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Facilitating the chain of market orientation to value co-creation: The mediating role of e-marketing adoption

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ABSTRACT

Although the direct link between market orientation (MO) and firm value has been considered, few studies have examined the benefits of MO on co-creation of value. Therefore, a new perspective for determining how MO can facilitate the link between co-creation and customers and sellers is presented. Specifically, this study examines a chain of MO to value co-creation, and describes how to adopt e-marketing systems to facilitate this chain. The results of a survey of 166 international tourist hotels in Taiwan confirmed that the seller's integrated MO is critical to their adoption of e-marketing systems, which consequently facilitates the co-creation of value for sellers and their customers. The findings also show that both legal contracts and trust between partners are crucial governance mechanisms that facilitate the relationship between e-marketing adoption and value co-creation. Adopting e-marketing systems provides practical insights into business opportunities for destination marketers.

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1. Introduction

In recent decades, an increasing number of scholars and practitioners have focused on the concept of market orientation (MO) and its effect to firm performance (Harris & Ogbonna, 2001; Uncles, 2011). At the firm level, relevant literature has primarily addressed the contribution of MO with regard to firm value and its economic effects (Matanda & Ndubisi, 2009). Although adopted in various approaches of theory, methodology, and analysis, previous studies have elucidated specific market behaviors to improve the effectiveness of market responses (Chen, Li, & Evans, 2012; Kaynak & Kara, 2004). The body of extant research on MO valuation has confirmed that a relationship exists between MO and certain aspects of firm value (Chad, 2013; Matanda & Ndubisi, 2009).

In current dynamic and customer-driven environments, MO-based value co-creation is particularly crucial (Hsieh, Chiu, & Hsu, 2008), where MO involves observing factors that are exogenous to individual firms, and the value of implementing an MO business model can extend to inter-firm relationships (Elg, 2007). In MO-based value co-creation, strong interactive or collaborative relationships among firms facilitate the creation of value. To achieve value co-creation, customer feedback must be encouraged, such as preferences and opinions about products and services (Day & Bens, 2005). These conditions explain why implementing e-marketing as an extension of transaction marketing actually fosters the value co-creation.

E-marketing adoption shapes how the generation of relational rents are maintained and developed, and promotes information exchange between sellers and customers. Furthermore, e-marketing confers a competitive advantage to the firms involved (Bianchi & Mathews, 2016; Brodie, Winklhofer, Coviello, & Johnston, 2007; Trainor, Rapp, Beitelspacher, & Schillewaert, 2011). Despite the critical role of the relevant parties, and the necessity to study them to show the relevance of marketing management, currently very few studies have examined how the adoption of e-marketing can facilitate the value co-creation and provision of benefits to each of the involved parties. Although business managers and researchers continue to question the value of integrated MO (Nasution & Mavondo, 2008), integrated MO has not yet been examined in the emergent research on e-marketing adoption. Previous studies have attempted to identify integrated MO as being crucial to innovation and customer value (Nasution, Mavondo, Matanda, & Ndubisi, 2011). This study, however, focuses on e-marketing adoption in terms of integrated MO, which understands both expressed and latent customer needs or delivers superior value to customers.

Based on these considerations, this study examines the chain of market orientation to value co-creation, where the integrated MO of the seller encourages customers to use e-marketing in terms of co-creating value for customers and sellers. First, the study identifies how integrated MO influences e-marketing adoption, and identifies an approach to implementing e-marketing with customers to improve the benefits of selling and co-create value. Second, it assesses the effect of governance mechanisms on increasing value co-creation. Empirical validation for the proposed

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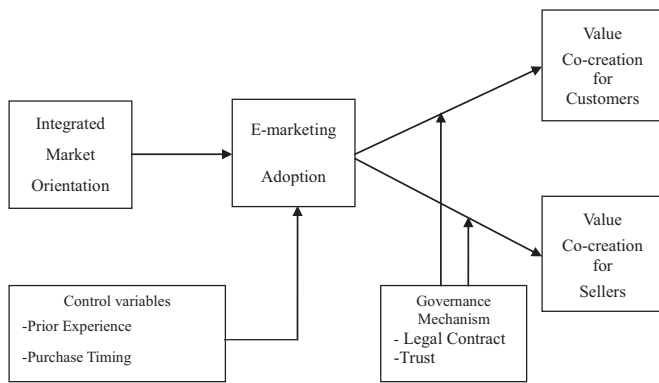


Fig. 1. Research model.

framework (Fig. 1) is provided based on data on international tourist hotels in Taiwan.

The rest of this study proceeds as follows. The next section presents the background literature on relational view, e-marketing, market orientation, and value co-creation, and develops the research hypotheses. The subsequent section presents an empirical study testing the hypotheses. The final section discusses the findings, theoretical and managerial implications.

2. Theoretical development

2.1. Relational perspective of the firm

Several perspectives offer theoretical lenses for examining inter-firm relationships. Because the chain of market orientation to co-creation of value that has been defined as an inter-firm activity, this study adopts the relational perspective of the firm to examine the co-creation of value in the seller–customer relationship. Previous research on the relational perspective indicates that inter-firm relationships are a unit of analysis, and posits that firm-critical resources define boundaries that are inset in inter-firm processes and routines (Chen, Preston, & Xia, 2013). Furthermore, when interaction among firms enhances both their information stocks and the efficiency of their coordinated action, the synergistic effect of their collective information can add to firm value.

According to the relational view (Chen et al., 2013), several potential sources of inter-firm value are: (1) knowledge-sharing routines, (2) relation-specific assets, (3) complementary resource endowments, and (4) effective governance mechanisms. First, knowledge-sharing routines inherently involve regular patterns of connections, and such connections promote transferring specialized knowledge between sellers and customers (Wang, Bradford, Xu & Weitz, 2008). This description was adopted from previous studies that have suggested that partnerships derive indispensable information (Gray & Handley, 2015); thus, in the present study, the the chain of MO value where e-marketing practices are adopted was considered, which appears to have subsequent effects on value co-creation for sellers and customers. Second, investments in inter-firm relational assets are effectively assets that partners jointly create to develop inter-firm value. Although previous studies on IT value have shown how individual firms can utilize IT to create firm value, this study focuses on value co-creation that can be achieved through adopting e-marketing practices. Third, complementary resource endowments permit exchange partners to generate greater rents than the sum of those obtained from their individual use (Chen et al., 2013). In inheriting from previous studies, this definition demonstrates that the combination of high-

value resources (e.g. governance mechanisms) generates fruitful benefits for firms because crucial collaborative resources are enabling to ensure stable adoption of e-marketing and improve the outcomes of value co-creation. Fourth, governance mechanisms are key determinants in terms of exchanging partners chooses to participate in value co-creation initiatives (Wang et al., 2008). The relational view argues that there are four potential sources of inter-firm value, the implications of which require information sharing of collaborative partners to realize these potential sources of value co-creation. Based on the relational perspective, the study by Brodie et al. (2007) offers a suitable foundation for examining the critical role of e-marketing to facilitate interactive or collaborative relationships. Regarding the relational antecedents of information-sharing for collaborative relationships, the term 'relational interaction routines' is defined as the degree to which formal and informal mechanisms are built; the purpose of such mechanisms is to promote buyer–seller information exchange, which positively influences the integration of information flow in collaborative relationships (Patnayakuni, Rai, & Seth, 2006).

