Structural Equation Modeling of Factors Affecting of Usage of Social Commerce for Online Shop Entrepreneurs

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ABSTRACT

The objectives of this research are (1) to examine the construct validity for the usage of social commerce model (2) to analyze the confirmatory factor analysis of factors affecting usage of social commerce (3) to analyze the effect of cost factors, convenience factors, competition factors, and entrepreneurial Intention factors on the usage of social commerce. Samples were 302 online shop entrepreneurs. Data were collected by an electronic questionnaire, which was sent by email. This research uses Structural Equation Modelling (SEM) in the data analysis. The results showed that structural equation model corresponded to empirical evidence in a good level with the χ^2/df = 1.668, p-value = .000, GFI = .920, RMSEA = .047. The result of confirmatory factor analysis showed that cost, convenience, and competition were causal factors with usage of social commerce of online shop entrepreneurs are statistically significant at the 0.05 level. Competition affected entrepreneurial intention and usage of social commerce of online shop entrepreneurs but cost and convenience did not affected entrepreneurial intention and usage of social commerce at the 0.05 level of significance.

Keywords: Structural Equation Modeling, Social Commerce, Entrepreneurs

INTRODUCTION

The progress in information technology makes the electronic business entrepreneurial to be most popular at present. Consumers can use internet to access to products, services and information at any time of day or night from around the world. The cause of severe competition condition among lots of entrepreneurs, who are interested in electronic business startup (Kasikorn research center, 2016). Social commerce is a subset of e-commerce that involves using social media to assist in e-commerce transactions and activities, and also supports social interactions and user content contributions (Liang, Ho, Li and Turban, 2011). The opportunities associated with social commerce have generated significant interest for both researchers and practitioners (Zhao et. al., 2013). Therefore, it can be used as guideline on utilization of competitive advantage for small business entrepreneurs, who can be a backlash against what is a higher rate of national economic growth. Also have positive effects on employment retention and earnings for certain population.

OBJECTIVES

1. To examine the construct validity for the usage of social commerce model.
2. To analyze the confirmatory factor analysis of factors affecting usage of social commerce.
3. To analyze the effects of cost factors, convenience factors, competition factors, and entrepreneurial Intention factors on the usage of social commerce.

BENEFITS

1. To be used as guideline on utilization of competitive advantage for online shop entrepreneurs.
2. To provide the in information regarding an investment strategy and to increase opportunities for the start up
3. The entrepreneurs can be used as guideline to enhance their usage of social commerce skills efficiency.

LITERATURE REVIEW

A literature review was focused on five factors; namely; usage of social commerce, cost, convenience, competition, entrepreneurial intention, all of which were chosen as characteristics of the social commerce previous researches.

Social Commerce

Social commerce as commerce activities mediated by social media. Many social commerce sites are actually more of offsite social commerce sites. Online commerce sites use SNS to attract customers or to let them share their opinion about the product or service on the separated SNS sites (Gurty and Zhang, 2011). The emphasis in Stephen and Toubia's (2010) definitions on connecting individual sellers or customers implies that social commerce and social shopping are i2i (individual-to-individual) or C2C (customer-to-customer). However, some consider social shopping as both C2C and B2C (business-to-customer).

Cost

Morteza et al. (2011) suggests that cost of information system adoption is another important technological factor influencing information system adoption within SMEs (Tan et al., 2009). Limited financial resource compel SMEs to be cautious about their investment and capital spending, thus, only SMEs having adequate financial resources would regard adoption of information system as feasible project to undertake (Thong and Yap, 1995).

Convenience

Min (2014) studied convenience of use or ease of use generally pertains to ease of use and information search (Yoo and Donthu, 2000). Convenience of use is one of the important to choose online shopping mall as well as information quality (Kim and Lim, 2011). Convenience of use was proven as one of the most important quality criteria of an internet shopping site that influences consumer attitudes and behaviors (Yoo and Donthu, 2000)

Competition

One reason for SMEs to adopt and use e-commerce is the firms' desire and need to stay competitive and innovative as a necessity for their survival (Pearson and Grandon, 2006). It seems rational to believe that the competitive pressure impacts the adoption of e-commerce applications when SMEs perceive that these technologies may strengthen their competitive position and assist them to achieve superior firm performance (Grandon and Pearson, 2004). It has been suggested that by using information system, SMEs may indeed be able to change the rules of competition (Morteza et al., 2011).

