


# Impact of Capabilities on Firm Value Offering in the E-Commerce Service Setting

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## ABSTRACT

E-commerce and online shopping have changed the retail environment. At present, companies rely on extensive customization of information systems and business processes in order to provide enhanced online customer service experiences. In today's rapidly expanding service economy, businesses need more service capabilities in order to outperform competitors. The authors identify four capabilities: innovation-based, marketing-based, collaborative, and absorptive to assess the relationship of these capabilities of online shopping websites in relation to the firm's value offering to its online customers. The results indicate that capabilities indeed play an important role for online shopping providers in the area of value creation for online consumers. This suggests to online retailers that capabilities have a positive effect on value offerings; thus, it is imperative that firms use more of their resources to develop capabilities.

## KEYWORDS

Absorptive Capability, Collaborative Capability, Innovation Capability, Marketing Capability, Online Shopping, Value Offering

## INTRODUCTION

In recent years, e-commerce empowered by online technology has become an integral part of the global economy. E-commerce and online shopping have changed the retail environment which now relies on extensive customization of information systems and business processes to provide better online customer service experiences. The U.S. Census Bureau reported that e-commerce sales totaled approximately US\$341.7 billion for 2015 (DeNale & Weidenhamer, 2016). Asia also has shown strong growth in online spending. According to Chih et al. (2015), Taiwan e-commerce consumer expenditures exceeded approximately NTD 36 billion in 2013. Previously, Huy et al. (2012) and Li et al. (2010) found that e-commerce adoption is influenced by firms' technology, knowledge building, and innovation development. Through innovative platforms, e-commerce websites can introduce new products, deliver current information, and promote activities that make these websites more transparent. Online purchasing functions necessitates customers' cognition and behavior; specifically, these include ease of use, practicality, or emotional aspects of perception and pleasure (Childers, Carr, Peck, & Carson, 2001). Typically, customers want to know that their preferred products can be transported directly to their home or office. Moreover, customers who need help or feedback wish to receive services and communications via the internet.

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Effective shopping websites allow customers to become more interactive by communicating and coordinating between online retailers and shoppers. Also, a well-designed platform provides a positive online shopping experiences by allowing consumers to effectively process their purchases. Users' website satisfaction can influence consumers and lead to future repurchase behaviors over time. Research shows that shopping convenience is a primary motivation for consumers to adopt online purchasing (Wu, Cai, & Liu, 2011). Therefore, online retailers have been developing and designing websites to maximize the speed and ease of shopping for their customers. However, the perceived convenience of various shopping websites can differ from one platform to another, with regard to customer satisfaction and behavioral intention (Ha, 2012) or online service quality (Klaus, 2013). Online purchasing behavior was associated with the frequency of online purchasing on both consumers' perceived risk and the internet shopping experience (Doolin, Dillon, Thompson, & Corner, 2005; Zeba & Ganguli, 2016). Thus, a successful online retailer should consider online consumer purchasing behavior in order to design and enhance customer service of its retail websites.