2.2. Facilitating value co-creation by generating relational rents through e-marketing implementation

E-marketing involves establishing an electronic dialog (Brodie et al., 2007); that is, the seller offers individual customers access to information and, in turn, the interactive technologies used allow these customers to offer information to the seller (Bianchi & Mathews, 2016; Brodie et al., 2007; Day & Bens, 2005). Although collaborative relationship benefits (e.g. encouraging customer feedback) have long been considered crucial, efficiency gains, such as allowing customers to communicate their demands or reducing customer service costs, are equally critical (Currie & Falconer, 2014). In this context, e-marketing adoption equates to the degree to which sellers and customers utilize relevant software technology to achieve collaborative relationships (Taylor & Strutton, 2010). This study conceptualizes e-marketing adoption as an innovation by adopting the conceptualization proposed by Trainor, Rapp, Beitelspacher, and Schillewaert (2011), which is defined as the application of integrated information technology and marketing that links customers, sellers, business partners, and employees through the adoption of at least one of the following systems: (a) customer relationship management (CRM) software; (b) extranets such as private websites set up specifically for a customer; and (c) e-commerce websites.

E-marketing adoption can facilitate value co-creation through the generation of relational rents, thereby providing value co-creation to each of the involved parties. Marketing researchers have relied on IT-enabled interactivity in contemporary marketing studies to propose that e-marketing functions as a point of interactivity with customers, and that critical inter-firm relational assets can generate rent, providing benefits to customers and sellers (Coviello, Milley, & Marcolin, 2001). For example, e-marketing adoption has been considered a relational rent because it provides a platform for electronic dialog through which sellers can immediately see their customer-shared information without suffering substantial costs; thus, it has the potential to generate relational rent by reducing communication errors and fostering service innovation (Coviello et al., 2001). Tsiotsou and Vlachopoulou (2011) showed that e-marketing has positive impact on relationship performance (e.g. service quality) and a company's net profit. Chuang and Lin (2013) results also support customer relationship development in the context of CRM systems. Specifically, these researchers indicated that the customer information derived from seller–customer interactions represents the endowment of complementary strategic information; in other words, endowment is characterized by integrating information from various contact

points or combining transaction information with external data. In addition to indicating the importance of complementary strategic information, these studies also showed that customer information quality (e.g. information integration) in CRM systems affects the performance of customer relationships.

E-marketing is a critical information system that is instrumental in co-creating value from the generation of relational rents, and generates various relational rents. To generate relational rents, e-marketing must facilitate inter-firm information flows related to one or more activities: (a) demands communication (Srinivasan, Lilien, & Rangaswamy, 2002), (b) transaction procedure (El-Gohary, 2012; Srinivasan et al., 2002), and/or (c) database activities (Shaltoni & West, 2010). Through their use, e-marketing can provide value co-creation for both customers and sellers. Bettencourt, Ostrom, Brown, and Roundtree (2002) argued that seeing customer co-creation as part of customer cooperation can contribute to better solutions for business proposals, improve working relationships with business service companies, and increase the likelihood of reaching goals. Value co-creation between buyers and sellers in e-marketing adoption refers to the phenomenon where customers demand service improvements after discovering new needs or when their needs are unmet. Customers will demand more service efficacy, so businesses must propose and implement improvement programs. However, to achieve these, users must offer feedback about their experiences or inform providers about problems they encounter, so that those in the hospitality industry can improve their services based on this feedback. In other words, hotel operators and customers can co-operate more closely in the process of service provision through e-marketing adoption. This in turn facilitates the co-creation of valuable products that are more refined and better match reality.

Thus, e-marketing represents a type system for seller–customer interaction or collaboration which differs from other systems because it is intended to integrate processes with customers and enable organizational objectives that either affect firm value or help customers to gain value.

2.3. Integrated market orientation

MO enables organizations to be aware of marketplace requirements and to develop other capabilities that connect a firm to its external environment (Morgan, Vorhies, & Mason, 2009). Although various definitions of MO exist, those by Narver and Slater (1990) and Narver, Slater, and MacLachlan (2004) indicate the leading research streams in extant literature. Narver and Slater (1990) conceptualized and operationalized market orientation as comprising the dimensions of: (a) competitor orientation, (b) inter-functional coordination, and (c) customer orientation. Previous researchers defined market orientation as the management philosophy that most effectively and efficiently creates the necessary behaviors for the superior performance for sellers and the superior value for buyers (Narver & Slater, 1990). The conceptualization of MO proposed by Narver et al. (2004) included both responsive and proactive MO. The responsive MO was defined as a firm's attempt to understand and satisfy the needs expressed by customers, whereas proactive MO applies to the customers' latent needs. This study defines integrated MO as a concept of total MO; in other words, a firm possess market-oriented cultures that enable it to assess current capabilities, anticipate future capabilities, and redesign its processes accordingly. Thus, integrated MO as a firm-level capability includes competitor orientation (e.g. analyzing competitors' marketing programs), inter-functional coordination (e.g. coordinating goals and objectives across all functions), customer orientation (e.g. business strategies are driven by the need to create customer value), and latent need fulfillment (e.g. developing solutions to fulfill the unexpressed

needs of customers), which is consistent with the definition by Nasution et al. (2011), who indicated that the four constructs are distinct yet related.

