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The Competencies of Sellers in e-Commerce and Innovative Sales Activities for Sales Performance*

Eunji KIM¹, Jongkun JUN², Jae Hoon HYUN³

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Abstract

Purpose: This study aims to identify the core competency of sellers on their sales performance in the context of e-commerce, and to verify the mediating effect of innovative sales activities. **Research design, data, methodology:** A questionnaire survey was carried out to 200 sellers in e-commerce. Exploratory factor analysis and reliability analysis for Cronbach's Alpha were performed to verify the validity and reliability of the and the regression analyses of 5,000 bootstrap samples were carried out to test hypotheses. **Results:** Based on the analysis, the elements of competencies of sellers in e-commerce such as self-control, trust-building, social interaction skills were positively related to the innovative sales activities and sales performances. Innovative sales activities also affected sales performances. Indirect effects of competencies of sellers on sales performance via innovative sales activities were partially effective depending on variables that brought practical implications. From a practical perspective, the valid competencies found in this study may be applied for the recruitment and selection of sellers. **Conclusion:** This study shed light on theories of e-commerce sales and sales practices by examining the competencies of sellers in e-commerce compared to those of traditional sellers and by revealing innovative sales activities as the effective mediator for sales performance.

Keywords : e-Commerce, Competencies of Sellers, Innovative Sales Activities, Sales Performance.

JEL Classification Code: L14, L25, M15, M31, M37

1. Introduction

The last decades witnessed the development of internet-based telecommunication technology and its effects on the everyday life of individuals as well as business strategies and practices. In particular, the retail e-commerce that creates commercial transactions in the virtual internet space showed rapid growth at an unprecedented rate and, in particular, the global pandemic started in 2019 resulted in a dramatic increase in online sales volume (Statista, 2019).

Compared to the traditional sales and distribution channel, the context in e-commerce seems to provide

convenience and efficiency by reducing time and costs as well as enhancing interactivity and accessibility. In addition, online sales via the internet innovate the paradigm of marketing as a whole in various areas such as sales routes, time to market, product promotion, and trust formation with customers and create new, previously unimaginable business opportunities. Seller sales capabilities are found to be central to performance and customer behaviors in the different contexts of e-commerce (Mu & Zhang, 2021). It is, therefore, necessary to identify a novel definition of the competencies of sellers and their effects on sales

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1 Ph.D., Dept. of International Business, Hankuk Univ. of Foreign Studies, S.Korea. Email: woorin anum@nate.com

2 Professor, Faculty of Global Business and Technology, Hankuk University of Foreign Studies, S.Korea. Email: jkjun@hufs.ac.kr

3 Corresponding Author, Professor, Faculty of Global Business and Technology, Hankuk University of Foreign Studies, S.Korea. Email: jhyun@hufs.ac.kr

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performances that are inevitably different from those of traditional sellers.

Based on reviewing previous studies, the competencies of sellers in traditional terms have continued until recently in various works of literature (Park & Park, 2016; Yeo, Chang, & Kim, 2021). Only a few pieces of research have been found on sellers in e-commerce but they addressed the seller's role for online sales, behavior, and reputation of sellers in the online platform (Zhao, Wang, Sun, Liu, Fan, & Xuan, 2019; Wang, Cai, Xie, & Chen, 2021; Chen, Zheng, Xu, Liu, & Wang, 2018). None of them examined sellers' competencies and their effects on innovative activities and sale. Thus, it is necessary to find the required competencies of e-commerce sellers to define expertise as a profession and how these competencies result in actual innovative behavior to enable sellers in e-commerce to develop necessary competencies and desirable sales performance.

This study aims to identify the core competencies of sellers as the determinants of sales performance in the context of e-commerce and to verify the mediating effect of innovative sales activities. To achieve the objective, this study asks the following research questions. What are the valid competencies of sellers that positively affect sales performance? What competencies, in particular, are related to innovative sales activities? Are competencies of sellers directly affecting sales performance or are there mediators that lead competencies to actual sales performances? How significantly do innovative sales activities mediate the competencies of sellers and sales performance?

