

Association for Information Systems AIS Electronic Library (AISeL)

PACIS 2016 Proceedings

Pacific Asia Conference on Information Systems
(PACIS)

Summer 6-27-2016

UNDERSTANDING CONSUMERS O2O BUSINESS MODEL ADOPTION

Yao-Kuei Lee

Tajen University, yklee@tajen.edu.tw

Wen-Li Li

Tajen University, lwl@tajen.edu.tw

Follow this and additional works at: <http://aisel.aisnet.org/pacis2016>

Recommended Citation

Lee, Yao-Kuei and Li, Wen-Li, "UNDERSTANDING CONSUMERS O2O BUSINESS MODEL ADOPTION" (2016). *PACIS 2016 Proceedings*. 358.

<http://aisel.aisnet.org/pacis2016/358>

This material is brought to you by the Pacific Asia Conference on Information Systems (PACIS) at AIS Electronic Library (AISeL). It has been accepted for inclusion in PACIS 2016 Proceedings by an authorized administrator of AIS Electronic Library (AISeL). For more information, please contact elibrary@aisnet.org.

UNDERSTANDING CONSUMERS O2O BUSINESS MODEL ADOPTION

Yao-Kuei Lee, Department of Marketing and Distribution Management, Tajen University, Pingtung, Taiwan, yklee@tajen.edu.tw

Wen-Li Li, Department of Computer Science and Entertainment Technology, Tajen University, Pingtung, Taiwan, lwl@tajen.edu.tw

Abstract

O2O, an acronym of online-to-offline or vice versa, is a new business model blending online retailing with offline retailing. This new model improves an existing method of shopping by either integrating the online components for traditional shoppers or the traditional shopping for Internet or mobile shoppers. Few studies have examined consumers' acceptance of new O2O business model. Therefore, this study attempts to investigate consumer acceptance of O2O business model from the status quo bias and habit perspectives that have been used to examine new system acceptance by past research. Using a sample data collected from 230 respondents, this study applies a structural equation model (SEM) to examine the relationships of the proposed research model. The results reveal that behavioural-based inertia positively impacts perceived ease of use and cognitive-based inertia positively impacts relative advantage, and consequently impacts consumers' intention to use O2O shopping. In addition, subjective norm positively impacts perceived ease of use and relative advantage, and self-efficacy positively impacts perceived ease of use. Because O2O shopping is a consumer's adoption of a new business model which involves information technologies and retailing services, this study thus provides in depth insights into enhancing the acceptance of both new information technologies and new business model. Particularly, inertia can facilitate consumers O2O shopping acceptance as opposed to inhibit new system acceptance found in past research. Perceived ease of use and relative advantage fully mediate the relationships between external variables (such as inertia, subjective norm, and self-efficacy) and O2O shopping intention. Implications are drawn for electronic commerce, mobile commerce, and retailing.

Keywords: O2O, Business Model, Inertia, Subject Norm, Self-Efficacy.

1 INTRODUCTION

Accelerated advancement in information systems (IS), communication technologies, and mobile devices has driven business model innovations during the past decade. It can be exemplified by the evolution of electronic commerce (EC) to mobile commerce and ubiquitous commerce. Business model is “the content, structure, and governance of transactions designed so as to create value through the exploitation of business opportunities” (Amit & Zott, 2001, p.501). It defines an organization’s value proposition and its approach in creating and capturing value. Business model innovation can redefine how an organization creates, delivers, and captures value from a product or service, and can be either incremental for minor changes or radical for major changes with respect to the existing business model (Velu, 2016). O2O (online to offline or vice versa) is a new business model blending online retailing with offline retailing. Enterprises incorporate a variety of offline and/or online components to design business model based on value proposition to capture the targeted market segments. Consumers can freely use the desired or selected processes of the O2O model which can be depicted by a grid of the AIDA (attention, interest, desire, and action) by Goldmann (1958) in the horizontal axle and types of channel (physical store, direct marketing, e-commerce, m-commerce, and social media) in the vertical axle. Business model can be realized through consumers shopping experience. Therefore, O2O business model acceptance refers to consumers’ intention to use O2O shopping. A typical example of “online to offline” is Groupon (Groupon.com) that uses a Web site or mobile advertisement, by offering discounts for venues such as restaurants and theater tickets, to entice consumers into making a purchase in a physical establishment. Conversely, one example of “offline to online” can be the consumers’ use of Facebook in physical stores to disseminate products information to social group members that attract people to visit and make a purchase in that store. Another example is the shopping app by Shopkick (Shopkick.com) that provides deals and rewards to shoppers at the store by partnering with major retailers and brand. Consumers can collect points (kicks) at the store for walking in, scanning products, and purchases, and redeem for gift cards of their choice. Furthermore, the strategic collaboration between an EC enterprise Alibaba (Alibaba.com) and a chained retailer Suning (Suning.com) marks a milestone that signals a further integration of online and offline retail (BusinessWire, 2016). This transformation of EC enterprises into click-and-mortar retailers is echoed by Amazon’s openings of physical bookstores (LosAngelesTimes, 2016) and presents many opportunities for a variety of O2O business models. The integration enables consumers to enjoy a more engaged omni-channel and seamless shopping experience. Consumers will be able to enjoy the vast online offerings while having convenient access to physical stores. The pendulum of business model can swing both ways between the online and offline extremes, and results in a newly optimized hybrid.