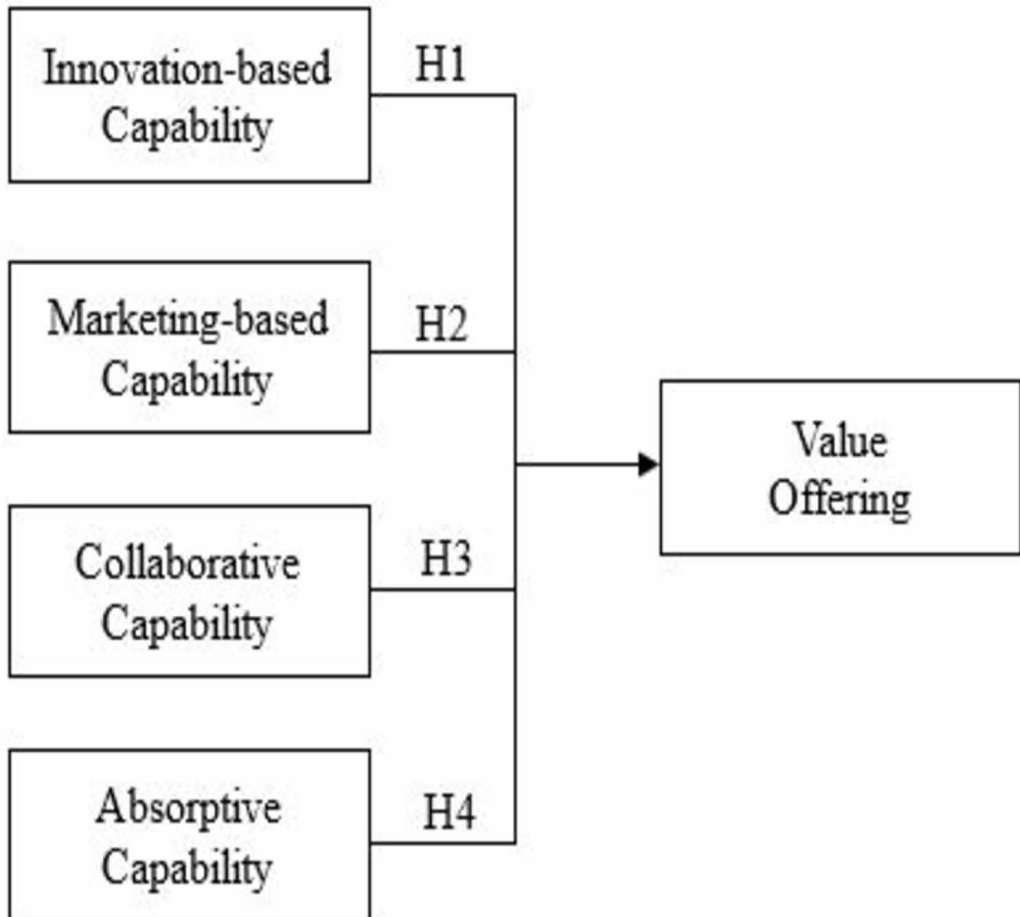
In today's rapidly expanding service economy, businesses need more service capabilities to be able to cope with business competitors. Understanding the customer's purchasing behavior is an important component of value offering between suppliers and customers. Value offering is defined as value creation by firms for customers as perceived by the customers (Slater & Narver, 1994). For service industries, the firms must transcend supply-oriented concepts, one of which is product-oriented logic. The product-oriented logic is a product-centric, value-based exchange of tangible resources (Vargo & Lusch, 2008). However, firms must not only emphasize physical resource but also skills and knowledge resources in their capabilities (Ngo & O'Cass, 2009).

Resources and capabilities are fundamental elements to create higher value for buyers, and to achieve greater benefits over competitors in the marketplace (Slater & Narver, 1994). Likewise, resources and capabilities are essential to the resource-based view, which appeared in the 1980s as an alternative to the traditional business construct (Hall & Weiss, 1967). The resource-based view focuses on resources and capabilities as major advantages leading to profitability for firms (Day, 1994). Thus, capabilities can be constructed through processes developed by organizations and the coordination of people and resources together which can be referred to as operant resource-based capabilities (Vorhies, Harker, & Rao, 1999). Ngo and O'Cass (2009) categorized operant resource-based capabilities into innovation-based capabilities and marketing-based capabilities. This present study further includes collaborative capabilities and absorptive capabilities in order to assess the capabilities of online shopping websites and their impact on customers' value offering. Our main objective is to better understand how online retailers utilize their capabilities (innovation-based, marketing-based, collaborative, and absorptive) to create value offerings for customers. The major difference between our study and previous research is that other studies have focused on Internet shopping behaviors or intentions with secondary data or student samples (Doolin et al., 2005), whereas our present study utilizes data on actual online consumers' shopping aspects of e-commerce in Taiwan. Thus, our results will likely benefit future research studies with regard to the functions of capabilities and value offering by assisting website vendors in other countries improve online shopping experiences.

## **LITERATURE REVIEW AND HYPOTHESES**

In this section, we first discuss the value offering of firms as related to their customers. Next, the four capabilities involving the innovation, marketing, collaborative and absorptive aspects of online shopping indicate theoretical support from firm's value offering including the consumers' perspectives. Figure 1 includes the model used to test causal relationships in the online shopping industry.