First, competitor orientation implies collecting intelligence on either the short-term or long-term strengths by Ge and Ding (2005), weaknesses, capabilities, and strategies of competitors, thereby enabling a firm to respond more efficiently than their competitors to the needs of customers (Flint, Woodruff, & Gardial, 2002). Second, inter-functional coordination comprises the application of firm's resources to disseminate and synthesize market intelligence (Narver & Slater, 1990), which allows firms to enhance their problem-solving capabilities and responsiveness to customers efficiently because it ensures their employees work toward a common goal. Third, customer orientation involves a sufficient understanding of the customers' requirements to assist a firm in establishing long-term relationships with its customers (Balakrishnan, 1996). Finally, latent need fulfillment is intended to identify the latent needs of customers (Nasution & Mavondo, 2008), and enables firms to deliver products and services to customers (Nasution et al., 2011).

2.4. Value co-creation

Prahalad and Ramaswamy (2004) proposed the value co-creation theory in the early 21st century to describe value co-creation by customers and businesses, as well as a new method businesses can rely on to create value for future competitiveness. Researchers have looked at value co-creation various perspectives and disciplines, such as service logic and service dominant logic (Edvardsson, Tronvoll, & Gruber, 2011; Vargo & Lusch, 2004, 2008), viewing service is the fundamental unit of exchange. They propose that customers' knowledge and skills effect the process of value creation. Navarro, Andreu, and Cervera (2014) stated that process or actions of both customers and sellers in reciprocal knowledge exchange are conceptualized as co-creation. Adopting Grönroos (2012) definition of processes, value co-creation refers to 'a joint collaborative activity by parties involved in direct interactions, aiming to contribute to the value that emerges for one or both parties'. In the business-to-customer (B2C) context, value co-creation occurs through seller-customer collaborative and interactive processes, where sellers interact with customers by gaining access to customers' latent perceptions and preferences to gain benefits and in the domain of consumption by generating richer experiences for customers.

O'Cass and Ngo (2012) stated that a firm has a value offering but value actualization takes place during the customer's perceived value-in use. Firms and customers are co-creators of value. The study provides empirical support for the assertion that adopting service marketing is crucial for the development of seller–customer relationships that co-create value by focusing on key seller–customer interactions as the locus of value creation. Because multiple points of interaction can exist anywhere in the service marketing adoption, the findings of previous studies (Edvardsson et al., 2011; Navarro et al., 2014) imply that all points of specific customer–seller interactions are critical for creating value. Thus, value co-creation for customers is defined in this paper as sellers co-creating value with key customers by adopting e-marketing systems that focus on better services and products to create customer value. In addition, the value co-creation for sellers is defined as sellers who co-create value with key customers by adopting e-marketing systems to enhance selling benefits, such as improving customer knowledge, facilitating new product/service introduction, and developing new business opportunities. Thus, co-creation between sellers and customers represents a critical component of relational rents in which the customer has direct input in e-marketing systems. Accordingly, e-marketing has the

capacity to provide sellers with superior value embedded in the co-creation of collaborative processes, in which customers represent a key value component.

3. Research hypotheses

3.1. Integrated MO and e-marketing adoption

As discussed, the majority of previous studies on MO have shown that MO has a positive and direct relationship with marketing innovation (Jaworski & Kohli, 1996; Naidoo, 2010). Narver et al. (2004) showed that responsive and proactive market orientation has a positive relationship with innovation adoption. Other studies, however, have also indicated that integrated MO focuses on how firms can utilize the relationships in their networks to create value for customers (Nasution & Mavondo, 2008; Nasution et al., 2011). In the context of e-business adoption, Voola, Casimir, Carlson, and Agnihotri (2012) discuss the mediating effects of e-business adoption between MO and firm performance. These studies have shown that responsive marketing orientation (e.g. understanding and serving customer needs) and proactive marketing orientation (e.g. helping customers to anticipate market developments) have a positive effect on innovation adoption, although few studies have considered integrated MO to enhance innovation adoption.

This study conceptualizes e-marketing adoption as an innovation possible when an integrated MO develops and maintains inter-firm relationships with a long term perspective and a better understanding of customers' expressed and latent needs. Long-term inter-firm relationships are likely to involve frequent customer-firm interactions, and to build mutual benefits (Elg, 2002). Such relationships can occur in single dyadic relationships or in arrangements involving a numerous firms (Helfert, Ritter, & Walter, 2002). Such firms are willing to adopt innovations (e.g. online commercial transactions or computerized customer databases) that facilitate effective transactions with customers. On this basis, we argue that integrated MO leads to e-marketing adoption because e-marketing provides efficiency gains such as communicated demands with customers or improved internal processes. Therefore, building on extant literature, the following hypothesis are proposed:

H1: A positive relationship exists between integrated MO and e-marketing adoption.

3.2. E-marketing and value co-creation

This paper argues that e-marketing adoption can facilitate value co-creation through the generation of relational rents by means of knowledge-sharing routines, relation-specific assets, and complementary resource endowments. The first source of relational rents produced by e-marketing adoption is the processes of electronic dialog, which facilitates information-sharing and an understanding of the customer demands (Brodie et al., 2007; Day & Bens, 2005). The efficient adoption of consumer responses improves the economic performance of sellers, and enhances customer value (Corsten & Kumar, 2005). The second source of relational rents produced by e-marketing adoption is the investment in inter-firm relational assets, which assists in reducing customer service costs, enhancing product differentiation, and minimizing operational problems (El-Gohary, Trueman, & Fukukawa, 2008), thereby increasing the potential of future collaboration and enhancing business opportunities (Taylor & Stratton, 2010). The third source of relational rents produced by e-marketing adoption is from complementary resources and capabilities. The resources are

indivisible, and create incentives for firms to form alliances to access the complementary resources, because system adoption demands the simultaneous utilization of various skill sets and knowledge bases (Ahuja, 2000). The adoption of e-marketing requires the combination of complementary skills and knowledge from various partners.

The process of value co-creation requires the establishment of mutual communication, which can be fostered by e-marketing. This approach can improve customers' knowledge and expertise in purchasing products and help sellers to provide services matching customers' needs. E-marketing has a clear participant role in value co-creation through built-in policies and indicators in online social network groups. This role allows customers to look forward to new services from market by utilizing their knowledge, needs, and unique working environment. Customers transform their knowledge from implicit to explicit, also enabling other participants (such as sellers) in the ecosystem to share their knowledge, thus enhancing information transparency. Information transparency can help balance the information asymmetry between buyers and sellers, giving the two parties opportunities to collaborate and cooperate, increasing mutual trust, and in turn achieving a win-win situation. Therefore, building on extant literature, we propose the following hypothesis:

H2: A positive relationship exists between e-marketing adoption and value co-creation for customers.

H3: A positive relationship exists between e-marketing adoption and value co-creation for sellers.