As conceptualized in service-deterministic logic (Lusch & Nambisan, 2015), customers are value co-producers and determine the value of the hybrid commerce service-delivery (O2O) model which integrates people, technology, and other internal and external service systems. O2O is implemented in a form of multichannel or omnichannel. Research stated that one segment of consumers uses mostly one channel for all shopping activities and the other segment relies on different channels at various stages (i.e., search, purchase, delivery, and post-sales) of shopping process (Frasquet, Mollá, & Ruiz, 2015). For example, consumers’ decision on using either online or offline for post-sales activities (such as inquiry, claim, and goods return) can be affected by transaction costs and channel usefulness (Liang & Huang, 1998; Teo & Yu, 2005). Also, banking consumers’ decision on moving or extending from an offline channel to an online channel can be affected by service quality (both offline channel and online channel), confirmation of offline channel performance, and relative benefits of online channel (Wang, Wang, Fang, & Chau, 2013).

Consumers’ O2O shopping acceptance encompasses integration characteristics, individual psychological traits, and social factors, thus can be explored from the perspectives of technology acceptance and service acceptance. Also coming into play is the degree of the consumer behaviour

change mandated by the integration. Technology acceptance model (TAM) posited that perceived ease of use and usefulness mediate the relationships between external variables and intention to use (Abdullah & Ward, 2016; Davis, 1989). However, other research argued that some of the external factors can directly influence intention to use for disruptive technologies that cause radical changes in usage behavior. These technologies include, e.g., e-learning (Pituch & Lee, 2006) and e-shopping (Ingham, Cadieux, & Mekki Berrada, 2015). In addition, from psychological traits perspectives, inertia negatively affects intention to use in replacing email by Google Docs to collaborate / share files among group members (Polites & Karahanna, 2012), whereas, inertia of the incumbent directly enhance consumers' loyalty to same-brand smartphone (Lin, Huang, & Hsu, 2015). Regarding social factors, subjective norm may directly and/or indirectly impact intention to use (Abdullah & Ward, 2016; Kim, Shin, & Kim, 2011; Schepers & Wetzels, 2007).

In the context of this study, intuitively online shopping can be viewed as a radical change, because the shopping processes are entirely different from the physical store shopping, which may cause user resistance. On the other hand, O2O is an integration of offline with online shopping; the online components become supplements or additions to the physical store shopping rather than a replacement as in the pure e-shopping scenario. It can thus be viewed as an incremental change to the traditional shopping. Therefore, consumers' O2O shopping acceptance relates to the degree of the integration and user behavior changes (minor or major) in comparison with the incumbent. Scant research has examined the new O2O shopping acceptance from the aforementioned perspectives. Therefore, the aims of this study were to investigate the antecedents of consumers' acceptance of the O2O shopping, especially, the role of inertia (facilitator versus inhibitor) and the direct and/or indirect relationships between social factor and intention. The O2O shopping, from a broader perspective, refers to the one that a consumer accomplishes a single shopping task via both online and offline processes and services through AIDA stages, namely attention, interest, desire, and action.

2 THEORETICAL BACKGROUND AND HYPOTHESES

Because O2O encompasses information systems and retail services, it is logical to investigate consumer acceptance of O2O shopping based on new system acceptance, e.g., the status quo bias (SQB) and habit perspectives (Polites & Karahanna, 2012). The SQB suggested that relative advantage, perceived ease of use, and subjective norm enhance users' intention to use, and inertia constrains the intention. Further, inertia is determined by incumbent system habit, sunk costs, transaction costs, and propensity to resist change. Perceived ease of use is affected by self-efficacy and experience. For this study, the above factors were investigated and the following were regarded as applicable to O2O shopping acceptance: inertia, social norm, self-efficacy, relative advantage, and perceived ease of use.

2.1 Inertia

Inertia in human behaviour generally refers to the persistency of the existing behavioural patterns unless interfered by external forces. Individual level inertia is largely characterized as a habitual attachment that is unemotional and convenience driven, or a rigid continuance of the status quo (Polites & Karahanna, 2012). From consumer perspectives, inert consumers repeat purchasing behaviour undertaken passively and without much thought, and tend to avoid learning new service processes and practices or avoid making new purchasing decisions. Inertia has been conceptualized as having cognitive and behavioural constructs (Barnes, Gartland, & Stack, 2004; Oliver, 1999; Oreg, 2003; Shiu, 2015), cognitive, affective and behavioural components (Polites & Karahanna, 2012), or only cognitive and affective elements (Lin et al., 2015).