By answering the above questions and based on possible findings derived from analysis, this study may shed a light on the literature related to the competencies of sellers and sales performance in e-commerce with a novel approach. In addition, we also anticipate that this study may contribute to enhancing the individual competencies of sellers in e-commerce as well as to help organizations develop schemes for selection, training their sales teams, and innovative sales practices.

The structure of this study is as follows. The previous studies were reviewed firstly and the hypotheses and research model are derived based on the theoretical considerations. After elaborating methodology and data analysis, the results of this study are summarized and discussed in the discussion and implications sectors that are finally followed by the conclusion.

2. Literature Review

2.1. Competencies of Sellers and Sales Performance

Competencies of sellers are essential strategic elements of firms for their strategic plan and implementation in

marketing as they significantly affect sales performance (Zhou & Li, 2010; Ellis-Chadwick & Doherty, 2012). Sypniewska (2013) suggested that an individual competency-based approach should be adopted to evaluate and develop sellers for the growth of an enterprise. It is also suggested that individual competencies of sellers have greater effects on sales performance than advertisement by multiple folds (Kotler, Kartajaya, & Setiawan, 2010).

Among other competencies of sellers, self-control was pointed out as a critical factor (Chen, Huang, Davision, & Hua, 2015; Sypniewska, 2013; Spencer & Spencer, 1993). As sub-elements of self-control, the ability to make a decision, pride, positive confirmation, conscience on a mission, self-confidence to turn a negative crisis into a positive opportunity were suggested (Sypniewska, 2013; Spencer & Spencer, 1993). Adaptive selling behavior is also considered as the important sub-factor for self-control as it indicates the seller's customer orientation and capability to adapt promptly to changing context of the business environment (Franke & Park, 2006).

A trusting relationship is defined as a tendency of reliance based on the confidence of customers in the seller as the counterpart of transaction and a critical factor for firm's performance (Liu, Che, Liu, & Zhang, 2012). The distrust of customers derived from the anonymous context of e-commerce is found to be negatively affecting customer relationships and sales performance (Thorpe, 2011). Park and Pyeon (2018) confirmed that an intentional improvement of seller-customer trust is the foremost interest for relationship enhancement between sellers and customers. As a competency of sellers, an ethical attitude is suggested to enhance trust between a seller and customers in the context of e-commerce. (Pavleska & Blažič, 2017). In particular, trust in the other party is considered an inevitable element to maintain sustainable and long-term buyer-seller relationships and to increase market share in e-commerce (Newell, Belonax, McCardle, & Plank, 2011; Pavlou & Gefen, 2004; Gunzi & Georges, 2011).

Effective sellers also should have competency for social interaction to create and maintain favorable relationships with interested parties to achieve sales objectives (Henning-Thurau, Gwinner, & Gremer, 2002). Social interaction as a competency of sellers includes capabilities to pay attention to customers' personal information provided by customers such as birthday, preferred purchase time, favorable products (Ahearne, Jones, Rapp, & Mathieu, 2008). Sellers also need to have the competency to understand the issues, ideas, and interests of customers partially expressed by them (Oh, Bae, & Yoon, 2010). As sellers pay attention to information and the voice of customers, they also may cultivate related competencies to provide relevant services to customers at a right time (Ahearne et al., 2008). In addition, positive influence is suggested as one of the critical

social competencies as sellers need to persuade customers by providing assurance and showing strong impressions to achieve their objectives (Spencer & Spencer, 1993).

Other studies considered knowledge and technology of individuals including negotiation, communication, utilization of technology, capacity to collect information as the important competencies of sellers (Greenwood & Buren, 2010; Ramadan, 2019; Ahearne et al., 2008; Pavlou & Gefen, 2004; Zhuang, Xi, & Tsang, 2010; Gomber, Kauffman, Parker, & Weber, 2018).

