility, brand prestige, perceived risks, perceived value of money and consumer's purchase intention (see Figure 7)[78].

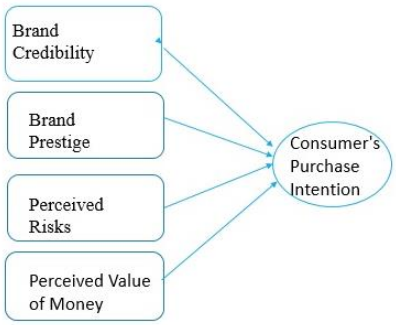

Figure 7. Effects of Brands' Credibility and Prestige on Consumers' Purchasing Intention.

As shown in Figure 7, independent variables of brand credibility, brand prestige, perceived risks and perceived value of money have effects on the dependent variables of consumers' purchase intention[79].

2.8. SUMMARY OF VARIABLES

Based on the foregoing literature review, a list of independent variables and depend variables were identified (see Table 1).

Table 1. Independent and Dependent Variables of the Present Study.

IVs group	IVs details	Reference
G1: Strategic segmentation and positioning	IV 1: Macroeconomics IV 2: Attitude and usage IV 3: Micro-culture IV 4:Geo-demographics IV 5: Brand loyalty	Hassan and Stephen (2005)
G2.a: Innovativeness	IV 5: Adopter category innovativeness IV 6: Personal innovativeness in IT	Fiedler and Park (2006)
G2.b: Innovation characteristics	IV 7: Usefulness IV 8: Ease of use IV 9: Compatibility	
G3: Attitude toward using	IV 10: Perceived usefulness IV 11: Perceived ease of use IV 12: External variables	Lee and Ahn (2004)
G4: Compatibility	IV 13: Communicability IV 14: Complexity IV 15: Divisibility IV 16: Relative advantages IV 17: Perceived risks	Holak and Lehmann (2005)
G5: Perceived value	IV 18: Information on product attributes IV 19: Objective price IV 20: Reference price IV 21: Perceived quality IV 22: Perceived price	Park et al. (2007)

2.9. A CONCEPTUAL MODEL

Based on the literature reviewed above regarding the groups of independent and dependent variables, it was assumed in the present study that there are also some relationships among the existing models and the models borne out of the qualitative interviews[80]. All the factors detected by these interviews with senior managers, clients, business owners who had had online shopping experience for no less than three years contributed to the dependent variables: e-

purchase intention[81]. Together, they brought forth a new model, a conceptual model of e-purchase intention (see Figure 8).

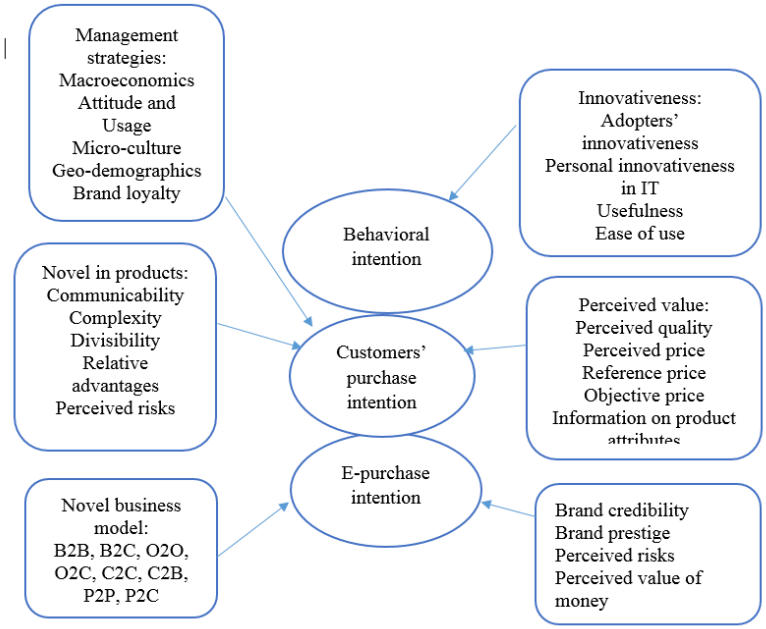

Figure 8. A Conceptual Model of E-Purchase Intention.

3.METHODS

3.1 MODEL 1: INNOVATION AND MANAGEMENT STRATEGIES

In this section, the testing of innovation and management strategies is reported [82]. For Hypothesis 1, the variables involved and the statistical methods used are now described in the following.