Entrepreneurial Intention

Entrepreneurial intention is defined as a process of information-searching which can be used to achieve a new venture (Katz and Garner, 1988). People with intention to start a new venture are more ready and have better progress in running a new business rather than those without it (Narul, Rokhima and Tur, 2010)

HYPOTHESES

H1: Cost will be affecting on entrepreneurial intention
H2: Convenience will be affecting on entrepreneurial intention
H3: Competition will be affecting on entrepreneurial intention
H4: Entrepreneurial intention will be affecting on usage of social commerce

METHODOLOGY

This samples of this research were online shop entrepreneurs in Thailand. Determining sample size requirements for structural equation modeling (SEM) is 200 or larger, for instance the model is not complex (Hair et al., 2006). Therefore convenience sampling is used. The data were collected from online questionnaires, which were sent by e-mail from July 1 to November 30, 2016. Finally, 302 responses were collected. The questionnaire items are shown in Table 2. A five-point Likert scale ranging from 5 to 1, that is used in order to show the levels of the indicators of factors. Thus, (1) Cost factor ranging from 1 mean lowest cost to 5 mean highest cost. (2) Convenience factor ranging from 5 mean least convenient to 5 mean most convenient. (3) Competition factor ranging from 1 mean lowest competitive to 5 mean highest competitive. Entrepreneurial intention ranging from 1 mean least intention to 5 mean most intention. Usage of social commerce ranging from 1 mean least using to 5 mean most using. The results for the reliability test show a Cronbach's α value ranging from 0.750 to 0.885 (Table 2). This indicates an internal consistency with the α value of more than 0.70, thus the variables converge are good measures for the concept studies (Hair et al., 2006). This research uses Structural Equation Modeling (SEM) in the data analysis.

RESULTS

The results showed that structural equation model corresponded to empirical evidence in a good level with the $\chi 2/df$ was 1.668 lower than 5.0, which was a good fit (Loo and Thorpe, 2000). The root mean squared approximation of error (RMSEA) was 0.047 lower than 0.05, which was a good model. Goodness of fit index (GFI) was 0.920 that was greater than 0.90 and can accept the model (Hair el at., 2006). The other fit index were all satisfactory that comparative fit index (CFI) was 0.960, the normed fit index (NFI) was 0.907, incremental fit

index (IFI) was 0.960 and Tucker-Levis index (TLI) was 0.953. These results suggest that the structural model fitted the data very well.

Table 1: Summary of goodness of fit (GOF) indices of Confirmatory factor analysis

Goodness of fit statistics	Suggested statistics	Measurement model before modifications	Measurement model after modifications
$\chi 2/d$	< 5.00 (Loo and Thorpe, 2000)	1.932	1.668
Root mean square error of approximation (RMSEA)	< 0.08 (Hair et al., 1998)	.056	.047
Goodness of fit index (GFI)	> 0.90 (Hair et al., 2006)	.896	.920
Comparative fit index (CFI)	$\geq$ 0.90 (Hair et al., 2006)	.936	.960
Normed Fit index (NFI)	$\geq$ 0.90 (Hu and Bentler, 1999)	.878	.907
Incremental Fit index (IFI)	$\geq$ 0.90 (Hair et al., 2006)	.937	.960
Tucker-Lewis index (TLI)	$\geq$ 0.90 (Hair et al., 2006)	.927	.953

The result of Confirmatory Factor Analysis showed the factor loading, the standardized coefficient estimates are between 0.609 and 0.930 (Table 2), which are good since they are above 0.6, and all constructs are significant at p-value was 0.001. This shows that the items and constructs measured fit well with the data. Therefore, it is suggested that these five constructs with 20 items can be used to measure the factors affecting the usage of social commerce for online shop entrepreneurs in Thailand.