In the study context of O2O shopping, cognitive-based inertia implies that an individual continues to use the existing shopping method though it might not necessarily be the best, most efficient or most effective way of shopping (Rumelt, 1995). Affective-based inertia occurs when an individual continues using a shopping method because it would be stressful to change, because they enjoy or feel

comfortable doing so, or because they have otherwise developed a strong emotional attachment to the current way of shopping (Barnes et al., 2004; Rumelt, 1995). In addition, behavioral-based inertia is the habitual use of an existing shopping method (Rumelt, 1995). Inertia can be an inhibitor or a facilitator. For example, inert users are constrained by the status quo of using email that results in negative influences on perceived ease of use and relative advantage, and inhibiting the use of the new Google Docs for collaborating/sharing files in group projects (Polites & Karahanna, 2012). A startup inertia was reported describing some resistance to consumer participation that auction operators face at the beginning of online group-buying auctions (Kauffman, Lai, & Ho, 2010). The above research tends to suggest that inertia of the incumbent inhibits use of new systems or services that mandate radical changes to individual behaviour. Nevertheless, inertia positively affect consumer loyalty to same-brand smartphone (Lin et al., 2015). Because a consumer's existing shopping method is part of the new O2O model, the offering of additional online services to the offline shopping processes or the incorporation of convenient access of physical stores to the online shopping naturally results in a more convenient, efficient, and effective shopping that help consumers form a higher perception of the ease of use and relative advantage of using the O2O shopping. Therefore, we hypothesize the following:

H1a: Cognitive-based inertia will positively impact the perceptions of the ease of use of the new O2O shopping.

H1b: Cognitive-based inertia will positively impact the perceptions of the relative advantage of the new O2O shopping.

H2a: Affective-based inertia will positively impact the perceptions of the ease of use of the new O2O shopping.

H2b: Affective -based inertia will positively impact the perceptions of the relative advantage of the new O2O shopping.

H3a: Behavioral-based inertia will positively impact the perceptions of the ease of use of the new O2O shopping.

H3b: Behavioral-based inertia will positively impact the perceptions of the relative advantage of the new O2O shopping.

Inertia can directly impact usage intention (Lin et al., 2015; Polites & Karahanna, 2012). It can indirectly impact intention through perceived ease of use and relative advantage (Polites & Karahanna, 2012) or via satisfaction (Lin et al., 2015) as well. Therefore, we hypothesize the following:

H1c: Cognitive-based inertia will positively impact the intention to use the new O2O shopping.

H2c: Affective-based inertia will positively impact the intention to use the new O2O shopping.

H3c: Behavioral-based inertia will positively impact the intention to use the O2O shopping.

2.2 Subjective Norm and Self-Efficacy

Subjective norm is “the degree to which an individual perceives that important others believe he or she should use the new system” (Venkatesh, Morris, Davis, & Davis, 2003, p.451). In this study, subject norm is related to how the opinions from friends, college classmates and professors, and colleagues and supervisors at work, may influence one's tendency to use the O2O shopping. Subjective norm directly impacts usage intention (Kim et al., 2011; Schepers & Wetzels, 2007). It can indirectly affect intention through perceived ease of use and usefulness in an e-learning context (Abdullah & Ward, 2016) and via usefulness and/or attitude in a mobile payment services context (Schierz, Schilke, & Wirtz, 2010). Subjective norm shows both direct and indirect effects on intention (Ingham et al., 2015; Schepers & Wetzels, 2007). The online processes of the O2O shopping may involve social marketing

through media such as Facebook or Line, which inherently imposes direct social influences on consumers' intention. Also, these suggestions from important others will go through consumers' cognitive appraisal of ease of use and relative advantage of the incumbent shopping method. For example, a physical store consumer may consider using some of the mobile shopping features such as the Shopkick app as suggested by important others, he or she may perceive that it's easy to use and offers additional benefits or values (relative advantage, e.g., convenience and gift cards) over traditional shopping. Therefore, the following hypotheses are posited:

H4: Subjective norm will positively impact the perceptions of the ease of use of the new O2O shopping.

H5: Subjective norm will positively impact the perceptions of the relative advantage of the new O2O shopping.

H6: Subjective norm will positively impact the intention to use the new O2O shopping.

Self-efficacy refers to one's personal beliefs about his or her ability to perform certain tasks successfully and is one of the two cognitive factors (outcome expectation is the other) determining individual behavior (Bandura, 1977). In the context of this study, self-efficacy is regarded as one's self-confidence in his or her ability to use O2O shopping. Self-efficacy impacts the perceptions of the ease of use of an e-learning system (Abdullah & Ward, 2016; Pituch & Lee, 2006) and the Google Docs (Polites & Karahanna, 2012). Therefore, we postulate the following hypothesis:

H7: Self-efficacy will positively impact the perceptions of the ease of use of the new O2O shopping.