H1: There will be a positive relationship between innovation and management strategies.
Observed variables: Ino1 (Innovativeness), Ino 2 (innovativeness), Ino 3 (Ease of use), Ino 4 (Compatibility), Msf 1 (Focus strategies), Msm 2 (Macroeconomics), Msm 3 (Optimization), Msc 4 (Geo-centric strategies).
Latent variables: Innovation and management strategies.
Statistical methods: Structural equations model (SEM).

The following study is prepared in three segments: first one is offending estimates, the second one is constructreliability average and variance extracted, and third one is fit well. Offending estimates: Before evaluating a model's whether it can fit well, offending estimates should be finish it thoughly [83]. An offending estimate means that any parameter value that exceeds its theoretical or acceptable limits. According to Hair et al. [84], two common occurrences in this area are: a negative standard error and a standardized regression weight exceeding or being very close to 1.0. In the present study, the standard error was between.44 and .89 (see Table 2).

Table 2. Model-1 Regression Weights.

	Factor loadings	Squared multiple correlations	Error Variance	Construct reliability	Average variance extracted
Sus 1	.682	.465	.39		
Sus 2	.767	.588	.57		
Sus 3	.711	.506	.44		
Sus 4	.720	.518	.68		
Msf 1	.768	.590	.89		
Msm 2	.857	.735	.56	.8445	.4756
Mso 3	.781	.609	.82		
Msc 4	.835	.697	.76		
PR 5	.564	.318	1.52		

Note: Estimate = Unstandardized coefficients; SE = Standard errors; C.R. = Critical ratio; p = Significance: * p < .05, **p < .01, ***p < .001

The range of standardized regression weights was from .504 to .898 (see Table 3). These results show that there were no offending-estimate issues for Model 1.

Construct reliability and average variance extracted: Claes and Larcker (1981) stated that a model is acceptable when the construct reliability is greater than .7 (See Table 3).

Table 3. Model-1 Variance.

	Estimate	S.E.	C.R.	P
Ino	.200	.053	3.811	***
e11	1.196	.523	3.163	.022
e1	.898	.102	8.804	***
e2	.566	.079	7.173	***
e3	.811	.093	8.717	***
e4	.760	.098	7.729	***
e5	1.512	.149	10.180	***
e8	.504	.061	8.319	***
e9	.353	.047	7.450	***
e10	.414	.052	7.939	***

Note: Estimate = Unstandardized coefficients; SE = Standard errors; C.R. = Critical ratio; p = Significance: * p < .05, **p < .01, ***p < .001

So in the present study the average reliability for perceived risks was calculated at the suggested low limit of .70, with this formula:

$$\rho_{c1} = \frac{(\sum \lambda_1)^2}{[(\sum \lambda_1)^2 + \sum \theta_1]}$$

The construct reliability of relative benefits in Model 1 was calculated by the following formula and the numbers shown in Table 4.

$$\rho_{v1} = \frac{\left(\sum \lambda_1^2\right)}{\left[\left(\sum \lambda_1^2\right) + \sum \theta_1\right]}$$

Table 4. Model-1 Standard Regression Weights.

			Estimate
Ino 1	<---	Msf 1	.314
Ino 2	<---	Msm 2	.517
Ino 3	<---	Mso 3	.583
Ino 4	<---	Msf 4	.693
Ino 2	<---	Msf 1	.745
Ino 3	<---	Msm 2	.717
Ino 4	<---	Mso 3	.781
Ino 3	<---	Msf 1	.856
Ino 4	<---	Msm 2	.783
Ino 1	<---	Msm 2	.836
Ino 1	<---	Mso 3	.564

Note: Estimate = Standardized coefficients

The higher the average variance is extracted, the better the observed variables are in explaining the latent variable.

The average variance extracted from perceived risks was calculated at a suggested low limit of .50, with the following formula and the numbers shown in Table 5:

$$\rho_{c2} = \frac{\left(\sum \lambda_2\right)^2}{\left[\left(\sum \lambda_2\right)^2 + \sum \theta_2\right]}$$

The average variance extracted from relative benefits in Model 1 was calculated at the suggested low limit of .50 and according to Table 5 as well as this formula:

$$\rho_{v2} = \frac{\left(\sum \lambda_2^2\right)}{\left[\left(\sum \lambda_2^2\right) + \sum \theta_2\right]}$$

Table 5. Model-1 Factor Loadings, Construct Reliability and AVE.