In the particular context of e-commerce, the development of information technology and the prosperity of online communities, as a result, affected business strategies significantly and created an important marketing sphere (Park, Cho, & Ahn, 2015). Thus, knowledge and technology as competencies in the area of e-commerce inevitably include information and communication technologies and they are widely used to drive e-commerce as well as to innovate business processes, organizational structure, and culture. Several studies suggested that information technology-related competencies are considered as distinctive factors to differentiate customers' e-commerce experience and online sellers with IT capability is the important human asset that would increase customer loyalty and reduce marketing expenses (Chae, Koh, & Park, 2018). Managing information technology and infrastructure is identified as the critical element of technology-related competency (Haffke, Kalgovas, & Benlian, 2017). Bhargava and Choudhary (2004) also categorized programming, system analysis, and planning as information technology-related competencies of sellers. Many firms utilize e-business strategically to enhance the company-wide value chain and online seller equipped with technology is required to develop a successful framework (Kane, Palmer, Phillips, Kiron, & Buckley, 2015).

2.2. Innovative Sales Activities

Innovation is considered as an essential element for the inherited competitiveness of an enterprise regarding organizational structure, business process, product, and service that create value for customers (Gunday, Ulusoy, Kilic, & Alpkın, 2011). In particular, some studies reported that marketing-related innovation is directly and positively related to sales performance (Bowen, Rostami, & Steel, 2010; Chen, 2015; Ellis-Chadwick & Doherty, 2012).

Innovative sales activities in e-commerce are practically important because these activities endow greater value for customers and enhance sales by making customer elasticity less sensitive (Kannan, 2017; Naidoo, 2010). Marketing innovation from its definition brings significant changes in sales and marketing methodology in various areas such as price, product relocation, promotion, design, and packaging

of products compared to existing marketing efforts to enhance product attractiveness and brand recognition (Kalkan, Bozkurt, & Arman, 2014).

Ahearne et al. (2008) mentioned that successful online marketing innovation should include the active participation of online sellers utilizing software, data, and online assistance provided by the operating system of an organization. Marketing innovation means proactive use of new technologies and business processes innovation to approach customers effectively using price reduction and efficient distribution channels (Micheaux & Bosio, 2019). This process innovation and the employment of new technologies include a strategic approach in product design and packaging, launching new brands, promotion, and other efficient attempts to boost sales performance (Chaffey & Ellis-Chadwick, 2019). Research by OECD in 2018 revealed that marketing innovation by e-commerce usually adopts multiple channels and methods to promote new brands, to collect customer information, to understand customer's needs, to identify the patterns of consumption, and advertise new concepts and identity of products and services (OECD, 2018).

It is also suggested product innovation, the introduction of new brands, product design, and packing innovation using ICT through active communication with customers is the process of online marketing innovation and together with this, companies aim to develop efficient supply chain system and price competitiveness (Coenen & Kok, 2014). Faulds, Mangold, Raju, and Valsalan (2018) expanded the concept of marketing innovation in the context of e-commerce by applying it to all activities to expose intangible intellectual properties and those also may apply to tangible products. Park and Park (2016) defined online marketing innovation as an extensive concept including SNS marketing, viral marketing, online advertisement, social CRM (SCRM), web-log analysis, product recommendation service, and customized advertisement.

As stated above, innovative sales activities in e-commerce are related to aggressive marketing strategies in product, price, promotion, and place by utilizing information and communication technologies (Naidoo, 2010). In particular, online marketing innovation is critical for the success of sellers in the context of e-commerce because it enables them to provide exceeding value for customers and to positively affect sales performance by making demand elasticity less sensitive (Bowen et al., 2010; Oklander, 2018; Naidoo, 2010; Raman & Menon, 2018).

2.3. Research Model and Hypotheses Development

This study establishes a construct of research model and hypotheses based on the previous studies as the competencies of e-commerce sellers are categorized into 4

groups; self-control skills, trust-building skills, social interaction skills, and knowledge and technical skills. Each category also consists of a total of 12 sub-categories derived from the literature review. In particular, we included questions in our survey to ask trustworthiness, ethical decision making based on Lucia and Lepsinger (1999) and adaptiveness, customer service, interest in personal information, and knowledge from the study of Ahearne et al. (2008), and ICT capabilities as a human asset are derived from Chae, Koh, and Park (2018).

H1: Self-control skills of sellers in e-commerce will be positively related to their innovative sales activities.