3.3. Moderating influence of governance mechanism

Previous studies have indicated that customers are more likely to invest in relation-specific assets when effective governance mechanisms are in place (Burkert, Ivens, & Shan, 2012; Corsten & Kumar, 2005; Presenza, Chiappa, & Sheehan, 2013). A close examination of previous studies that have examined the various forms of governance mechanisms shows that two contrasting approaches to governance of inter-firm relationships exist. First, formal governance mechanisms (e.g. legal contracts) specify the obligations of trading partners and play a key governance role in the transaction (Cannon & Perreault, 1999). Second, informal governance mechanisms (e.g. trust) are the most effective and cost-efficient safeguards because they advance complex exchanges, and they facilitate exchange partners to engage in value creation initiatives to help the economic exchange (Corsten & Kumar, 2005; Kumar, Scheer, & Steenkamp, 1995). Furthermore, trust governance reduces the reliance on legal contract governance (Wigand, Picot, & Reichwald, 1997) because companies require fewer formal arrangements with regard to unanticipated events. Thus, legal contracts and trust co-exist in relationships: they not only refer to each other, but each creates the other because each assumes the existence of the other (Möllering, 2005). These governance approaches utilize multiple governance mechanisms simultaneously and should be complementary, as is the case with many effective alliances (Borch, 1994).

The relational perspective posits that high-volume exchange between partners increases the potential to yield additional relational rents through governance mechanisms. Therefore, considering e-marketing adoption can provide value co-creation for sellers and customers through governance mechanisms based on legal contracts and trust. Such governance mechanisms are useful for safeguarding, coordinating, and adapting inter-firm exchanges (Burkert et al., 2012), as well as protecting transaction cost investment, and promoting ongoing relationships (Jap & Ganesan, 2000). If firms enter into legal contracts and promote trust with

their customers, they can increase the potential for value co-creation between sellers and customers. For example, formal legal contracts are effective because contract law specifies the rights and obligations of sellers and customers in an exchange; thus, these contracts can provide sellers and customers with an explicit basis for planning, improving, or adopting e-marketing systems. Informal trust serves as a necessary facilitator of long-term relationships because it relates not only to current e-marketing adoption, but also to future e-marketing systems. Because the utilization of formal contracts may signal distrust between exchange partners by emphasizing the obligation of a legal contract, we also propose that seller–customer relationships rely on informal trust. Thus, formal contracts and informal trust are considered simultaneously in this paper as a moderating variable between e-marketing adoption and value co-creation for customers and sellers. Based on these arguments, the following hypotheses are proposed:

H4: The higher the level of legal contract, the greater is the effects of e-marketing adoption on the value co-creation (a) for customers, and (b) for sellers.

H5: The higher the level of trust, the greater is the effects of e-marketing adoption on the value co-creation (a) for customers and (b) for sellers.

4. Methods

4.1. Measurement of the variables

The questionnaire employed in this study was developed to measure the following five constructs: (a) integrated MO, (b) e-marketing adoption, (c) governance mechanism, (d) value co-creation for customers, and (e) value co-creation for sellers. All five constructs were re-worded to relate specifically to the context of e-marketing adoption. First, integrated MO, which is a second-order construct adapted from [Nasution et al. \(2011\)](#), was measured in this study with the following four formative first-order dimensions: (a) competitor orientation, (b) interfunctional coordination, (c) customer orientation, and (d) latent need fulfillment. Second, e-marketing adoption was assessed using five items adapted from [El-Gohary \(2012\)](#); [Shaltoni and West \(2010\)](#); [Srinivasan et al. \(2002\)](#). Third, governance mechanisms were modeled as moderator variables with the following two constructs, which were adapted from [Cannon and Perreault \(1999\)](#) and [Kwon \(2008\)](#) respectively: (a) legal contract (three items), and (b) trust (three items). The assessment of value co-creation for customers employed a six-item instrument adapted from a study by [O’Cass and Ngo \(2012\)](#). Value co-creation for sellers was measured using a three-item scale adapted from [Cabiddu, Lui, and Piccoli \(2013\)](#); [Subramani \(2004\)](#); [Vargo and Lusch \(2008\)](#).

The questionnaire was developed in three phases, as recommended by [Christmann \(2000\)](#). First, the original items were translated from English to Chinese because the survey was administered in Taiwan. A rigorous process was adopted to preserve the validity of the questionnaire. A pre-test was administered to three business management PhD candidates and three professors to verify the content validity of the instruments. The questionnaire then underwent minor modification to ensure semantic consistency between the English and Chinese. Subsequently, three academic experts and six marketing managers reviewed the instruments, scales, and questions to improve the clarity and readability. Finally, 12 managers were selected for a final pre-test, and we interviewed these managers to verify the performance of the questionnaire. According to the managers’ feedback, the

questionnaire was revised to enhance the clarity and ensure its applicability to practices in Taiwan.

4.2. Control variables

According to the literature on technology and management practice, two control variables were employed, each of which was assumed to have a possible relationship with e-marketing adoption. A firm’s prior experience with similar information systems could affect the adoption of an e-marketing system because such experience can determine whether they realize the efficiency and practical value of e-marketing systems. Previous research showed that when employees have relevant prior experience, they seldom resist the purchase of new information systems ([Zaltman, Duncan, & Holbek, 1973](#)), thereby facilitating the adoption of e-marketing systems. In addition, [Irani and Love \(2001\)](#) considered that the timing with which a firm purchases its information system is a practical basis for comparing the innovativeness of firms. To identify any possible effect of a firm’s innovativeness on its e-marketing adoption, the purchasing time of e-marketing systems has been included in the model as a control variable.

4.3. Sample selection and data collection

To analyze how e-marketing adoption facilitates the chain of MO to value co-creation in the study, the most widely applied e-marketing systems, such as CRM software, e-commerce websites, or extranets were selected. For more than a decade, companies of all sizes from various industries have employed various e-marketing systems, which purport to serve customers better and meet their needs by enabling organizations to integrate and communicate accurate and up-to-date information regarding customers. By integrating customer records with accounting, transaction, services, and marketing data, the e-marketing systems can facilitate the provision of additional services and value to customers, as well as improve the cost-efficiency and overall profitability.