2.3 Relative Advantage and Usage Intention

Behavioral intention is the outcome measure for new system acceptance or new innovation adoption in much prior research (e.g., Abdullah & Ward, 2016; Ingham et al., 2015). In this study, it is a measure of the strength of one's intention to use the new O2O shopping. Perceived ease of use is one of the two beliefs (perceived usefulness is the other) regarded as impacting technology acceptance (Davis, 1989) and refers to the extent to which a consumer expects the O2O shopping to be free of effort. Perceived ease of use predicts intention to use in a variety of contexts: the e-learning system (e.g., Abdullah & Ward, 2016; Pituch & Lee, 2006), the mobile payment services (Schierz et al., 2010), and the e-shopping (Ingham et al., 2015). In addition, it predicts relative advantage (Polites & Karahanna, 2012). Thus, we propose the following hypotheses:

H8: Perceived ease of use will positively impact the perceptions of the relative advantage of the new O2O shopping.

H9: Perceived ease of use will positively impact the intention to use the new O2O shopping.

Relative advantage is one of the attributes that explain the adoption of innovation and is the extent to which a potential adopter views an innovation as offering an advantage over previous ways of performing the same task (Rogers, 2003). In this study, the O2O shopping encompasses the online and offline elements that offer advantage compared to either the pure offline or online shopping. Relative advantage refers to the extent to which an adopter perceives the O2O shopping as being better than the shopping solely by online or in the retail stores. Relative advantage of the incumbent predicts loyalty to IT product (Lin et al., 2015). Whereas, relative advantage of the new system over incumbent predicts the adoption of innovation (Rogers, 2003) and new system acceptance (Polites & Karahanna, 2012). Therefore, we hypothesize the following:

H10: Relative advantage will positively impact the intention to use the new O2O shopping.

2.4 Research Model

We propose a research model based upon the aforementioned review of related literature, as shown in Fig. 1. The model suggested that perceived ease of use and relative advantage partially mediate the relationships between external factors such as self-efficacy, inertia, subjective norm and intention to use O2O shopping.

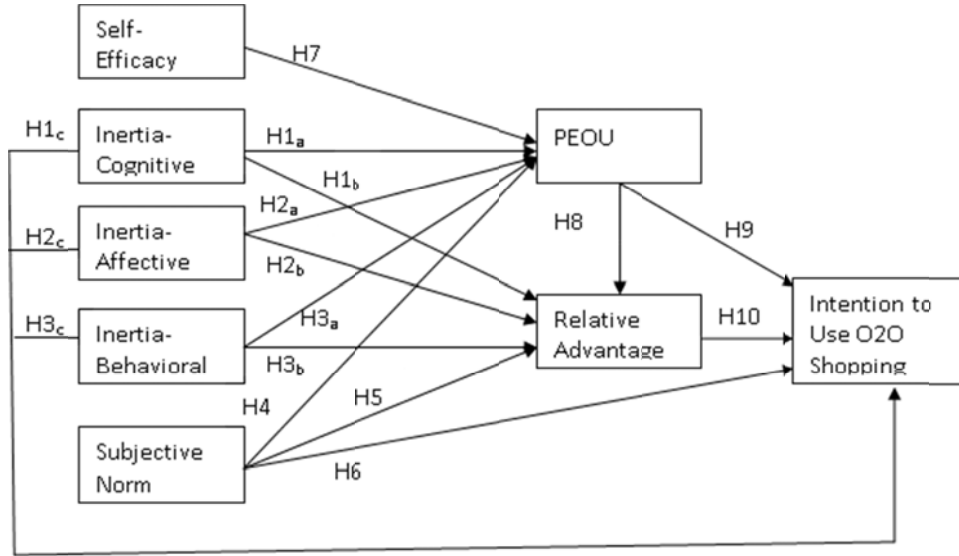


Figure 1. Research model.

3 METHODOLOGY

3.1 Sample and Procedure

We first approached college students enrolled in several marketing and management courses at a university in Southern Taiwan because the meaning of O2O shopping may not be known to general public. Although the survey questionnaire contains a brief description and two examples of O2O shopping, we further explained it together with the purpose of the study. Students who have experience in accomplishing a single shopping task via both online and offline processes and services are qualified to fill out the survey. Then, those students were also asked to approach other people (friends, colleagues at work, relatives, and someone they know) having qualified O2O shopping experience and conduct the same survey. As a result, 230 valid questionnaires were collected.

Respondents were roughly balanced between genders: 50.9% female and 49.1% male. There were more single (66.1%) than married (33.9%) respondents. They fell into the age groups of below 20 years (13.9%), 21-30 years (47%), 31-40 years (15.2%), 41-50 years (10.4%), and above 51 (13.5%). Respondents' education levels were 10.9% at graduate level, 64.8% at college level, 17.0% at high school level, and 7.4% others. Respondents' occupations varied: 42.2% students, 8.7% government services, 8.7% housewives, 22.6% services, 5.7 manufacturing, and 12.2% other occupations. Respondents' monthly incomes were in the groups of below NT\$15,000 (44.3%), NT\$15,000-NT\$30,000 (23.5%), NT\$30,000-NT\$50,000 (19.6%), and above NT\$50,000 (12.6%). Respondents reported their average monthly shopping frequency: below 2 times (50.9%), 3-4 times (35.7%), 5-6 times (8.7%), and above 7 (4.8%), and average monthly shopping expenditures: below NT\$5,000

(66.5%), NT\$5,000-NT\$10,000 (25.2%), NT\$10,000-NT\$20,000 (5.7%), and above NT\$20,000 (2.6%). Respondents indicated that they often shop at physical stores (81.7%).