The first hypothesis is derived among other competencies of sellers, self-control was pointed out as a critical factor (Chen et al., 2015; Sypniewska, 2013; Spencer & Spencer, 1993). Trust is also confirmed as interest for relationship enhancement between sellers and customers (Park & Pyeon 2018; Liu, Che, Liu, & Zhang, 2012). The second hypothesis, therefore, points out trust-building as an important skill of sellers' in e-commerce.

H2: Trust-building skills of sellers in e-commerce will be positively related to their innovative sales activities.

Effective sellers also should have competency for social interaction to create and maintain favorable relationships with interested parties to achieve sales objectives (Ahearne et al., 2008; Henning-Thurau et al., 2002; Oh et al., 2010). In the particular context of e-commerce, the development of information technology and the prosperity of online communities, as a result, affected business strategies significantly and created an important marketing sphere (Park et al., 2015; Greenwood & Buren, 2010; Ramadan, 2019; Ahearne et al., 2008; Pavlou & Gefen, 2004; Zhuang, Xi, & Tsang, 2010; Gomber et al., 2018). The third and fourth hypotheses are established based on these suggestions as follows;

H3: Social interaction skills of sellers in e-commerce will be positively related to their innovative sales activities.

H4: Knowledge and technical skills of sellers in e-commerce will be positively related to their innovative sales activities.

Many studies reported that marketing-related innovation is directly and positively related to sales performance (Bowen et al., 2010; Chen, 2015; Ellis-Chadwick & Doherty, 2012). Online sales innovation is critical for the success of sellers in the context of e-commerce because it enables them to provide exceeding value for customers and to positively affect sales performance by making demand elasticity less sensitive (Bowen et al., 2010; Oklander, 2018; Naidoo, 2010;

Raman and Menon (2018). Based on the suggestion of previous studies, the fifth and sixth hypotheses are derived.

H5: Innovative sales activities of sellers in e-commerce will be positively related to their sales performance.

H6: Innovative sales activities will mediate the relationship between seller competencies and sales performance.

A research model is developed based on previous studies and hypotheses suggested above.

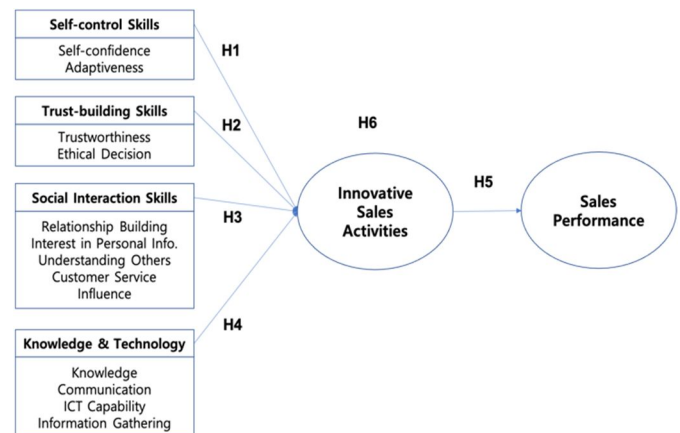


Figure 1: Research Model

3. Methodology

3.1. Measurement and Data Collection

This study identified self-control skills, trust-building skills, social interaction skills, knowledge, and technical skills as main variables based on the previous studies and attempted to measure each category by giving out a survey for sub-factors asking the level of agreement for each factor in 5-point Likert scale. Self-control is measured by asking about self-confidence in judgment and capabilities, confidence in any challenging situation, and planning skills without relying on anyone around and the measures are adapted from Spencer and Spencer (1993) and Chen (2015). Trust-building is adapted from Newell et al. (2011) and measured by asking questions diligently and promise-keeping behavior, suggesting honest price, respect for others and fair treatment, staying away from other's matters, compliance with principles. Social interaction skills are adapted from Ahearne et al. (2008) and measured by capabilities to identify common information with customers as sellers are sharing information, ability to contact customers informal settings, attitude to remain as the favorable relationship with customers out of business situations, and the usage of customers' anniversaries. Lastly,

knowledge and technical skills are measured by asking questions related to online communication with customers, the swift transition of IT strategy depending on the types of customers, and the effective gathering of information that the seller is handling and the measures are adapted from Ahearne et al. (2008).