Several studies have examined e-marketing research in service industries ([Coviello, Winklhofer, & Hamilton, 2006](#); [El-Gohary, 2012](#); [Trainor et al., 2011](#)). The hotel industry was selected for the research sample in this study, which is representative of the competitive climate that encourages firms to innovate their e-marketing systems to gain a competitive advantage. Taiwanese hotels seeking to improve their performance cannot simply rely on services, but must also adopt market orientation to understand customers’ needs ([Wang, Chen, & Chen, 2012](#)). Data were collected from a sample of 442 international tourist hotels, provided by [Taiwan Tourism Bureau \(2013\)](#). These international tourist hotels were rigorously screened based on two major assessment criteria pertaining to building facilities and service quality and comprising 23 assessment items. The screening was conducted by industry experts and anonymous hotel customers who were appointed by the Tourism Bureau, Ministry of Transportation and Communications in Taiwan. International tourist hotels were selected as a sample frame for three reasons. First, the hotels are a good example of e-marketing adoption. The accommodation sector responds with sensitivity to the demand and supply dynamics in terms of customers’ expressed and latent needs, and resulting profitability. Second, as noted by [Tsotsou and Vlachopoulou \(2011\)](#), the service industry requires improving the service performance of e-marketing when experiencing increasing environmental turbulence. Third, the hotels have had a substantial influence on e-commerce, which relies on Internet technology because ‘they serve the global community, their customer base tends to have many repeat customers, so they have much to gain by being sensitive to the needs of customers from around the globe’

(Lituchy & Barra, 2008, p. 98). Therefore, this study considers that surveying international tourist hotels in Taiwan could provide valuable insights on conducting business through e-marketing systems. The tourist hotels, particularly international ones, can play an important role in attracting local and foreign customers. The key target respondents in this study were marketing managers because this research focuses on a 'comprehensive view of e-business projects', particularly regarding e-marketing adoption. Thus, marketing managers were ideal candidates for questions related to the role of technology and marketing integration in e-businesses, and their effects on value co-creation.

Regular postal services and e-mail were used to deliver 442 questionnaires with a cover letter. Packages delivered through postal services included a self-addressed stamped envelope for the respondents to return the completed questionnaire. The questionnaire and cover letter asked the managers whether they had ever used e-marketing systems and confirmed that their business was currently using an e-marketing system. The first round yielded only 58 responses; thus phone calls were subsequently placed to solicit replies to the questionnaire. The second round yielded 111 responses, and the targeted respondents were again contacted by telephone calls to solicit additional replies to the questionnaire. The total number of respondents was increased to 169, yielding a final response rate of 38.2%. However, three respondents were excluded from the final sample because their questionnaires were incomplete, yielding 166 valid questionnaires. The respondent characteristics in terms of star-rated hotel, room sizes, business model, age of the company, and position of respondents in Table 1.

5. Analysis and results

This study used structural equation modeling (SEM) with SmartPLS Version 2.0. Partial least squares (PLS), approaching a least squares estimation procedure and provides flexibility in representing both formative and reflective latent constructs. It also has minimal demands on assumptions related to the measurement

Table 1
Respondent characteristics.

Range	Number of firms (n=166)	Percent
(a) Star-rated hotel		
One-star	8	4.82
Two-star	50	30.12
Three-star	61	36.75
Four-star	17	10.24
Five-star	30	18.07
(b) Room sizes		
Below 50	59	35.54
51–100	48	28.92
101–150	16	9.64
151–200	11	6.63
201–300	18	10.84
301–400	6	3.61
Above 401	8	4.82
(c) Age of the company (years)		
Below 5	42	25.30
6–10	98	59.04
11–20	15	9.04
Above 21	11	6.63
(d) Business model		
Business hotel	60	36.14
General hotel	87	52.41
Both business and general hotels	19	11.45
(e) Position of respondents		
Marketing/Sales managers	143	86.14
Other title	23	13.86

scale, sample size, and sample distribution. In the data analysis, confirmatory factor analysis (CFA) was employed to test the measurement model, and a structural model was developed for hypothesis testing.

5.1. Measurement model

Table 2 shows the standardized loading, reliability, validity measures, and other metrics for the item measures. In the measurement model, all construct items attained factor loadings ranging from 0.593 to 0.941; thus, all the items were considered acceptable for further analysis. The reliability showed that all the constructs values exceeded the recommended threshold of 0.70 (Segars, 1997). Average variance extracted (AVE) for all AVE values indicated satisfactory and recommended threshold of 0.50 (Segars, 1997).

Table 3 shows the discriminant validity of the measurements. Fornell and Larcker (1981) recommend that the square root of the average variance validity (AVE) of a construct must be larger than that of the construct's correlations with the other constructs. The data of all the constructs shown satisfactory; thus, discriminant validity was confirmed.

5.2. Structural model

PLS with the bootstrap resampling procedure was employed to perform the data analysis. The structural model revealed the R^2 values (i.e. the amount of variance in the dependent variables explained by their antecedents) and the coefficients of the causal relationships between the constructs (i.e. the hypothesized effects). These procedures were based on the suggestions of Korhonen-Sande (2010): first, the control variables were entered; next, the main effects and two-way interaction terms were calculated. The moderating influence was tested to analyze the interaction between e-marketing adoption and two governance mechanisms and their influences on value co-creation. This procedure eliminated nonessential multicollinearity between the predictors. Table 4 shows that the hypothesized interaction effects were significant; the description of Model 2 is therefore focused upon.

Fig. 2 shows the paths and corresponding significance for Model 2. Integrated MO ($\beta=0.469$, $t=6.139$) exerted a positive effect on e-marketing adoption, thereby supporting H1. E-marketing adoption had a significant effect on value co-creation for customers ($\beta=0.462$, $t=6.067$) and sellers ($\beta=0.549$, $t=7.179$). E-marketing adoption and legal contracts interactively promoted co-created value for customers ($\beta=0.178$, $t=2.359$), thereby supporting H4a. However, the interaction between e-marketing adoption and legal contracts did not promote co-created value for sellers; thus, H4b was unsupported. The moderating role of trust on the relationship between e-marketing adoption and co-created value for customers was positive and significant ($\beta=0.216$, $t=2.828$), thereby supporting H5a. However, the adoption-trust relationship did not exert a positive and significant effect on co-created value for sellers; thus, H5b was unsupported. Finally, the effect of the firm's prior experience with similar information systems on e-marketing adoption was positive and significant ($\beta=0.149$, $t=2.358$); moreover, the effect of purchase timing on e-marketing adoption was non-significant.

6. Discussion and conclusions

6.1. Discussion

This study has examined e-marketing systems to facilitate the

Table 2
Constructs and measuring items.