Figure 1. Model to test causal relationship in online shopping industry



### Value Offering

The concept of value offering requires a perceived value creation by a firm for its customers (Slater & Narver, 1994). However, value creation alone is not sufficient for firms to achieve financial success. Firms may be primarily involved in creating customer value by means of innovating, producing, and delivering products to the market (Mizik & Jacobson, 2003). Vargo and Lusch (2004) stated that firms should place greater attention on creating value as determined by customers. Customers perceive that value can be attained in four areas: low cost, benefit from purchasing the product, quality of the product, and value received from the cost paid by consumers (Zeithaml, 1988). Thus, perceived value is the overall assessment when consumers believe the cost is less than the benefits obtained. In comparison to the impact of value offering, customers not only buy products, they also buy products' benefits and services. Moreover, customers want to keep in touch with the companies and obtain rapid response, easy access, and interactive cultivation (Mittal & Sheth, 2001). Therefore, enterprises' value offerings are based on relationship building with customers which provides value to customers and gradually allows a firm to outperform competitors (Ngo & O'Cass, 2009). In value co-creation, customers play the role of co-development and cooperation (Prahalad & Ramaswamy, 2004). The customer's role in co-creating value contributes to improved on-site performance through

the introduction of new processes and training (Macdonald, Wilson, Martinez, & Toossi, 2011). Thus, customers wish to co-construct the purchasing experience and further implement their influence in every part of the business process. On the other hand, some firms do not have the capabilities to prevent or overcome competitive forces, preventing them from distributing the value created on behalf of customers. For our present study, the relationship of firms' value offering is determined via four capabilities (Innovation-based, Marketing-based, Collaborative, and Absorptive) as follows.

### **Innovation-Based Capability and Value Offering**

Innovation-based capability is defined as the firm's capability to develop, generate and implement new ideas, products, or services through strategic innovative behaviors and processes (Ngo & O'Cass, 2009). Companies provide innovative products to satisfy target customers' demands. Therefore, firms must engage in product innovations while creating better product performance, ensuring quality and satisfying personal needs (Porter, 1983). Innovation-based capabilities enable companies to continue to create value such as new products and service development (Deng, Doll, & Cao, 2008). Many empirical studies of new product or service development confirmed that innovative capability is one of the most important determinants for a firm to gain a competitive edge and higher performance (Li & Calantone, 1998). Firms implement useful ideas from production or adoption in order to create innovative capabilities; furthermore, firms can display innovation through adaptation of products or processes from external organizations. Researchers found that innovation is often generated via multistage processes with which many social aspects might interfere (Scott & Bruce, 1994). The authors further stated that the actual stages included recognizing the issues, generating ideas and providing solutions. It appears that innovative firms typically seek collaboration with others in order to complete the innovation process.

Additionally, when a customer uses a product in a more innovative manner, it has a positive impact with consumer groups. Specially, research shows that consumers' Internet usage has a positive effect on online buying and is significantly linked with socio-economic characteristics (Wu et al., 2011). Consumer creativity includes an openness to new ideas and seeking new experiences, which solves problems with personal knowledge (Choo, Sim, Lee, & Kim, 2014). Online retailers should further identify existing gaps between their own desired level service performance and customer expectations. Due to the convenience of web shopping, customer expectations have increased along with continuous online shopping service innovations. In order to achieve steady improvement of convenience in web-based services, online retailers should seek frequent feedback to reveal any differences between consumers' perceptions and expectations (Jiang, Yang, & Jun, 2013).

Innovation-based capability occurs at different levels, such as individuals, teams, and management. It is essential that leadership be involved in the innovation process, which ideally includes participative or collaborative approaches. Thus, innovative capability is a key determinant for a firm to obtain a competitive advantage (Choo et al., 2014). Assessing the values, needs, and desires of customers has been a challenge for managers and scholars. Essentially, the customer is always a co-creator of value who co-creates value 'in use' (Macdonald et al., 2011). Marketing literature centers on active customer participation and focuses on interactions (Vargo & Lusch, 2004). As for customer participation, the creation of customized allows firms to pursue profitable relationships. In addition, firms that use customers' talents often achieve enhanced productivity to attain competitive advantage (Ngo & O'Cass, 2013). Developing new ways to stimulate customers to co-create value will result in superior co-creation of value for the customer. We hypothesize:

**Hypothesis 1:** Innovation-based capability has a positive impact on a firm's value offering in online purchasing.

### **Marketing-Based Capability and Value Offering**

Marketing-based capabilities are defined as the integrative process of applying combined knowledge, skills, and resources to meet competitive demands while adding value to products and services (Nath et

al., 2010). Marketing capabilities are assets that contribute to superior firm performance. In addition, market capability has a direct influence upon firms' return on assets (ROA), while perceived firm performance is also directly impacted by marketing capabilities. Firms which take a more proactive market orientation approach have better marketing resource allocation and overall control than other firms. Thus, innovative firms dedicate resources toward marketing activities, thereby leading them to outperform others by providing greater customer value (Song, Benedetto, & Nason, 2007). Three core business processes (product development management, supply chain management, and customer relationship management) are embedded and integrated within marketing capability which generates value for customers (Srivastava, Fahey, & Christensen, 2001). Additionally, marketing-based capability concerns individual 'marketing mix' processes, such as product development and management, pricing, selling, communications, and channel management (Vorhies et al., 1999). These capabilities can lead to superior firm performance since they are rare, valuable, non-substitutable, and inimitable sources of advantage (Morgan, Vorhies, & Mason, 2009). Marketing capabilities also empower firms to adjust their strategies to fit fast-changing markets. The acceleration of market changes is due to the evolution of the Internet and shrinking costs of communication. Customer feedback comes from various channels; moreover, numerous analytic tools have been developed to help firms track and more fully understand customer feedback (Wang, Yan, Chen, & Xing, 2010). As such, the ability to seize opportunities available through technology will determine the role of leading online retailers (Day, 2011).

When a firm retains marketing-based capabilities, the customer will have greater value offerings. The enhancement of value offerings may come from marketing programs which allow a firm to communicate and position products and services successfully against competitors (Kotabe, Srinivasan, & Aulakh, 2002). Companies with strong marketing capabilities effectively gather market information and comprehend customers' voices and hidden wants; thus, they are in a better situation to explain what types of advantages customers anticipate from the agreement (Ngo & O'Cass, 2013). In this sense, marketing capabilities can aid providers to determine the standards of customer value co-creation and supply suitable value suggestions to customers. Thus, we propose that:

**Hypothesis 2:** Marketing-based capability has a positive impact on a firms' value offering in online purchasing.

### **Collaborative Capability and Value Offering**

The term "collaborative capability" refers to cross-functional and departmental integration of decision-making steps involving supplier selection/evaluation, sourcing strategy, and buyer/customer relationships. Furthermore, collaborative capabilities can reflect the extent of integration with suppliers and customers in relation to supplier and customer development and new product development (Luzzini, Brandon-Jones, Brandon-Jones, Spina, 2015). Collaboration from sharing internal and external information among participants offers a promising strategy for increasing profits. Thus, if firms apply horizontal collaboration, they are more likely to minimizing lost sales while maximizing production capacity (Seok & Nof, 2014). When firms shift away from vertical integration to horizontal alliances, they tend to move from stand-alone competition toward networking with rivals. The best products may not necessarily be the winner, but the best-networked firms are often the winners. Therefore, the collaboration of firms involving information sharing and trust among sellers and customers creates great value within the value chain (Srivastava et al., 2001). Collaborative capabilities allow firms to build and sustain productive cooperation with partners. Moreover, collaborative capability involves making connections with people, choosing proper partners, exchanging ideas, and maintaining healthy and productive relationships by pursuing innovative opportunities with other firms; in short, collaborative competence allows any supply chain partners (from upstream suppliers to downstream customers) to be more willing to accept new ideas and achieve superior relational awards (Zacharia, Nix, & Lusch, 2011). Additionally, a new strategy allows firms to enhance capabilities by providing customized offerings. Co-creation allows firms to interact with customers to create offerings and

services via competitive advantage by having better products and channeling the products through distribution and services (Zhang & Chen, 2008). Hence, a firm must strive to meet consumer needs via customer-firm collaboration and interaction. Another benefit of relationship building and co-creation is that firms can effectively target and understand customer groups.

Collaborative capability is a mutually beneficial relationship which includes commitments, common responsibilities and resource sharing, in order to achieve common and clear objectives. Companies and customers apply their knowledge and abilities to integrate resources and provide services. This created value produces a win-win situation, thereby resulting in value co-creation between firms and customers (Vargo & Lusch, 2008). When customers become a value co-creator, it is done through a process of companies taking customers as partners instead of external elements, resulting in a system of value co-creation. This change in role is comprised of a series of co-creation activities. However, this systematic process can turn customers' efforts, skills and knowledge into unique competitive advantages (Zhang & Chen, 2008). In such settings, customers share their knowledge and ideas via shopping websites which allow the online retailers to receive unique information via customer's feedback (Ha, 2012). Accordingly, we hypothesize that:

**Hypothesis 3:** Collaborative capability has a positive impact on a firm's value offering on online purchasing.

### **Absorptive Capability and Value Offering**

Absorptive capability is defined as a firm's ability to recognize the value of new external knowledge, incorporate it, and apply it in order to achieve organizational objectives (Cohen & Levinthal, 1990). In such scenarios, firms benefit by acquiring knowledge, by assimilating knowledge, and by transforming knowledge (Zhang, Zhao, Lyles, & Guo, 2015) to achieve better process performance. Firms gather knowledge that relates to the firm's products and markets. It is crucial that businesses obtain a successful knowledge learning mechanism among vendors and clients in terms of learning between both parties. Therefore, the knowledge transforming should be a proactive, deliberative and interactive experience based on support from the consumers (Deng & Mao, 2012). Subsequently, the knowledge spreads throughout the firm, and it is applied in various ways. This results in the firm's ability to create products and markets and maneuver strategically (Lane, Koka, & Pathak, 2006). Furthermore, absorptive capability enhances the speed, frequency, and magnitude of innovation and enhances learning within an organization (Deng et al., 2008). When firms invest in absorptive capability, they often gain a competitive advantage which typically leads to success with customers (Roberts, Galluch, Dinger, & Grover, 2012).

Absorptive capability benefits firms with regard to obtaining knowledge, integrating knowledge, and transforming knowledge in order to reach superior process performance. Hence, when firms have higher absorptive capability, it is expected that reduced costs and increased productivity will be achieved (Cohen & Levinthal, 1990). When firms implement knowledge, they can target customers and use their information to create better and more distinct approaches. The firms develop the ability to communicate with customers and meet customers' desires and personal preferences (Zhang & Chen, 2008). Additionally, the interaction of knowledge and experience with customers is relevant to information processing. A key factor that provides the basis for customer's evaluation of new and incoming information is prior knowledge of products and services, thereby ensuring effective searches and evaluating online information via websites (Rose, Hair, & Clark, 2011). Kostopoulos et al. (2010) state that absorptive capabilities contribute directly and indirectly to value offerings. We propose the following hypothesis:

**Hypothesis 4:** Absorptive capability has a positive impact on a firms' value offering of online purchasing.

## METHODOLOGY

### Data Collection

For this present study, we applied prior research survey items and examined the effects of innovation-based capability (Ngo & O'Cass, 2009), marketing-based capability (Ngo & O'Cass, 2009), collaborative capability (Vargo & Lusch, 2008), and absorptive capability (Deng et al., 2008) on value offering (Ngo & O'Cass, 2009). The questionnaires requested the opinions of online customers as to whether the online retailers possess the necessary capabilities to provide value to their customer base. An anonymous, online-survey administered through Facebook social media platform was used to distribute our survey questionnaires in Taiwan. The survey participants were familiar with social media and had previous experience with online purchasing. For this present study, a two-part questionnaire was implemented. Participants provided personal information in the first part of the survey. Please see Table 1 for survey respondent characteristics. The descriptive statistics revealed that 55.87% of the participants were male and 44.13% were female. The largest group of respondents (47.89%) were between 26 to 35 years of age. Regarding participants' education status, 12.21% had only completed high school, while 76.53% held bachelor degrees, and 11.27% had obtained a graduate degree. The analysis also indicated that 18.31% of participants were students, 17.84% were employed in the service sector, 16.43% worked in manufacturing areas, and 14.08% were in finance & banking. As for purchasing power, 42.72% of the respondents make major online purchases 1 to 5 times per year; the next largest group of respondents (34.27%) indicated that they made major online purchases between 6 and 10 times per year. The second part of the survey assessed the participants' online purchasing experience with questions pertaining to innovation-based capability, marketing-based capability, collaborative capability, absorptive capability, and value offering comprising a total of 30 items. Please see Table 2 for construct operational definitions. In the second part of the survey, items were based on a five-point Likert-scale with choices ranging from 1 (Strongly disagree) to 5 (Strongly agree). A total of 235 responses were received, including 22 surveys which were invalid. Thus, the analysis is based on the 213 valid responses.