3.2 Instruments

The survey questionnaire contained 22 items in the first section. Items 1 to 9 comprised questions concerning inertia (affective-based, behavioral-based, and cognitive-based). These items were adapted from prior study (Polites & Karahanna, 2012). The following 3 items comprised questions regarding subjective norm (Polites & Karahanna, 2012; Venkatesh et al., 2003). Items 13 to 15 were measuring self-efficacy (Polites & Karahanna, 2012). Then the following items measured perceived ease of use (2 items), relative advantage (3 items), and intention to use O2O shopping (2 items) respectively (Polites & Karahanna, 2012; Venkatesh et al., 2003). All measures adopted a 7-point Likert scale with anchors ranging from “strongly disagree” (1) to “strongly agree” (7). A more positive perception was indicated by higher scores.

The second section included questions about demographic data. It included questions about gender, marital status, age groups, levels of education, occupations, monthly income levels, average shopping frequency per month, average shopping expenditure per month, and the current shopping methods.

4 DATA ANALYSIS AND RESULTS

4.1 Testing Measurement Model

Confirmatory factor analysis (CFA) was performed using LISREL 9.20. An initial CFA analysis of the measurement model indicated an acceptable model fit as displayed in Table 1. Nevertheless, the residuals and modification indices were examined to identify specific areas of problematic fit. Indicator variance of each item was also examined to determine if substantial amounts were explained. As a consequence, 1 of the 22 items was eliminated. Table 1 illustrates that the revised measurement model suggested a better and adequate model fit, based on a comparison of the fit indices of the model with the initial analysis and the recommended fit index values. Reliability, convergent validity, and discriminant validity were then evaluated for the adequacy of the measurement model. The Cronbach's α , ranging from 0.887 to 0.968, exceeded 0.7, indicating satisfactory internal consistency and reliability for all constructs. The composite reliability values, ranging from 0.719 to 0.901, exceeded the acceptable level of 0.7. Convergent validity was evaluated based on two criteria suggested by (Fornell & Larcker, 1981). All item standardized factor loadings, ranging from 0.705 to 0.918, were significant and indicating an acceptable item convergence on the intended construct. The average variance extracted (AVE) values for each construct, ranging from 0.725 to 0.938 (Table 2), were all higher than 0.5, suggesting that each construct was strongly related to the set of respective indicators. These results indicated acceptable convergent validity of the measurement model research variables. As shown in Table 2, the diagonal values (the square root of AVEs) exceeded the inter-construct correlations, suggesting satisfactory discriminating validity (Fornell & Larcker, 1981). Therefore, the measurement model was acceptable.

4.2 Results of the Structural Model

The research model was evaluated using structural equation modeling (SEM). Structural model, where the three inertia factors were hypothesized to have direct effects on the intention (i.e., the partially mediated model), was found to have an acceptable fit based on the fit indices displayed in Table 1. However, the direct relationships between the three inertia factors and intention were all nonsignificant. We therefore retested a model (fully-mediated model) without these three direct relationships. The χ^2 test of the difference in fit between these two nested research models shows that there is no significant difference ($\Delta \chi^2_{(3)} = 3.61, p > 0.05$). Therefore, the fully mediated model (as shown in Fig. 2) was the resulting model for parsimonious reason. The results show that self-efficacy,

subjective norm, and behavioral-based inertia affect perceived ease of use, which together with subjective norm and cognitive-based inertia affect relative advantage, and consequently affecting O2O shopping intention.

Fig. 2 illustrates that seven direct paths exhibited a p value less than .05 indicating that seven hypotheses were supported. Among them, six direct paths displayed a p value less than .01. The explanatory power of the research model (R^2 values) was also demonstrated with 82.4%, 56%, and 72.7% of the variance of perceived ease of use, relative advantage, and intention explained respectively.

Model	χ^2	df	χ^2/df	RMSEA	SRMR	AGFI	NNFI	CFI	χ^2_{diff}	df_{diff}
			< 3.0 ^a	< .08 ^a	< .05 ^a	> .80 ^a	> .90 ^a	> .90 ^a		
Measurement										
Initial	427.52*	181	2.36	0.077	0.062	0.81	0.94	0.95		
Revised	331.96*	161	2.06	0.068	0.031	0.84	0.95	0.97		
Structural: Inertia-										
Partially mediated	333.40	163	2.05	0.067	0.031	0.84	0.96	0.97		
Fully mediated	337.01*	166	2.03	0.067	0.032	0.84	0.96	0.97	3.61	3

Note. $N = 230$. ^a Recommended values. * $p < .05$.

Table 1. Overall model fit indices for the research model.