Constructs items	Factor loadings	t-Value
<i>Competitor orientation</i> (CR=0.915, AVE=0.643)		
We regularly analyze our competitors' marketing programs	0.830	19.240
We regularly share information within our organization regarding competitor strategies	0.804	19.412
We respond rapidly to competitor actions that threaten us	0.797	18.355
Top management regularly discusses competitor strategies	0.877	41.237
We target customers where we have an opportunity to gain a competitive advantage	0.827	28.747
We frequently collect information on our competitors to help direct our marketing plans	0.658	6.795
<i>Interfunctional coordination</i> (CR=0.932, AVE=0.733)		
We coordinate goals and objectives across all functions	0.784	13.735
All functions are integrated in serving the needs of our target market	0.854	35.849
Market information is shared with all departments	0.879	39.483
Managers understand how employees from all departments can contribute to delivering customer value	0.854	31.774
We share resources with other divisions	0.905	67.060
<i>Customer orientation</i> (CR=0.880, AVE=0.648)		
The organization constantly monitors the level to which employees are committed to serving the needs to customers	0.801	26.800
Our strategies are driven by the need to create customer value	0.820	20.588
We believe that understanding customer needs provides us with a competitive advantage	0.832	40.074
The objectives of our organization are driven by the need to achieve high customer satisfaction	0.764	16.971
<i>Latent need fulfillment</i> (CR=0.863, AVE=0.561)		
We endeavor to anticipate future customer needs.	0.747	17.306
We continuously seek to identify the needs of customers	0.765	21.538
We develop solutions to fulfill the unexpressed needs of customers	0.831	30.982
We seek to understand what customers might need in the future	0.788	24.476
We employed numerous techniques to identify unexpressed customer needs	0.593	9.009
<i>E-marketing adoption</i> (CR=0.954, AVE=0.808)		
Our firm employs e-marketing resources (e.g. web site, e-mail, etc) to communicate with our customers	0.890	57.180
Our firm employs e-marketing resources to support traditional commercial activities	0.939	94.494
Our firm employs e-marketing resources to conduct commercial transaction (e.g. online sales and payment)	0.941	94.469
Our firm has a computerized customer database that we use to perform marketing activities (e.g. inform customers about new products and services)	0.876	49.031
Our firm provides information in response to customer questions or requests via our online database	0.837	27.629
<i>Value co-creation for customers</i> (CR=0.919, AVE=0.654)		
We interact with key customers to serve them better since adopting an e-marketing system	0.794	27.290
We work together with key customer to produce offers that mobilize them after adopting an e-marketing system	0.873	39.319
We interact with key customers to design offers that meet their needs after adopting an e-marketing system	0.782	16.209
We provide products for and in conjunction with key customers after adopting an e-marketing system	0.864	37.260
We co-opt key customer involvement in providing products for them after adopting an e-marketing system	0.798	21.832
We help key customers to get more value since adopting an e-marketing system	0.733	18.509
<i>Value co-creation for sellers</i> (CR=0.845, AVE=0.646)		
We interact with key customers to improve our customer and market knowledge after adopting e-marketing systems	0.755	18.269
We interact with key customers to facilitate the introduction of new products after adopting e-marketing systems	0.836	33.942
We interact with key customers to develop new business opportunities after adopting e-marketing systems	0.817	18.932
<i>Legal contract</i> (CR=0.930, AVE=0.815)		
We have developed agreements and statements with key customers	0.893	57.668
We have formal agreements that detail the obligations of both our firm and key customers	0.923	60.421
We have detailed contractual agreements with key customers	0.892	51.071
<i>Trust</i> (CR=0.921, AVE=0.795)		
Both partners believe they are honest and truthful to each other	0.911	78.403
Both parties believe that each partner will fulfill the terms of the contract	0.917	79.909
Both parties feel a high level of unification with each other	0.844	26.540

Notes: CR: Composite reliability; AVE: Average variance extracted.

Table 3
Discriminant validity.

	1	2	3	4	5	6	7	8	9
1. Competitor orientation	0.802								
2. Interfunctional coordination	0.453	0.856							
3. Customer orientation	0.406	0.486	0.805						
4. Latent need fulfillment	0.310	0.237	0.469	0.749					
5. E-marketing adoption	0.241	0.357	0.438	0.325	0.899				
6. Value co-creation for customers	0.248	0.351	0.275	0.188	0.416	0.809			
7. Value co-creation for sellers	0.232	0.446	0.526	0.313	0.557	0.251	0.804		
8. Legal contract	0.132	0.272	0.260	0.130	0.331	0.319	0.257	0.903	
9. Trust	0.038	0.167	0.081	0.030	0.152	0.083	0.429	0.120	0.892

Notes: Diagonals represent the square root of average variance extracted, while the other matrix entries represent the correlations.

Table 4
Results of PLS analysis.

	Model 0 (Control variable)	Model 1 (Main effects)	Model 2 (Interaction effects)
IMO → EMA	–	0.469***	0.469***
EMA → VCC	–	0.419***	0.462***
EMA → VCS	–	0.557***	0.549***
EMA x LC → VCC	–	–	0.178**
EMA x LC → VCS	–	–	–0.033
EMA x Trust → VCC	–	–	0.216**
EMA x Trust → VCS	–	–	0.091
PE → EMA	0.087	0.149*	0.149*
PT → EMA	0.028	0.133	0.133
R ² E-marketing adoption	0.083	0.275	0.275
R ² Value co-creation for customers	0.175	0.176	0.265
R ² Value co-creation for sellers	0.311	0.311	0.319

IMO: Integrated market orientation; LC: Legal contract; EMA: E-marketing adoption; VCC: Value co-creation for customers; VCS: Value co-creation for sellers; PE: Prior experience; PT: Purchase timing.

*** $p < 0.001$.
** $p < 0.01$.
* $p < 0.05$.

chain of MO-based value co-creation in a business-to-business context, and investigated how governance mechanisms can moderate the enhancement of value co-creation for customers and sellers. Our findings show that the more a seller integrates MO, the higher its e-marketing adoption is with those customers. This finding is consistent with that of previous research (Narver et al., 2004; Voola et al., 2012), which showed that MO is an antecedent to innovation adoption. The result supports the hypotheses of e-marketing adoption as an innovation, although to be able to adopt the innovation, it is necessary that the integrated MO understand and satisfy customers' needs. Specifically, e-marketing adoption is considered an element of innovative culture, which is associated with long-term oriented inter-firm relationships that add substantially to the adoption of e-marketing systems.