	Factor loadings	Squared multiple correlations	Error Variance	Construct reliability	Average variance extracted
Ino 1	.781	.587	.90		
Ino 2	.856	.733	.57		
Ino 3	.783	.613	.81		
Ino 4	.836	.698	.76		
				.7623	.4952
Msf 1	.717	.515	.41		
Msm 2	.745	.554	.35		
Mso 3	.693	.480	.50		
Msc 4	.583	.340	.66		
				.8109	.4661

ρv2 is the average variance extracted from relative benefits in Model 1.

In summary, the construct reliability and average variance in Model 1 were satisfactory, both being higher than the suggested values (.70, .50, respectively)[85]. This means that the inner quality of Model 1 was acceptable for further analyses (see Table 6).

Goodness of fit: Figure 9 is a graphic representation of Model 1. For this model, chi square was 55.754 (degree of freedom = 33, CMIN/DF = 1.690, probability level = .008).

All the critical values fit into the recommended index value, with p = .008. GFI (.955), IFI (.975), TLI (.966) and CFI (.975) are greater than .9. NFI (.941) and AGFI (.924) are greater

Table 6. Model-1 Regression Weights.

			Estimate
Ino 1	<---	Msf 1	.314
Ino 2	<---	Msm 2	.517
Ino 3	<---	Mso 3	.583
Ino 4	<---	Msf 4	.693
Ino 2	<---	Msf 1	.745
Ino 3	<---	Msm 2	.717
Ino 4	<---	Mso 3	.781
Ino 3	<---	Msf 1	.856
Ino 4	<---	Msm 2	.783
Ino 1	<---	Msm 2	.836
Ino 1	<---	Mso 3	.564

Note: Estimate = Unstandardized coefficients; SE = Standard error; C.R. = Critical ratio; p = Significance: * p < .05, **p < .01, ***p < .001 than .8, RMSEA (.055) lower than .1, PCFI (.715) and PNFI (.690) greater than .5. These indexes suggest that Model 1 had a good model fit.

3.2 DISCUSSION FOR MODEL 1

In the present study, SEM was employed to analyze the details of Model 1. In the following paragraphs, certain variables are explained due to their high correlation coefficients in Figure 9.
In Figure 9, the standardized regression weight is -.81 between relative benefits and perceived risks. The standardized regression weight is significantly high between these two factors. These results suggest that relative benefits significantly influenced perceived risks. The detailed standardized regression weights about relative benefits and perceived risks will be displayed in the following paragraph.