Innovative sales activities as a mediating variable are adapted from Aksoy (2017) and it is measured by assessing how often a seller introduces new ideas in marketing efforts, the degree of using recent marketing methods, activity to rearrange product lines according to the popularity of products, the amount of time that seller is spending to collect relevant information, attitude to improve the way to communicate with customers, and efforts to cultivate various marketing channels.

Sales performance as a dependent variable is adapted from Wisker and Poulis (2015) and it is measured by asking comparison between present sales against previous sales records, how sales are consistently increasing, an actual sales performance compared to expectation, and recognition about profit generation.

Considering the effects of exogenous factors that might have a direct and indirect influence, it is necessary to include those as control variables. This study incorporated the employment type (self-employed or employed), gender, experience, main products that the seller is dealing with as exogenous factors to control. Experience is measured as we ask for total months and recalculated to a ten years scale. Main products are categorized into cosmetics, apparel, accessories, and others.

This study focused on sellers in the e-commerce sector in Korea. The definition of the seller is anyone who works in sales in the e-commerce domain as an occupation. This study adopted the snowball approach in the non-probability sampling technique for the survey. The population was determined by asking for interviews to introduce his or her friends and email or post-survey questionnaire were sent out regardless of the type of products and sellers' employment types such as B2B and B2C. The questionnaires were filled in by respondents of their own and 205 questionnaires were collected out of 220 showing a 93.1 percent of responding rate. 200 questionnaires were selected for analysis as 5 respondents were excluded as inappropriate. We applied SPSS 23.0 and Hayes Process Macro (Model 4) to examine the mediating effects of the innovative sales activities and the overall effects of competencies of sellers in e-commerce on sales performance.

3.2. Demographic Information of the Data

To find the general representativity of samples for the population, we analyzed the demographic information of the survey. The following table shows the general

characteristics of samples (Table 1). Demographic distribution of gender indicates 48 percent of males and 51.5 percent of females. 24.5 percent of the sample population were 36~40 years old, 22.5 percent were 26~30, and 22 percent were 31~35. The average experience of respondents was about 60 months and 64.5 percent work for an enterprise and 35.5 percent were self-employed. Annual sales volume showed diverse answers such as 23 percent recorded less than KRW 300 million, 21 percent indicated 1 KRW billion, and 17 percent marked between KRW 300~500 million in sales.

Table 1: Demographic Information of Respondents (N=200)

		Frequency	%	Average	Standard Deviation
Gender	Male	97	(48.5)	-	-
	Female	103	(51.5)	-	-
Age	<25	6	(3.0)	-	-
	26-30	45	(22.5)	-	-
	31-35	44	(22.0)	-	-
	36-40	49	(24.5)	-	-
	41-45	21	(10.5)	-	-
	46<	35	(17.5)	-	-
Experience (Months)				60.47	(44.82)
Main Products	Cosmetics	39	(19.5)	-	-
	Apparels	62	(31.0)	-	-
	Domestic Appliances	13	(6.5)	-	-
	Accessories	46	(23.0)	-	-
	Furniture	9	(4.5)	-	-
	Etc.	31	(15.5)	-	-
Type of Employment	Self-employed	71	(35.5)	-	-
	Employed	129	(64.5)	-	-
Sales (Annual)	<50 mil.	34	(17.0)	-	-
	50-100 mil.	33	(16.5)	-	-
	100-300 mil	46	(23.0)	-	-
	300-500 mil	18	(9.0)	-	-
	100-1 bil	27	(13.5)	-	-
	1 bil<	42	(21.0)	-	-

4. Results and Discussion

4.1. Analysis of Reliability and Validity

The following table summarizes the result of Exploratory Factor Analysis (Table 2).