The findings show that e-marketing adoption through the generation of relational rents fosters value co-creation for customers and sellers. This finding indicates that e-marketing adoption has a strong effect on value co-creation for sellers and customers, implying that e-marketing systems are critical inter-firm resources

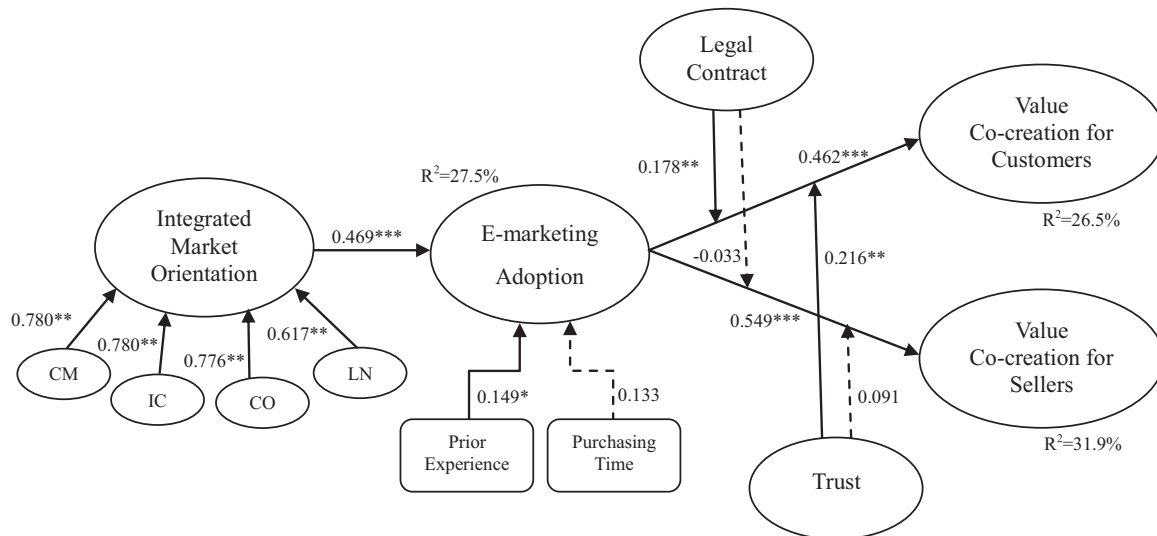
that can generate rents and thus provide competitive advantages to the involved sellers and customers. This finding is in agreement with the view of Cabiddu et al. (2013), who indicated that IT enables value co-creation in tourism. It also supports the findings of Brodie et al. (2007) and Day and Bens (2005) who indicated that e-marketing improves firm performance and enhances customer retention. In the current dynamic and customer-driven environment, where it is extremely difficult to satisfy customer needs through traditional marketing channels, this result is particularly pertinent because the adoption of e-marketing systems to co-create value provides benefits to both customers and sellers, while simultaneously securing sellers to derive benefits and satisfying customer needs in the supply chain network. Based on the view of the supply chain, the findings of this study indicate that adopting e-marketing systems offers a key advantage to sellers when interacting with their customers.

This study also shows that governance mechanisms, as measured by the legal contract and trust constructs, affect the relationship between e-marketing adoption and value co-creation. This finding supports that of Borch (1994), who argued that the relationship between governance mechanisms was complementary, as well as the findings of Möllering (2005), who indicated that trust and control can coexist and jointly contribute to partner confidence. The findings show that by fostering greater volume of exchange, governance mechanisms facilitate inter-firm coordination, and promote ongoing relationships, thereby facilitating the value co-creation for customers through the adoption of e-marketing systems.

Regarding the two control variables (prior experience and purchase timing), we observed that a firm's prior experience with similar information systems had a direct and significant effect on the adoption of e-marketing systems. Conversely, the timing of a firm's purchase of a new information system had no effect on e-marketing adoption. This result confirmed that prior experience using information systems can provide know-how understanding, reduce adoption resistance, and it is an external factor for e-marketing adoption.

6.2. Theoretical implications

Given the findings, this study provides several critical



Notes: CM: Competitor orientation; IC: Interfunctional coordination; CO: Customer orientation; LN: Latent need fulfilment; * $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$

Fig. 2. Path diagram for Model 2.

implications for the study of marketing management. First, although previous research discussed the MO valuation research from the perspective of a single firm under the premise that MO facilitates value to that firm (Harris & Ogbonna, 2001; Uncles, 2011), this study is the first to show that MO value can be created through e-marketing adoption. Because it focuses on the emerging trend of value co-creation through e-marketing adoption, this study contributes to the literature by providing a novel research direction in MO valuation. Second, despite the notion purported by Slater (2001) that the driver of MO impact is not inherent to the basic concept of MO, but to the actual insight of total MO, this study is among the few that examine the chain of MO to value co-creation, where integrated MO encourages e-marketing adoption, which in turn creates value co-creation. This study supplements the knowledge of MO literature by filling the research gap on the effect of MO on performance in a business-to-business (B2B) context. Third, the study addresses an ambiguity in previous marketing literature regarding the effect of MO on value co-creation, and provided clarification by showing that the proposed model requires e-marketing to facilitate the chain of MO to value co-creation. Moreover, this research is one of the first in the field of marketing based on the relational perspective to examine the chain of MO-based co-creation of value. This study shows that governance mechanisms are useful for safeguarding, coordinating, and adapting inter-firm exchanges, as well as improving the value co-creation for customers.

6.3. Managerial implications

The study provides several implications and recommendations for the marketing and management of tourist destinations. Tourism managers should reinforce the importance of developing firm-level capabilities that support and encourage the adoption of e-marketing systems. Specifically, firms intending to adopt an e-marketing system that combines competitor orientation, inter-functional coordination, customer orientation, and the fulfillment of latent needs to develop an integrated MO beforehand because specific firm capabilities can affect innovation adoption. Managers must consider a combination of the four constructs of distinction and relatedness to enhance the effects of the capability for firm. This recommendation implies that managers should focus on the importance of integrated MOs when pursuing initiatives aimed at facilitating their customers' adoption of e-marketing systems. In addition to ensuring that the appropriate firm-level capabilities are dedicated to this effort, managers should also cultivate innovative cultures that embrace and support the adoption of novel systems. Additionally, managers should clarify an overall vision for their e-marketing systems, and clearly state how it should be adopted across all firms. This is critical because integrated MOs create value by the adoption of e-marketing systems during seller-customer interactions with all marketing processes that involve customers.