Construct	Mean	S.D.	AVE	IAB	IBB	ICB	SN	SE	PEOU	RA	INT
IAB	5.46	1.28	.808	.899							
IBB	5.12	1.38	.725	.476	.851						
ICB	4.14	1.78	.806	-.019	.343	.898					
SN	3.69	1.79	.807	-.135	.290	.696	.898				
SE	4.65	1.67	.847	.170	.316	.370	.623	.920			
PEOU	4.42	1.67	.799	.152	.426	.525	.734	.856	.894		
RA	4.31	1.70	.840	-.006	.280	.595	.707	.541	.656	.917	
INT	4.74	1.79	.938	-.029	.226	.519	.622	.439	.535	.850	.969

Note. Diagonals (in bolds) represent the square root of the average variance extracted (AVE), and the off-diagonal entries are the factor correlations. IAB = inertia-affective based, IBB = inertia-behavioral based, ICB = inertia-cognitive based, SN = subjective norm, SE = self-efficacy, PEOU = perceived ease of use, RA = relative advantage, INT = O2O shopping intention.

Table 2. Discriminant validity for the measurement model.

5 DISCUSSION AND CONCLUSION

5.1 Discussion and Implications

Research investigating the relationships between business model acceptance and antecedents is sparse. This study contributes to the electronic commerce and retailing literature in two regards. First, this research addresses the relationships among individual traits (such as inertia and self-efficacy), social factor, and intention to use O2O shopping from conceptual and empirical standpoints. Few studies have addressed the new business model acceptance, though prior research has examined new system acceptance or service acceptance (Abdullah & Ward, 2016; Ingham et al., 2015; Pituch & Lee, 2006; Schierz et al., 2010). Second, contrary to the inhibiting effects of inertia (Polites & Karahanna, 2012), this study advances the literature by revealing the facilitating role of inertia on perceived ease of use, relative advantage, and intention.

Relative advantage predicts intention. The finding is consistent with past research (Polites & Karahanna, 2012; Rogers, 2003). Whereas, the direct effect of perceived ease of use on intention is nonsignificant, which is different from prior studies (Abdullah & Ward, 2016; Davis, 1989; Pituch & Lee, 2006; Polites & Karahanna, 2012). It implies that relative advantage of the new over the incumbent largely drives consumers to use the O2O shopping, while perceived ease of use is given. Subjective norm is the most important predictor in affecting relative advantage, followed by ease of use, cognitive-based inertia, and self-efficacy. Self-efficacy is the most important predictor of perceived ease of use, followed by subjective norm, and behavioral-based inertia. Collectively, social norm takes on increased importance over individual inertia in influencing intention, relative advantage, and perceived ease of use regarding the O2O shopping. The implications are that retailers and/or EC enterprises can implement incentives or other initiatives to target social norms and provide contextual supports such as embedding appropriate inertia of the incumbent in the new shopping method, that then will facilitate ease of use, relative advantage, and intention to use the O2O shopping.

The first major finding of this research is the identification of the positive effects of inertia. Specifically, cognitive-based inertia positively and directly impacts relative advantage, and indirectly impacts intention; behavioral-based inertia positively and directly impacts perceived ease of use. The result is contrary to the inhibiting or negative effects of inertia on perceived ease of use, relative advantage, and intention found in prior study (Polites & Karahanna, 2012). The major differences lie in the relationships between the new and the incumbent. In this study, the new O2O shopping incorporates the existing shopping method whereas Google Docs is a new system replacing the existing email system in prior study. Inertia, in the former situation, is an add-on which results in positive effects on beliefs and intention, but in the latter case reflects user resistance to the new system, which would negatively bias a user's beliefs and consequently results in lower intention to use the new system. The level of similarity between O2O shopping and store shopping or e-shopping is considered higher than that between Google Docs and email. Note that the inertia in past research was conceptualized as a second-order aggregate construct encompassing cognitive-based, affective-based, and behavioral-based ones (Polites & Karahanna, 2012). The results have practical implications to electronic commerce and retailing as well. Physical retailers and EC enterprises should consider building on consumers' habit or inertia in devising new business models or systems. Doing so will facilitate or enhance the formation of consumers' positive perceptions and intention to use. For example, when a physical store retailer promotes O2O shopping (e.g., by providing Shopkick app), consumers can come to store as usual, collect points at the stores and redeem for gift cards, hence obtain additional benefits (relative advantage). It also works for online shoppers because they can use the online services as usual, inspect and obtain the merchandise at the store right away. It is not only easy to use but also providing additional value, and thus enhances consumers' intention to use. Another observable and possible example is Microsoft Office. The similarity of the functionalities among Word, Excel, and PowerPoint takes advantage of inertia or habit persistency across software, therefore, enhances user acceptance. However, if the new business model or system is disruptive or discontinued with a high degree of novelty, organizations or businesses should reduce the inhibiting

effects of inertia by taking steps to encourage habit disruption and reformation (Polites & Karahanna, 2012).