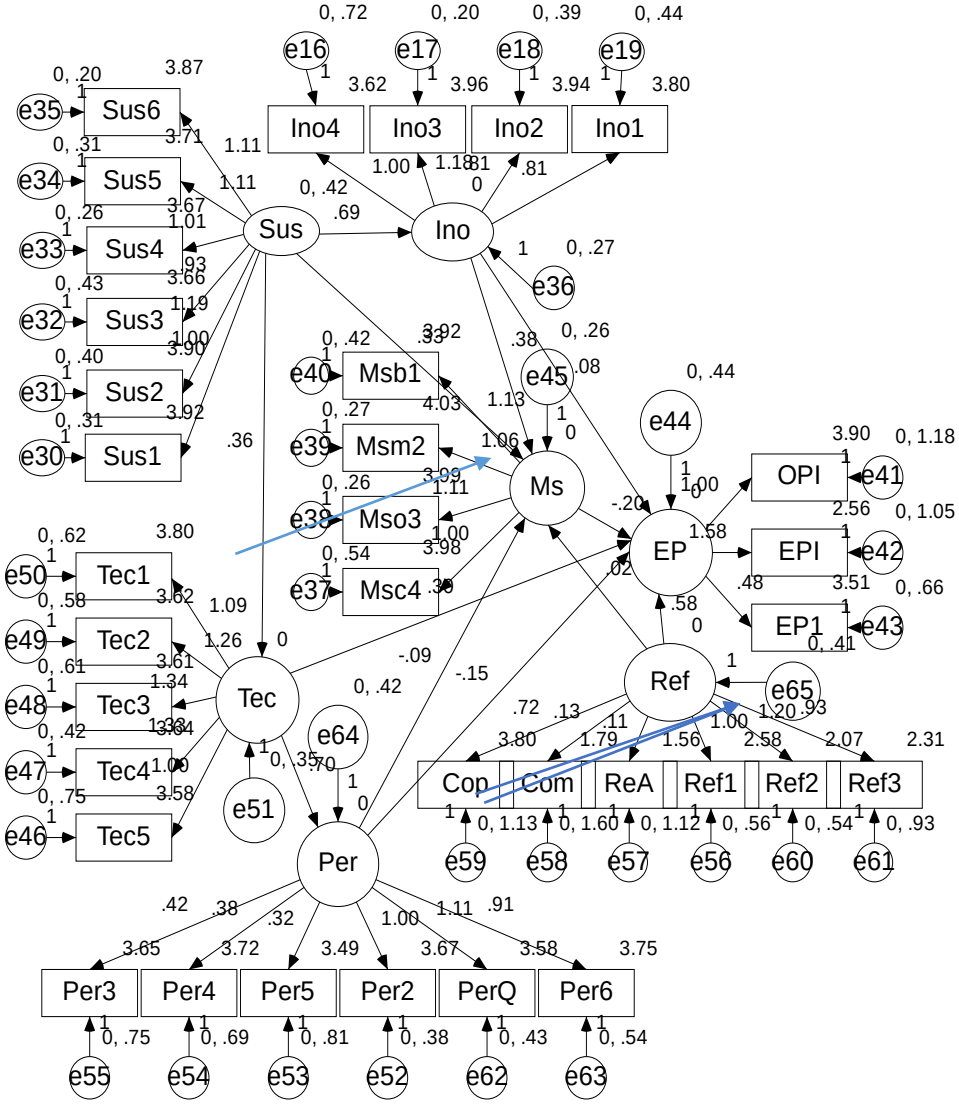

Figure 9. Model-1 Path Diagram.

Ino 1 (Innovativeness), Ino 2 (Personal innovativeness), Ino 3 (Ease of use), Ino 4 (Compatibility), Msf1 (Focus strategies), Msm 2 (Macroeconomics), Msm 3 (Optimization), Msc4 (Geo-centric strategies) were interrelated, and personal innovativeness in IT was the most influential variable for focus management strategies[86].

3.3 MODEL 2: TECHNOLOGICAL EFFICIENCY AND PERCEIVED VALUE

This section presents the testing of the causal relationship between relative benefits and behavioral intention in using mobile banking[87][88]. For Hypothesis 2, the variables involved and the statistical methods used are described in the following[89]:

All of the standardized regression weights are below 1.0[90]. Thus, it is clear that the offending estimates did not occur in Model 2[91][92]. Clearly, then, the results on offending estimates are acceptable for Model 2[93][94]. Construct reliability and average variance extracted: Claes and Larcker [95], indicated that a model is acceptable when the construct reliability is greater than .7 and that the Average Variance Extracted (AVE) needs to be larger than .5 to be acceptable[96].

Table 7. Model-2 Variances.

	Estimate	S.E.	C.R.	P
Per	.216	.054	4.037	***
e12	.380	.071	5.337	***
e1	.642	.071	9.058	***
e2	.860	.097	8.893	***
e3	.669	.073	9.188	***
e4	.446	.048	9.317	***
e5	.597	.067	8.903	***
e6	.359	.039	9.316	***
e7	.532	.054	9.849	***
e8	.627	.067	9.415	***
e9	.484	.057	8.459	***
e10	.377	.046	8.237	***
e11	.449	.052	8.704	***

Note: Estimate = Unstandardized coefficients; SE = Standard errors; C.R. = Critical ratio; p = Significance: * p < .05, **p < .01, ***p < .001

In the present study, the construct reliability for behavioral intention was calculated at the suggested low limit of .70 [97], with this formula (See Table 8)[98]:

$$\rho_{c1} = \frac{(\sum \lambda_1)^2}{[(\sum \lambda_1)^2 + \sum \theta_1]}$$

Table 8. Model-2 Standardized Regression Weights.

			Estimate
Tech 1	<---	Per 1	.711
Tech 2	<---	Per 2	.537
Tech 3	<---	Per 3	.610
Tech 4	<---	Per 4	.708
Tech 1	<---	Per 5	.724
Tech 2	<---	Per 6	.688
Tech 3	<---	Per 1	.738
Tech3	<---	Per 2	753
Tech 4	<---	Per 3	.725
Tech 1	<---	Per 4	.710
Tech 2	<---	Per 5	.752
Tech 3	<---	Per 6	.710

Note: Estimate = Standardized coefficients

3.4 DISCUSS FOR MODEL 2

The construct reliability for relative benefits in Model 2 was calculated at the suggested low limit of .70 [99], according to Table 9 and the following formula

Table 9. Model-2 Factor Loadings, Construct Reliability and AVE.