The international hotel industry in Taiwan applied the concept of integrated market orientation as a method of strategic thinking. After applying new technologies in e-marketing through a series of platforms, members of the Taiwan hotel industry developed intelligence, personalization, and informatization, eventually creating more value for the future. They did this through such actions as managing social networking groups in a way similar to making online friends by publishing at least one post daily, proactively offering information about good food and fashion, and also sharing customers' posts. By using LINE@livingspace (a marketing tool in Taiwan for businesses to promote their services and products through a mobile app account), businesses can not only track the success of their events with data, but can also analyze the types of promotions their LINE@friends accept and the themes

that attract the most interest. Finally, this information can serve as reference for future events, helping to maximizing customer satisfaction. This also offers the tourism industry new opportunities to develop destinations marketing for products more easily.

The findings presented here provide sound reasoning for the chain of MO in value co-creation that suggest marketing tourist destinations should make information technology-based marketing investments to facilitate know-how with their customers and the exchange of idiosyncratic information. Although it may be reasonable to assume that managers are familiar with the concept of integrated MO and how it can have a positive effect on outcomes such customer value, this study highlights how value co-creation for sellers and customers can be enhanced through the adoption of e-marketing systems. It is acknowledged that in addition to obtaining additional business opportunities, customers, and market knowledge, managers should also interact with customers to better understand their changing needs, and to develop appropriate responses. Additionally, it is also believed that e-marketing and Internet-based technologies are changing practices of destination marketing. In numerous circumstances, it is evident that firms do not align their strategies with the ever-changing environment and customer needs: consequently, these firms could lose their competitive advantage. Brodie et al. (2007) indicated that in the 'coming of age' of e-marketing, firms should adopt e-marketing to extend their competitive advantage and complement traditional marketing channels.

Based on the findings of this study, this study emphasizes the importance of governance mechanisms: they are safeguards that firms employ to protect transaction cost investment, control inter-firm exchange, and promote ongoing relationships. Moreover, when employing these mechanisms with partners, the adoption of e-marketing systems can provide additional value co-creation for customers. Thus, governance mechanisms are essential tools for managers to maximize e-marketing investments, enhance the quality of firm-customer relationships, and provide a value to involved customers. Additionally, the findings also indicate what managers should consider when shaping inter-firm relationships. The mechanisms highlight a decision factor for customer-oriented interaction strategies.

To explain the results of this study further, this study selected five renowned international tourist hotel firms in Taiwan and conducted field interviews with the business managers responsible for e-marketing projects to elucidate the actual operations of e-marketing in these firms. Through these interviews, it was found that e-marketing has rapidly developed in the hotel industry, earning high-level recognition and generating the highest return on investment for the destination marketing. The managers expressed the view that the pre-requisite of e-marketing operation was an in-depth understanding of the e-marketing environment, especially competitor orientation and customer needs. The managers stated that they maintained and managed customer orientation and needs by using an e-marketing system or cloud-based interactive marketing system, which provides products and services that meet customer needs and enables customers to conduct transactions by using the system. The managers considered that the greatest advantages of using e-marketing systems are the accessibility to the most current travel information for potential customers, a channel through which current customers can convey their needs and identify suitable travel patterns, and the provision of increased business opportunities for the hotel industry. Although past research shows that e-marketing can help businesses conduct marketing activities and enhance their competitive advantage, this study can help businesses in the hospitality industry better understand the important roles of factors like competitor orientation, inter-functional coordination, customer orientation, and latent need

fulfillment when introducing e-marketing. At the same time, these businesses have come to realize that e-marketing can enhance their competitiveness. This effect lies mainly in the fact that e-marketing contributes to the utility of the integrated MO, which helps attain value co-creation for customers and sellers.

With changes in areas like consumption habits, means of consumption, and the state of media and marketing techniques, traditional marketing is increasingly insufficient to address needs in the new environment. When facing these business transitions, businesses need a change in the thinking about traditional marketing and an accelerated transition to the electronic marketing. The present study found that when businesses employ e-marketing during their transitions, they must emphasize integrated marketing orientation. For instance, businesses were encouraged to observe their competitors' moves, to adopt coordination across departments, to become customer-oriented, and to emphasize customers' needs. All of these increase the need for businesses to intensify their interaction with customers and to understand service needs through e-marketing adoption (e.g. website, e-mail, online sale, etc). Customer service needs are generated intrinsically, and often involve what customers' personal and urgent needs because they are also usually the beneficiaries when a demand is met. Thus, customers are willing to perform various value co-creation behaviors to adjust to the project, aiding members of the hospitality industry to meet demands, or even actively participate in the project's governance to understand how businesses address their needs. Consequently, there is a high degree of value co-creation behaviors between customers and members of the hotel industry.

6.4. Limitations and future research

The limitations of this study are as follows. Firstly, although subjective measures were used for value co-creation, it is understood that both objective and subjective measures have advantages and disadvantages. Thus, where possible, future research should employ both measures to evaluate co-creation value. Furthermore, researchers are encouraged to adopt a longitudinal approach to ensure improved causality testing. Future research should consider including other variables, such as the business strategy and international orientation of an enterprise, to extend the proposed integrated model of e-marketing adoption. Further research must clarify the effect of top-management support and organizational incentives for the adoption of e-marketing systems. Secondly, the findings of this study provide a basis for additional research that might uncover crucial moderating effects on the relationship between adoption e-marketing systems and co-creation of value. Based on the findings presented here, future studies are encouraged to examine how governance mechanisms impact each another, and how they relate to specific outcome variables when various mechanisms are applied. It would be of value if future studies were to identify other moderators or facilitating mechanisms that create greater co-creation value for suppliers and customers through e-marketing adoption. Thirdly, this study has not analyzed the effect of the key customers' industrial background. The samples used for the model estimation were all from international tourist hotels. The study did not examine other industrial influences or differences. Moreover, because the respondents in this study were volunteers, they were inevitably subject to self-selection variance. This was checked as a potential problem by employing the Harman one-factor test. The test results indicate that each principal construct explained approximately equal variance, indicating that the data do not suffer from high common method variance. Finally, the sample size in this study was small because it was difficult to collect the relevant data. In addition, the research subjects were members of the international

hotel industry, and so the research findings may not be applicable to other industries. These factors may limit the general applications of the study. It is therefore suggested that future cross-country research can help obtain a larger and more representative sample. Researchers can also choose other industries as research subjects, which can further verify the robustness of the theoretical model developed in the current study.

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