The second major finding of this study is that subjective norm positively and directly impacts perceived ease of use and relative advantage, and consequently impacts usage intention indirectly; and self-efficacy positively impacts perceived ease of use. Our finding reveals that subjective norm is fully mediated by both perceived ease of use and relative advantage to impact intention indirectly, which is different from the direct relationship found in past research (Kim et al., 2011; Polites & Karahanna, 2012). That is, cognitive beliefs take on critical importance over social norms in the presence of inertia. Again, the implication is that organizations and EC businesses should design the O2O shopping by embedding in inertia of the incumbent and implementing incentives and initiatives to affect social norms (e.g., word of mouth), that will help consumers form positive cognitive beliefs of relative advantage and ease of use, and thus result in intention to use. In addition, self-efficacy positively impacts perceived ease of use which consequently impacts relative advantage indirectly. However, the indirect effect of self-efficacy on usage intention is not significant. In other words, consumers with high self-efficacy would perceive the O2O shopping easy to use and form a higher perception of relative advantage, nonetheless, would not strengthen their intention to use. This study echoes the assertion of Wang et al. (2013) claiming that further research is needed to investigate how social influences and self-efficacy affect consumer online channel extension behavior. The implication is that organizations and businesses, in promoting O2O shopping, can begin with consumers with high self-efficacy (e.g., youths), which enables them to form a higher perception of ease of use and consequently enhance usefulness or relative advantage beliefs.

The third major finding of this study is that relative advantage and perceived ease of use fully mediate the relationships among inertia, subjective norm, self-efficacy and intention to use. The finding echoes the assertion that external variables are mediated by cognitive beliefs to impact intention to use (Abdullah & Ward, 2016; Davis, 1989). However, the result is contrary to prior research suggesting that relative advantage and perceived ease of use partially mediate the relationships between inertia and intention (Polites & Karahanna, 2012). Our study reveals that the three types of inertia of using the incumbent shopping method have no direct effects on intention to use the new O2O shopping. Nevertheless, cognitive-based inertia indirectly impact intention through the cognitive beliefs of ease of use and relative advantage. One plausible interpretation to this phenomenon is that the O2O shopping encompasses both online and offline processes or services and is similar to or basically congruent with the existing method of shopping, incumbent habits and low switching cost enhance inertia which then positively impact the perceptions of ease of use and relative advantage, and consequently affect intention to use the new O2O shopping.

Limitations of this study should be acknowledged. First, this study focused primarily on the consumers' behavior while the new O2O business model may affect company employees, vendors, and consumers in many aspects. Second, individual use of O2O shopping varies, for example, from "more offline less online" to "less offline more online." Future research can categorize shoppers into "heavy online" and "light online" groups to further examine O2O shopping acceptance. Third, causal relationships may exist among cognitive-based inertia, affective-based inertia, and behavioral-based inertia; and need further research.

5.2 Conclusion

In conclusion, this study broadens our understanding of consumers' O2O shopping acceptance which involves the integration of information technologies and retailing services, and thus provides in depth insights into enhancing the acceptance of both new information technologies and new business models. Relative advantage reflects the "retail+" or "e-commerce+" feature of an O2O business model, therefore, its strong effect on consumers' O2O shopping acceptance is expected. EC managers, retailers, and IS professionals should actively innovate business models by designing different mix of online and offline services, that will provide relative advantage over the incumbent model and facilitate consumers O2O shopping. In addition, enterprises can provide incentives or initiatives to

influence social norms, that then affect relative advantage and ease of use, and consequently lead to consumers O2O shopping acceptance. Further, IS or business managers, in designing new systems or business models, can take consumers' inertia of the incumbent into considerations to facilitate O2O shopping and therefore lead to a more successful new system or new business model implementation.

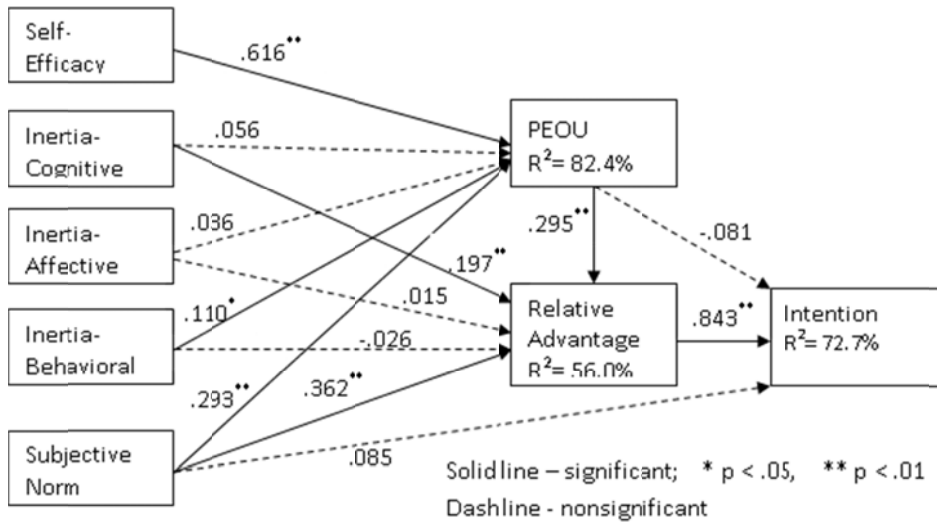


Figure 2. Results of structural equation modeling.