Table 2: Exploratory Factor Analysis

	Innovative sales activities	Trust-building	Social Interaction	Knowledge and Technic	Self-Control
MIA1	.710	.113	.152	.141	.209
MIA2	.693	.204	.146	.143	.192
MIA3	.669	.129	.198	.121	.076
MIA4	.641	.288	.252	.122	.053
MIA5	.630	.141	.156	.237	.076
MIA6	.628	.091	.126	.346	.214
MIA7	.627	.255	-.002	.379	.155
TBS1	.086	.776	.081	.294	.068
TBS2	.249	.739	.114	.196	.188
TBS3	.297	.723	.112	-.053	.079
TBS4	.138	.546	.151	.502	.301
TBS5	.227	.535	.023	.413	.077
SIS1	.049	.063	.773	.170	.065
SIS2	.322	.033	.753	-.067	.130
SIS3	.130	.217	.750	.170	.082
SIS4	.271	.027	.668	.140	.223
KTS1	.252	.198	.182	.691	.118
KTS2	.288	.211	.020	.684	.242
KTS3	.408	.176	.251	.541	.142
KTS4	.376	.161	.324	.509	.126
SCS1	.144	.118	.147	.055	.791
SCS2	.114	.105	.125	.270	.689
SCS3	.303	.151	.145	.147	.683
Eigen Value	4.03	2.74	2.68	2.62	2.06
Cumulative %	17.53	29.46	41.09	52.47	61.43
Kaiser-Meyer-Olkin Sampling Adequacy		.918			
Bartlett's test of sphericity test	Approximate chi-square		2031.67		
	df		253		
	p value		.000		

This study employed principal component analysis for the factor extraction, used Varimax for factor rotation. Cumulative explanatory power is 61.43 percent and this figure satisfied the minimum requirement suggested by Hair, Black, Anderson, and Tatham (2006).

The result of correlation analysis is suggested in the following table (Table 3). The diagonal line shows Cronbach's Alpha coefficient. The scale reliability of each variable is found to be appropriate. The table shows that sales performance is particularly related to social interaction and online innovative sales activities.

Table 3: Correlation Analysis

	1	2	3	4	5	6
Self-control	0.699					
Trust-building	.454**	0.827				
Social Interaction	.404**	.351**	0.796			
Knowledge-Technology	.522**	.644**	.470**	0.790		
Innovative sales activities	.509**	.590**	.496**	.713**	0.866	
Sales Performance	.490**	.475**	.618**	.570**	.686**	0.856

** p<0.01, The diagonal line shows Cronbach's Alpha coefficient.

4.2. Hypotheses Testing

The results of hypothesis testing employing the Hayes Process, model 4, and 5,000 bootstraps are suggested in the following table (Table 4). Innovative sales activities is employed as mediating variable in this study but when it was positioned as a dependent variable, social interaction ($b=0.139$, $p<0.01$), trust-building ($b=0.174$, $p<0.01$), knowledge and technology skills ($b=0.474$, $p<0.01$) were found to be statistically significant. Together with this, the self-control variable also showed marginal significance ($b=0.112$, $p<0.058$). All control variables were found to be insignificant. Therefore, hypotheses one to four examining the effects of seller skills on innovative sales activities were adopted. The second regression analysis model positioned sales performance as the dependent variable and tested the effect of innovative sales activities. The result shows that innovative sales activities were found significantly related to sales performance ($b=0.470$, $p<0.01$). Thus, hypothesis 5 propositioning the effect of innovative sales activities on sales performance is adopted. It is worth noting that the effects of self-control skills, trust-building skills, knowledge, and technology skills on sales performance become irrelevant as sales innovation as mediating variable is added. In other words, the complete mediation of innovative sales activities is confirmed in the relationship of those variables with sales performance.

In addition, social interaction skills have direct effects on the sales performance even with the mediating variable ($b=0.304$, $p<0.01$) that indicates this variable determines the sales performance disregards innovative sales activities.

Table 4: Result of Hypotheses Test

	Dependent Var: ISA			Dependent Var: SP		
	β	SE	p	β	SE	p
Constant	.309	.231	.182	-.256	.252	.310
Social Interaction Skills	.139	.048	.004	.304	.053	.000
Self-control Skills	.112	.059	.058	.077	.065	.235
Trust-building Skills	.174	.062	.006	.075	.069	.273