### Validity Measurements

Reliability was tested by conducting Cronbach's coefficient alpha for the five scale constructs. The Cronbach's alpha for Innovation-based Capability, Marketing-based Capability, Collaborative Capability, Absorptive Capability, and Value Offering are 0.602, 0.665, 0.783, 0.639, and 0.880, respectively. However, the general guideline for Cronbach's alpha is often defined as at least 0.6 in the lower limit for reliability (Flynn, Sakakibara, Schroeder, Bates, & Flynn, 1990). Our present five constructs conform to the general guideline of at least 0.6 for reliability criteria. Factor analysis is conducted to reduce item responses to a particular score for each of five construct dimensions with a total of 19 items. Principle component analysis is applied to summarize the original information into a range of scores. Carmines and Zeller (1979) provided guidelines for scale measurement in principal component analysis, which should be at least 40% to explain the variance proportion of each item. As for our data, the factor loadings for each item within each construct ranged from 0.892 to 0.620, thereby providing additional evidence of scale reliability. Please see Table 2 for item loading values. The convergent validity was tested by assessing how well the items load on their respective latent variables. Average variance extracted (AVE) was applied to evaluate the amount of variance in each construct in relation to the amount of variance due to measurement error. All AVE values ranged between 0.610 and 0.545 (at construct level) which is greater than 0.5. This ensures convergent validity at the indicator and construct levels. The square root of each AVE is examined for the discriminant validity and should be greater than 0.6 and exceed the related inter-construct correlations for reflective constructs. All the square roots of AVE are greater than the related inter-construct correlations. Please see Table 3 for Validity Description.

**Table 1. Respondent characteristics**

Demographic	Sub-category	Number of Responses	Percentage of Responses
Gender	Male	94	44.13%
	Female	119	55.87%
Age	Below 19	9	4.23%
	19 – 25	48	22.54%
	26 – 35	102	47.89%
	36 – 45	40	18.78%
	Above 45	14	6.57%
Education	High School	26	12.21%
	Undergraduate	163	76.53%
	Graduate and higher	24	11.27%
Job	Student	39	18.31%
	Computer related	10	4.69%
	Manufacturing	35	16.43%
	Finance & Banking	30	14.08%
	Public communication	3	1.41%
	Service	38	17.84%
	Government	16	7.51%
	Education	5	2.35%
	Administration	17	7.98%
	Retired	4	1.88%
	Others	16	7.51%
Online Purchasing/per year	1 – 5	91	42.72%
	6 – 10	73	34.27%
	11 – 15	30	14.08%
	16 – 20	12	5.63%
	21 and more	7	3.29%

## RESULTS

In this section, we provide the results of the measurement model followed by the structural model. The root mean square error of approximation (RMSEA), chi-square, comparative fit index (CFI), normed fit index (NFI), goodness of fit index (GFI), and incremental fit index (IFI) for both measurement and structural models are included. Also, an analysis of the hypotheses is provided.

### Results for the Measurement Model

For this present study, the measurement model included five constructs: Innovation-based Capability, Marketing-based Capability, Collaborative Capability, Absorptive Capability, and Value Offering. The Value Offering consisted of two combination constructs (Relationship Building and Co-creation Value) as a second order construct. The estimated model fit values were also assessed. The root mean square error of approximation (RMSEA) is a measure of model fit that is not dependent on



**Table 2. Construct operational definitions**

<b>Innovation-based Capability: (AVE=0.545 / CR=0.780 /a=0.602) Source: Ngo &amp; O’Cass (2009)</b>	<b>Item Loading</b>
Utilize technical innovations (e.g. Facebook sharing function).	0.846
Utilize production process innovations (e.g. Next day delivery).	0.766
Incorporate customers’ needs into products (e.g. Listen to customers’ requests).	0.620
<b>Marketing-based Capability: (AVE=0.573 / CR=0.799 /a=0.665) Source: Ngo &amp; O’Cass (2009)</b>	
Satisfy consumers’ desires.	0.846
Utilize marketing implementation activities (e.g. Facebook groups).	0.795
Provide quality products and services.	0.677
<b>Collaborative Capability: (AVE=0.610 / CR=0.879 /a=0.738) Source: Vargo &amp; Lusch (2008)</b>	
I believe that other customers are willing to provide feedback for their online shopping experiences to the shopping websites.	0.892
I am willing to provide feedback about my online shopping experience to the shopping websites.	0.891
I am willing to share my opinions to the online shopping websites.	0.735
<b>Absorptive Capability: (AVE=0.557 / CR=0.786 /a=0.639) Source: Deng et al. (2008)</b>	
I have general knowledge of how to use online shopping websites.	0.814
I have experience using online shopping websites.	0.762
I have a theoretical understanding of the process of using online shopping websites.	0.708
<b>Value Offering: (AVE=0.584 / CR=0.907 /a=0.880) Source: Ngo &amp; O’Cass (2009)</b>	
Relationship Building: Online shopping websites	
Deliver products and/or services that include innovative performance features.	0.884
Deliver products and/or services that are exactly what customers want.	0.842
Have a continuing relationship with customers.	0.833
Deliver added value in order to maintain customers (e.g. Status recognition/membership).	0.677
Co-creation Value: Online shopping websites	
Interact with customers to create offerings that meet their needs.	0.877
Interact with customers to serve them better.	0.857
Provide products and services that meet customers’ needs.	0.765