	Factor loadings	Squared multiple correlations	Error variance	Construct reliability	Average variance extracted
Per 1	.738	.545	.64		
Per 2	.753	.567	.86		
Per 3	.725	.525	.67		
Per 4	.710	.504	.45		
Per 5	.752	.566	.60		
Per 6	.710	.504	.36		
				.8432	.4728
Tec 1	.688	.474	.45		
Tec 2	.724	.524	.38		
Tec 3	.708	.501	.48		
Tec 4	.610	.373	.63		
				.8121	.4664

ρc2 is the construct reliability for relative benefits in Model 2. Let λ2 be the standardized loadings for relative benefits [100]. Let θ2 be the error variance for relative benefits. Based on the data in Table 4-21, the construct reliability for relative benefits is shown in Model 2[101].

The average variance extracted from behavioral intention was calculated at the suggested low limit of .50, with this formula [102][103]:

$$\rho_{v1} = \frac{\left(\sum \lambda_1^2\right)}{\left[\left(\sum \lambda_1^2\right) + \sum \theta_1\right]}$$

ρv1 is the average variance extracted of behavioral intention [104]. Based on the data in Table 9, the average variance extracted of behavioral intention is 482 [105].

The average variance extracted from relative benefits in Model 2 was calculated at the suggested low limit of .50, with this formula [106]:

$$\rho_{v2} = \frac{\left(\sum \lambda_2^2\right)}{\left[\left(\sum \lambda_2^2\right) + \sum \theta_2\right]}$$

ρv2 is the average variance extracted from relative benefits in Model 2[107]. Based on the data in Table 9, the average variance extracted from relative benefits in Model 3 is .4771 [108].

Goodness of fit: For this model, chi square is 105.071 (degree of freedom = 43, CMIN/DF = 2.444, probability level = .000) [109]. All the critical values fit into the recommended index value with p = .000. GFI (.920), IFI (.941), TLI (.923) and CFI (.940) were greater than .9; NFI (.904) and AGFI (.877) were greater than .8. These indices clearly show that Model 2 had a good model fit [110][111].

In summary, the construct reliability and average variance extracted in Model 2 were considered satisfactory as both were much higher than the suggested values (.70 and .50, respectively) [112]. This suggests that the inner quality of Model 2 was acceptable and deserving further analyses (See Table 10) [113].

Table 10. Model-2 Regression Weights.

	Factor loadings	Squared multiple correlations	Error Variance	Construct reliability	Average variance extracted
Per 1	.738	.545	.64		
Per 2	.753	.567	.86		
Per 3	.725	.525	.67		
Per 4	.710	.504	.45		
Per 5	.752	.566	.60		
Per 6	.710	.504	.36		
				.8432	.4728
Tec 1	.688	.474	.45		
Tec 2	.724	.524	.38		
Tec 3	.708	.501	.48		
Tec 4	.610	.373	.63		
				.8121	.4664

Note: Estimate = Unstandardized coefficients, SE = Standard errors, C.R. = Critical ratio, p = Significance: * p < .05, **p < .01, ***p < .001

4. CONCLUSIONS

Results focused on data analyses are systematically presented [114]. An empirical factor analysis was expended to investigate the sustainable innovation effects in e-purchase management strategies [115][116]. Consequently, SEM was utilized to build a model for sorting out the individual models interrelationships [117][118]. All the above hypotheses tested with SEM, some results had numerical significance and, therefore, were accepted [119][120].

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AUTHOR S

Dr. Ren now is the Adjunct Faculty in San Jose City College, teaching CIS60 System Analysis and Design, with Bachelor of Management from Anhui University China, Master of Business Administration from School of Business and Law Victoria University Melbourne, Australia, and Doctor of Business Administration from Business and Information Technology Management School in Northwestern Polytechnic University, Fremont California USA.She is Hi-tech enthusiast and self-upgraded to latest software skills, SAP, SAS, SPSS and Amos in quantitative research method, self-learning on HTML, C++, Java, Python, and Swift code, also she has research interests on visualized data analysis by R, and robotics EV3 programming etc.

Liang huang is an associate Professor, Electronics College of Zhejiang Gongshang University. He got phd from Zhejiang University china, and finished his postdoc at Polytechnic of Turin, Italy, and Hanyang University, Seoul, Korea. His research is mainly focus on Research on: Intelligent Control; Electrical Robotics.