Table 2: Loading factors of Confirmatory factor analysis, Cronbach's Alpha and Descriptive statistics

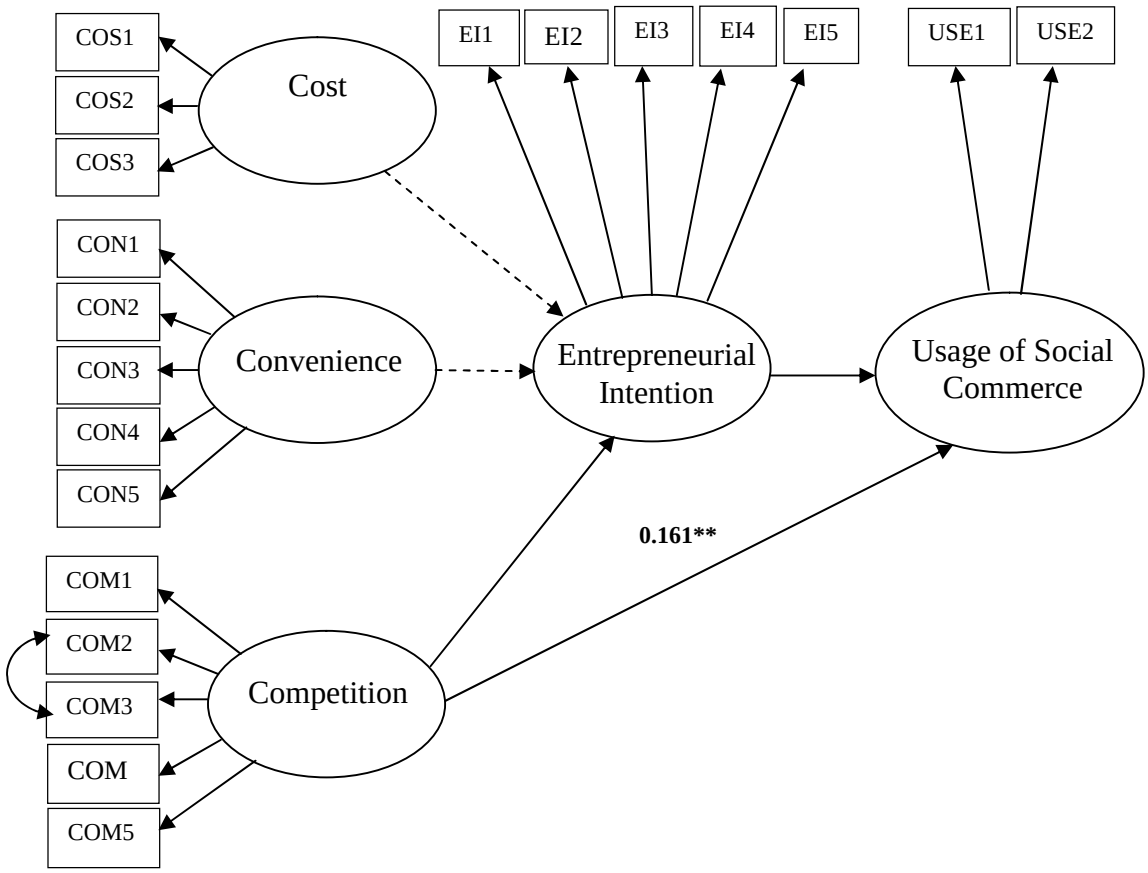
Latent constructs and observed indicators/items	Factor Loading	Cronbach's Alpha	Descriptive statistics	
			Mean	SD
Cost		.750	4.15	.647
COS1: Usage of social commerce is low cost for entrepreneurs	.763		4.51	.625
COS2: The amount of money and time of training for social commerce applications are less for entrepreneurs	.767		4.12	.609
COS3: The maintenance and support fees for social commerce applications are low for entrepreneurs	.609		3.83	.707
Convenience		.885	4.14	.759
CON1: Social commerce is easy to learn how to use to sell the product	.746		4.16	.724