**Table 3. Validity description**

	<b>Alpha</b>	<b>AVE</b>	<b>IBC</b>	<b>MBC</b>	<b>COC</b>	<b>ABC</b>	<b>Value</b>
Innovation-Based Cap. (IBC)	0.602	0.545	<b>0.738</b>				
Marketing-Based Cap. (MBC)	0.665	0.573	0.560	<b>0.757</b>			
Collaborative Cap. (COC)	0.738	0.610	0.391	0.465	<b>0.781</b>		
Absorptive Cap. (ABC)	0.639	0.557	0.394	0.513	0.302	<b>0.746</b>	
Value Offering (Value)	0.880	0.584	0.283	0.263	0.358	0.299	<b>0.764</b>

sample size (Hair, Anderson, Tatham, & Black, 1998) with a value of 0.060 (between 0.05 and 0.1), thereby representing a reasonable model fit in this study (Browne & Mels, 1994). The chi-square of 242.57 divided by 138 degrees of freedom produces a normed chi-square value of 1.76 which indicates that the model adequately represents the data. The comparative fit index (CFI), normed fit index (NFI), goodness of fit index (GFI), and incremental fit index (IFI) are 0.931, 0.857, 0.891, and 0.933, respectively.

### Results of the Structural Model

In this present study, structural equation modeling analysis is implemented to test the specified causal model in Figure 1: Causal relationships in the online shopping industry. The inputs for the structural equation model estimates were based on the scores of five dimensions (Innovation-based capability, Marketing-based capability, Collaborative capability, Absorptive capability and Value Offering) within the two constructs of “Relationship Building” and “Co-creation Value” combined as a second order construct of “Value Offering” with a total of four dimensions. The chi-square test for overall model fit with four dimensions has a value of 439.04 ( $p < 0.01$ ). The normed chi-square statistic of 3.05 indicates the model is not overestimated and is a reasonable model. Also, RMSEA (0.098) specifies that this is a reasonable model fit. Additionally, the comparative fit index (CFI) of 0.806, the normed fit index (NFI) of 0.741, the goodness of fit index (GFI) of 0.807, and the incremental fit index (IFI) of 0.810 are reasonable outputs. The research hypotheses are empirically supported for three out of four causal relationships. Table 4: Path estimates for overall structural model shows the results of model estimation, including path estimates, standard error, and t-tests for the path significance. Hypothesis 1 shows the positive causal influence of Innovation-based Capability on Value Offering with path estimates of ( $\gamma_{11} = 0.396$ ,  $p < 0.05$ ). Hypothesis 2, however, does not indicate a significant relationship between Marketing-based Capability on Value offering ( $\gamma_{21} = -0.147$ ,  $p > 0.10$ ). Hypothesis 3 shows a positive relationship between Collaborative Capability and Value Offering ( $\gamma_{31} = 0.250$ ,  $p < 0.01$ ). Finally, hypothesis 4 demonstrates a positive causal link between Absorptive Capability and Value Offering ( $\gamma_{41} = 0.282$ ,  $p < 0.01$ ).

Table 4. Path estimates for overall structural model

Hypotheses	Path	Point estimate	Standard error	t-Value
H1	Innovation-based Cap. → Value Offering	0.396	.196	2.020*
H2	Marketing-based Cap. → Value Offering	-0.147	.098	-1.50
H3	Collaborative Cap. → Value Offering	0.250	.068	3.677**
H4	Absorptive Cap. → Value Offering	0.282	.099	2.849**

\*\* path significant at  $p < 0.01$ ; \*  $p < 0.05$

## CONCLUSION

This study utilized Facebook as the key survey instrument to collect customers’ responses regarding their perceptions of their experience with online retailers. The results support three of the four proposed hypotheses, with the exception of marketing-based capability to value offering. From the online shopping view, technological ability might not be the key element for a firm’s success. Hence, the ability to offer enhanced marketing activities through implementation of the technology to satisfy customers’ requirement is essential. As such, firms should provide technical and non-technical innovations to establish value offering and co-create a more personal experience for the customers.