References

- Abdullah, F., & Ward, R. (2016). Developing a General Extended Technology Acceptance Model for E-Learning (GETAMEL) by analysing commonly used external factors. *Computers in Human Behavior*, 56, 238-256. doi: 10.1016/j.chb.2015.11.036
- Amit, R., & Zott, C. (2001). Value creation in e-business. *Strategic Management Journal*, 22(6-7), 493-520.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, 84, 191-215.
- Barnes, W., Gartland, M., & Stack, M. (2004). Old habits die hard: Path dependency and behavioral lock-in. *Journal of Economic Issues*, 38(2), 371- 377.
- BusinessWire. (2016). Alibaba and Suning Commerce Enter Into Strategic Alliance. Retrieved 2/26, 2016, from <http://www.businesswire.com/news/home/20150810005452/en/Alibaba-Suning-Commerce-Enter-Strategic-Alliance>
- Davis, F. D. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly*, 13(3), 319-340
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18, 39-50.
- Frasquet, M., Mollá, A., & Ruiz, E. (2015). Identifying patterns in channel usage across the search, purchase and post-sales stages of shopping. *Electronic Commerce Research and Applications*, 14, 654-665.
- Goldmann, H. M. (1958). *How to Win Customers*. London: Pan Books.
- Ingham, J., Cadieux, J., & Mekki Berrada, A. (2015). e-Shopping acceptance: A qualitative and meta-analytic review. *Information & Management*, 52(1), 44-60. doi: 10.1016/j.im.2014.10.002
- Kauffman, R. J., Lai, H., & Ho, C.-T. (2010). Incentive mechanisms, fairness and participation in online group-buying auctions. *Electronic Commerce Research and Applications*, 9(3), 249-262. doi: 10.1016/j.elerap.2008.11.009

- Kim, K. K., Shin, H. K., & Kim, B. (2011). The role of psychological traits and social factors in using new mobile communication services. *Electronic Commerce Research and Applications*, 10, 408-417.
- Liang, T. P., & Huang, J. S. (1998). An empirical study on consumer acceptance of products in electronic markets: a transaction cost model. *Decision Support Systems*, 24(1), 29-43.
- Lin, T.-C., Huang, S.-L., & Hsu, C.-J. (2015). A dual-factor model of loyalty to IT product – The case of smartphones. *International Journal of Information Management*, 35(2), 215-228. doi: 10.1016/j.ijinfomgt.2015.01.001
- LosAngelesTimes. (2016). Amazon to open 2nd physical bookstore, this one in Southern California. Retrieved 03/24, 2016, from <http://www.latimes.com/business/la-fi-amazonbooks-malls-20160308-story.html>
- Lusch, R. F., & Nambisan, S. (2015). Service innovation: A service-dominant logic perspective. *MIS Quarterly*, 39(1), 155-175.
- Oliver, R. L. (1999). Whence Consumer Loyalty? *Journal of Marketing*, 63, 33-44.
- Oreg, S. (2003). Resistance to change: Developing an individual differences measure *Journal of Applied Psychology*, 88(4), 680-693.
- Pituch, K. A., & Lee, Y.-k. (2006). The influence of system characteristics on e-learning use. *Computers & Education*, 47(2), 222-244. doi: 10.1016/j.compedu.2004.10.007
- Polites, G. L., & Karahanna, E. (2012). Shackled to the status quo: The inhibiting effects of incumbent system habit, switching costs, and inertia on new system acceptance. *MIS Quarterly*, 36(1), 21-42.
- Rogers, E. M. (2003). *Diffusion of innovation* (5th ed.). New York: Free Press.
- Rumelt, R. P. (1995). *Precis of Inertia and Transformation*. Norwell, MA: Kluwer Academic Publishers.
- Schepers, J., & Wetzels, M. (2007). A meta-analysis of the technology acceptance model: Investigating subjective norm and moderation effects. *Information & Management*, 44(1), 90-103. doi: 10.1016/j.im.2006.10.007
- Schierz, P. G., Schilke, O., & Wirtz, B. W. (2010). Understanding consumer acceptance of mobile payment services: An empirical analysis. *Electronic Commerce Research and Applications*, 9(3), 209-216. doi: 10.1016/j.elerap.2009.07.005
- Shiu, J. Y. (2015). Investigating consumer confusion in the retailing context: the causes and outcomes. *Total Quality Management & Business Excellence*, 1-19. doi: 10.1080/14783363.2015.1121094
- Teo, T. S., & Yu, Y. (2005). Online buying behavior: a transaction cost economics perspective. *Omega*, 33(5), 451-465.
- Velu, C. (2016). Evolutionary or revolutionary business model innovation through cooperation? The role of dominance in network markets. *Industrial Marketing Management*, 53, 124-135.
- Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. B. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, 27(3), 425-478.
- Wang, Y., Wang, S., Fang, Y., & Chau, P. Y. K. (2013). Why do consumers adopt online channel? An empirical investigation of two channel extension mechanisms. *Decision Support Systems*, 54, 858-869.