		Dependent Var: ISA			Dependent Var: SP		
		β	SE	p	β	SE	p
Knowledge and Technology Skills		.474	.073	.000	.080	.087	.362
Innovative sales activities (Mediator)					.470	.079	.000
Control Variables	Gender (Male=1)	.012	.061	.852	-.038	.066	.572
	Experience (years)	.010	.011	.360	.008	.011	.507
	Employment Types (Employer=1)	-.260	.065	.692	.054	.071	.443
	Product (Cosmetic=1)	-.011	.093	.909	.309	.101	.003
	Product (Apparel=1)	.099	.083	.235	.136	.090	.135
	Product (Other=1)	.028	.088	.752	-.086	.095	.367
F-value (df1, df2)		26.46 (10, 189)			28.19 (11, 188)		
R ²		.583			.623		

This study proceeded with further regression analysis to examine the indirect effects of seller’s competencies mediated by the market innovation activities utilizing the Hayes Process macro employing model 4 with 5,000 bootstraps. The results of this analysis are suggested in the following table (Table 5).

Table 5: Results of Mediating Effect Testing.

Paths of Indirect Effects	Coeff.	BootSE	BootLLCI	BootULCI
SCS → ISA → SP	0.053	0.031	-0.000	0.120
TBS → ISA → SP	0.082	0.034	0.026	0.157
KTS → ISA → SP	0.223	0.055	0.121	0.334
SIS → ISA → SP	0.066	0.027	0.018	0.124

The results show the indirect effect of knowledge and technology on sales performance via innovative sales activities is the greatest among other skills (0.223). The next variable is trust-building skills that have indirectly affected sales performance less than knowledge and technology but greater than other variables (0.082). Social interaction also has an indirect effect on sales performance via innovative sales activities (0.066). The indirect effects of these variables are statistically significant as the value of BootLLCI, and BootULCI is above 0. Nevertheless, the indirect effects of self-control on sales performance via innovative sales activities are found to be independent and mediating effects were not observed as the value of BootLLCI was negative, and Booth ULCI showed a positive figure. This result may indicate that self-control affects

innovative sales activities directly but it does not necessarily result in enhanced sales performance.

4.3. Discussion and Implications

Based on the hypotheses testing and subsequent findings of this study, we may discuss the results to identify several theoretical and practical implications. For the theoretical perspectives, firstly, the previous studies attempted to identify the importance of applying information technology for the performance (Ahearne et al., 2008; Ogilvie, Agnihotri, Rappa, & Trainor, 2018) did not consider seller specific characteristics and behaviors and examined them as mediating variables. This study is differentiated from previous attempts by suggesting that sellers’ competencies as their specific characteristics would also affect work-related behavior. This attempt is novel in the area of e-commerce as a perspective from the finance sector that personal character affects behavior and performance via behavioral changes is applied to another sector for the first time (Byegon, 2020).

Secondly, the results of the analysis showed us some understanding of the competencies of sellers in the e-commerce sector. In the previous studies, self-control was pointed out as a critical factor (Chen et al., 2015; Sypniewska, 2013; Spencer & Spencer, 1993). As we witnessed self-control skills affect innovative sales activities directly but are less relevant to the sales performance, this implies that sellers’ competencies such as knowledge and technology, trust-building, and social interaction are effective factors enhancing the sales performance when it comes to sales innovation efforts. Therefore, it is necessary to emphasize those elements when each seller attempts to develop competencies that result in better sales performance. The same principle may be applied to any organization that educates sales representatives intending to increase sales. In particular, the importance of trust-building and social interaction skills as competencies of sellers showed us maintaining a good relationship with customers and other parties may facilitate enhanced performances through innovative sales activities. As trust-building skills are considered to be a critical element for better sales performance, innovative sales activities should always be based on ethical foundations. Innovative sales activities are including the element of ethical sales. In the era of unlimited competition in the e-commerce business, sellers may secure sustainability with a clear business identity through ethical sales activities.

Thirdly, this study also identified the critical role of innovative sales activities. The sales performance is found to be mediated by innovative sales activities. We may assume that this result is derived from the recent changes in the e-commerce environment requiring dynamic adjust to

fluctuating business conditions. It is alleged that in the stable business environment we experienced in the past, the effect of dynamic and innovative capabilities such as market sensitivity and resource re-allocation was not critical as exogenous changes were gradual and predictable (Awadh & Saad, 2013). To adjust the volatile and dynamic business environment of e-commerce requires innovative sales skills and actual activities from sellers to acquire relevant and recent information and apply these to sales practices. This background may explain how sales performance in e-commerce might be related to sellers' innovative sales activities.