Innovation capabilities can be engaged in the technological area to generate superior products and build new solutions to meet the ever-changing needs of consumers. Hence, value is created and offered through product/process innovations (Mizik & Jacobson, 2003). Likewise, successful firms often utilize process innovation on their websites as a way of incorporating customer's requirement into products. Clearly, innovation capabilities play an important role in value creation. However, the marketing-based capabilities did not show a significant relationship with value offering in this present study. This non-significant relationship between marketing-based capability and value offering may reveal that online shopping websites should find ways to more effectively meet the customers' requirements. Such marketing-based capabilities allow online shopping providers to perform better in communication and offer products and services which enable them to be superior over their competitors while encouraging these firms to improve value offering for their customers (Day, 1994). Moreover, collaborative capability has a positive relationship with value offering. When a firm collaborates and interacts with its customers, it can identify the needed areas of improvement and fulfill the demands of the customers, which will prevent spending excessive time and resources that may not add value for customers (Zhang & Chen, 2008). Ideally, online consumers will have the opportunities to offer their opinions and feedback regarding their online shopping experiences. Thus, customer service can be tested and evaluated in the process of product development, as it is associated with successful outcomes (Seok & Nof, 2014). Also, absorptive capability is significantly related to value offering and a firm's long-term survival and success. Moreover, absorptive capability is the firm's ability to gather valuable knowledge from the outside, assimilate that acquired knowledge, and apply that knowledge through innovation and competitive actions (Cohen & Levinthal 1990). When online shopping providers obtain knowledge from different areas of study, firms gain the ability to value that knowledge and understand how those areas relate to its products and services (Roberts et al., 2012). Consequently, online consumers can receive superior products and services from online retailers.

Our findings have several applications for managerial practice which should be beneficial to online retail practitioners. Specifically, consumers may obtain a wider range of options in selecting products and services from similar online retailers. Thus, online retailers must offer a high level of online shopping convenience and experience as a way of building customer loyalty (Khasawneh, Bsoul, Obeidat, & Al Azzam, 2010). The findings of this present study offer an important viewpoint for online retailers to more fully understand the related capabilities that online consumers value most. Moreover, our findings indicate the areas of capabilities in which online retailers should improve and attain effective solutions. Capabilities have a positive effect on value offerings; thus, firms should use more of their resources to develop capabilities. Managers understand what constitutes value and how to assess it by knowing that value offering includes attribute performance, pricing value, relationship building, and co-creation value. It is often time-consuming to search for an appropriate product on a web site. Therefore, a user-friendly website design is essential for customers to navigate efficiently. Greater convenience in searching and purchasing as perceived by customers leads to greater likelihood for repurchasing, as well as recommendations by customers to others. The above attributes comprise innovation-based and absorptive capabilities which online retailers can offer in providing value to consumers. Additionally, online retailers should request their customers' opinions regarding products and services offered. A greater collaborative relationship between firms and customers should be established to sustain the online retailer's quality. Likewise, effective online retailers can utilize their marketing capabilities to reach out to more customers and provide enhanced services to their online shoppers. Notably, many organizations have invested heavily in their information technology in order to improve, integrate, and coordinate their information processes by responding to environmental changes and improving online agility.

As for limitations of this present study, we focused on online shopping websites associated with the firms' capabilities and value offering to their customers. Specifically, our focus involved online shopping websites utilizing Facebook to reach their customers. Therefore, future studies should consider other social media platforms, such as Twitter, Google+, and LinkedIn. Additionally, a

traditional Chinese business relationship is mainly associated with interpersonal relationships based on the *guanxi* concept. Observers of the online marketplaces might view the *guanxi* as impersonal between vendors and customers; however, *guanxi* is still present in online market settings, but it occurs in new forms (Wang, Hong, Archer, & Wang, 2011). Therefore, future studies might further investigate this *guanxi* phenomenon between online shoppers' behaviors in various countries.

In sum, our findings suggest that the capabilities of online shopping providers have a positive effect on value offerings; thus, it is imperative that firms use more of their resources and capabilities to develop superior services for their online consumers.

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