Latent constructs and observed indicators/items	Factor Loading	Cronbach's Alpha	Descriptive statistics	
			Mean	SD
CON2: Social commerce is easy to use to sell the product	.873		4.17	.746
CON3: Social commerce is easy to become skillful at using for sale of the product	.677		4.03	.817
CON4: Social commerce is fast to correspond to customers	.737		4.17	.736
CON5: Social commerce is easy to access target customers	.868		4.19	.768
Competition		.865	4.07	.813
COM1: The rivalry among online shops in the business my online shop is operating fiercely	.836		4.16	.804
COM2: It is easy for our customers to switch to another online shop for similar products without much difficulty	.635		4.23	.729
COM3: Customers are able to easily access to several similar products which are on social commerce	.723		4.17	.825
COM4: The target customers pressure the entrepreneur to use social commerce	.805		3.95	.704
COM5: The business pressure the entrepreneur to use social commerce	.739		3.86	1.001
Entrepreneurial Intention		.831	4.10	.724
EL1: I intend to learn how to use social commerce to sell the product	.730		4.16	.676
EL2: I will definitely use social commerce to sell the product	.717		4.22	.691
EL3: I think social commerce is a good place to sell the product	.630		4.10	.761
EL4: I have access to support information to start to be an entrepreneur with social commerce	.627		4.02	.780
EL5: I have access to capital to start up with social commerce	.827		4.03	.710
Usage of Social Commerce		.804	4.20	.682
USE1: I am always use social commerce to sell the product	.736		4.38	.619
USE2: I am laborious to use social commerce to sell the product	.930		4.04	.744

The means of the five latent constructs were high, ranging between 4.07 and 4.20. Specifically, the mean of cost was 4.15, and usage of social commerce is low cost. The mean of convenience was 4.14, and usage of social commerce is very convenient. The mean of competition was 4.07, and usage of social commerce is high competition. The mean of entrepreneurial intention was 4.10, entrepreneurs have high entrepreneurial intention. The mean of usage of social commerce was 4.20, entrepreneurs use social commerce most.

The path analysis showed the results of hypotheses testing for H1 and H2 were not significant at 0.05. Cost had no effect on entrepreneurial intention (H1: path coefficient = 0.127, p-value = 0.88), not supports H1. Convenience had no effect on entrepreneurial intention (H2: path coefficient = 0.070, p-value = 0.297), not supports H2. Hypotheses testing for H3 and H4 were significant at 0.05. Competition affected on entrepreneurial intention (H3: path coefficient = 0.234, p-value =0.001), supports H3 and finding competition indirectly affected the usage of social commerce (path coefficient = 0.161). Entrepreneurial intention affected the usage of social commerce (path coefficient = 0.688, p-value = 0.001), supports H4.

Figure 1: Structural equation modeling of usage of social commerce estimation



notes: ** p = 0.05

CONCLUSION

From the result of this research, it is found that, the competition factor was directly affect the intention for business operation and indirectly affect a the application of the social commerce such that the business operating intention is the transfer factor that the online store owner show the average score for the competition factor as the good ranked ($\overline{X}$ = 4.07). That is the social commerce can support the potential of business competition (Amir and Morad, 2010)

The entrepreneurs can create competitive advantage in business competition by applying the social commerce where the customers can purchase the products through online channel, designing the system of social commerce that allows the customer to rank and post their opinions, allowing recommendation and reference about the product, letting discussion on the board, creating the online community, advertising in online community network. Analyzing the consumer buying behavior in the online network context will allow us to evaluate the impact of the factors that affect the online buying behavior in the perception of consumer on the business.

The entrepreneurs should acquire the social commerce as the instrument for increasing the business opportunity by using it to attract the intention of customer for sharing their different opinion relate to the product and service in the online community (Gurty and Zhang, 2011). Since the social commerce allow people to buy their product in anyplace and at any time by preventing them to go to the store and let them buy the product while they are either at their home by using their computer or in the car by using mobile telephone (Iamsiriwong, 2014). This time and place unlimited transaction safe time and cost of traveling and cost of energy

The entrepreneurs should develop their skill in using social commerce since the social network community create relationship and almost connect worldwide language and race. It is the system that is designed for compatible in the other systems by open the channel for making connection. Therefore the entrepreneurs can improve their skills by using this social commerce features to present product picture, detail, price, promotion both by using sound and video files in order to present their products to the target customers who are within the same network or outside the such network.

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