This analysis also implies that the personal competencies of e-commerce sellers are not only effective on sales performance but also their effects are enhanced and sustained by innovative sales activities. This result, therefore, shows us that innovative sales activities that sense recent changes in the marketplace and the collection of relevant information about preferences and purchasing behavior of customers determines the sales performance together with the seller's skill sets.

Fourthly, we may relate the results of this study to the development of the competencies of sellers in the e-commerce sector. For sellers in e-commerce, it is necessary to understand how innovative sales activities work and how personal competencies may be connected to develop innovative sales activities. For instance, social interaction skill is a competency of sellers to establish a relationship with work-related partners and customers and to form a sustainable network with them. Sellers should make efforts to utilize this competency to acquire relevant information and ideas to apply to innovative sales activities. It seems even more important to develop this competency in the first place. Maintaining communication channels to ensure customer connection by using word-of-mouth channels and review functions would be effective to increase social interaction and trust-building skills.

Fifthly, the results of this study also provide some practical implications for organizations when they select and train sellers in e-commerce. Seller's competencies in e-commerce were found to be critical elements for not only sales performances but also using media technology and grasping the behavioral information of customers (Avlonitis & Panagopoulos, 2010; Ingram, LaForge, & Leigh, 2002). This finding tells us that organizations in e-commerce should focus on not only sales-related specific techniques but enhancing sellers' competencies when they recruit, select and train their sellers.

Finally, this study shed a light on the perspective that the utilization of information technology may help positive sales performance in e-commerce. Based on the theoretical identity of this study, the existing perspective suggesting that information technology may enhance sales performance

is also confirmed (Chae, Koh, & Park, 2018; Haffke, Kalgozas, & Benlian, 2017; Kane et al., 2015). Nevertheless, the mediating role of innovative sales activities brought a new perspective on how sellers could accelerate relevant processes affecting better sales performance by connecting information technology and sales innovation in the e-commerce sector.

5. Conclusion

This study examined the core competencies of sellers in the e-commerce sector and filled the research gap by relating those competencies with innovative sales activities and sales performance. Most of the previous studies focused on the direct effects of the competencies of sellers on sales performance as this study clarified the mediating role of innovative sales activities on sales performance and the relationship between competencies of sellers and sales innovation. This approach is the first attempt in this area of research which makes this study distinctive theoretically.

The findings of this study indicate that the elements of online seller competencies such as self-control, trust-building, social interaction skills affected innovative sales activities and sales performances. Innovative sales activities also influence sales performances. Indirect effects of seller competencies on sales performance via innovative sales activities were partially effective depending on variables that brought practical implications.

From a practical perspective, any organization considering sales in e-commerce should carefully recruit and select sellers according to the valid competencies found in this study. Together with this, the sales performance of sellers would be improved if trust-building, social interaction, knowledge, and technological skills are properly thought. It is worth noting that the focus of education should be placed on how to enable those competencies to actuate innovative sales practices. This implies that personal competencies should be practiced by the implementation of sales innovations in the context of e-commerce. It is, therefore, necessary for sellers in this sector to place a weight on developing effective competencies as well as ideas to utilize those competencies into innovative sales activities.

Despite the theoretical and practical contributions this study provided, it is necessary to extend the scope of the study due to a certain extent of limitations. Firstly, as this study focused only on innovative sales activities as the mediating factor affecting the sales performance, other mediating or control variables should be identified and examined that might have potential effects on sales performance. Secondly, studies applying this research model and findings on other specific industries, customers,

and types of products should follow. This comprehensive character of this study encouraged to include all sellers in e-commerce disregarding industrial differences, types of customers, and various products. It seems plausible that the competencies of sellers and their effects on sales practices and sales performance, in the end, might be various in the different marketing contexts.

Finally, subsequent researches on establishing an adequacy index for the competencies of sellers in e-commerce are also necessary based on the findings of this study. This index may be practically used as criteria when organizations attempt to recruit, select and train sellers.

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