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Effects of Information Technology Competence on Business Performance: Empirical Evidence from Omnichannel Retailers in Vietnam

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Abstract

Nowadays, omnichannel is a new kind of e-commerce channel. Many retailers invest in this channel to maximize customers' benefits as well as increase competitive advantage and business performance. To operate this channel effectively, the role of IT competence is very important. With the flexibility and integration of IT competence in omnichannel, retailers can optimize service quality and bring customer benefits that are outstanding in comparison with the traditional channel. Because of this significance, this research was carried out to evaluate the effects of IT competence on the business performance of retailers in Vietnam's omnichannel environment through the mediating role of customer value creation and competitive advantage. A quantitative research method is used through a survey with 200 managers working in retail companies operating omnichannel in Vietnam. After collecting data, PLS-SEM software is used to analyze the relationship among these above factors in omnichannel. The results prove that there are positive effects of IT competence on other elements in the research model. All direct and indirect effects are valuable when bootstrapping. Based on the results, some managerial implications are given to managers of retail companies using omnichannel to improve customer values and increase competitive advantage and business performance in the Vietnam context.

Keywords: Omnichannel Retailers, IT Competence, Customer Value Creation, Competitive Advantage, Business Performance

JEL Classification Code: M00, M10, M15, M19

1. Introduction

Statistics from the Department of E-commerce and Digital Economy in 2021 show that Vietnam is rated as one of the countries with the fastest e-commerce growth in the world, with a growth rate of 35% per year, 2.5 times higher than Japan. After 20 years of the Internet entering Vietnam, up to now, Vietnam's e-commerce has developed very quickly, is present every day, and is becoming more and more popular in life.

The increasing growth of online channels has led many retailers to implement omnichannel strategies that include aspects such as integrating the retail mix between channels or considering the consumer experience across those channels (Lemon & Verhoef, 2016; Neslin & Shankar, 2009). The development of mobile technology has brought about another important change in the retail environment, changing consumer behavior and expectations (Rigby, 2011; Brynjolfsson et al., 2013). The current retail model is dominated by so-called omnichannel retailers who need to fully manage their various channels and create engaging experiences for consumers. The most recent concept of the term omnichannel retail is the set of activities involved in selling goods or services through multiple or all common channels, whereby the customer can enable full channel interaction and/or the retailer controls the entire integrated channel. (Beck & Rygl, 2015; Byrd, 2001).

Information technology (IT) competence plays an important role in information transmission, and more and more companies focus on IT investment. IT competence has been identified as an important organizational competence,

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and it is considered a source of value in an organization (Bharadwaj, 2000; Weill et al., 2002). Byrd and Turner (2000) define IT competence as an enterprise resource that includes technical, physical bases (hardware, software, communications technology, data, and core applications) and human components (skills, expertise, competencies, commitments, values, norms, and knowledge), combined to create IT services for businesses.

In Vietnam, the term “omnichannel” has been applied for ten years. Companies in the retail area use this channel to generate their business. The coordination between traditional outlets and websites helps companies operate smoothly and efficiently. Companies that have invested in and built an effective online platform with flexible access to e-commerce will benefit from the omnichannel trend. The practice has proven that innovative and quick digital transformation businesses and stores have adapted and developed during the past two years of the pandemic. However, in the aspect of academic research, there are few studies related to this field in Vietnam. The question about how IT competence helps companies run their business in omnichannel or the impact of IT competence on business performance through the mediating role of customer value creation as well as a competitive advantage is still left open.

Therefore, this research aims to assess the impact of IT competence on the business performance of retailers in omnichannel in the Vietnam context through mediating the role of customer value creation and competitive advantage. Based on the results of the research, some solutions are suggested to retailers in omnichannel to operate their activities more efficiently as well as increase competitive advantage and business performance.

2. Literature Review and Hypotheses Development

2.1. Information Technology Competence

Information technology (IT) competence plays an important role in information transmission which help enterprise communicate effectively with internal and external organizations. IT competence provides resources for companies to continuously innovate and improve (Duncan, 1995). Therefore, all types of information services provided by the IT infrastructure must be combined with the operating processes and business models to enable enterprises to truly derive the practical benefits of applied information systems (Willcocks & Sykes, 2000).

According to Wu et al. (2017), IT competence is conceptualized as a structure that includes four aspects: information exchange, coordinator; operational integration, and supply chain responsiveness. These four aspects were

chosen because they represent all the important activities involved in the supply chain process. According to Byrd (2001), information technology competence includes two main components: IT integration and IT flexibility. This approach is similar to that of Wu et al. (2017), however, the division into two components instead of four components is considered to be more concise.

2.2. Customer Value Creation

According to O’Cass and Ngo (2011), the purpose of creating customer value is (1) to provide value that is superior to what customers expect, (2) to ensure reasonable price, and (3) to support customers during the process of shopping, and (4) to coordinate with customers to help them have a comprehensive shopping experience. On that basis, four aspects companies can use for customer value creation, as follows:

Performance value: Customers expect to possess products and services that are better than they expect (Afuah, 2002). The value of the performance is to meet the requirements of the customers by supplying high-quality products and services which meet the individual preferences of the customers (Day & Wensley, 1988).

Price value: Customers expect fair prices (Mittal & Sheth, 2001). That is the reason why companies often find ways to balance customers’ value perception and the price they are eager to pay (Mazumdar et al., 2005; Priem, 2007).

Relationship value: A positive relationship with the customers is one of the ways to retain customers (Ravald & Gronroos, 1996). Building relationship value is to ensure customers are easy to access, respond quickly, and get additional value (e.g., item status identification).

Co-creation value: The goal of the companies is not only to supply good service for customers but to encourage customers to create value (Normann & Ramirez, 1993). Companies are eager to work with customers to find out what customers expect. On that basis, companies try to individualize customer expectations.

2.3. Competitive Advantage

The concept of competitive advantage is not new because many previous studies have discussed this issue directly or indirectly. Controlling costs, making a difference, focusing on one segment, and so on all have been around for a long time. Among them, emerging is Michael Porter’s theory of competitive advantage (Porter, 1985). Competitive advantage is the heart of performance to compete with competitors (Srikalimah et al., 2020). Competitive advantages are necessary elements for a company to thrive in the world environment nowadays (Teguh et al., 2021).

The competitive advantage arises from the value that the business brings to the buyer, which must be greater than the cost of the business. Value is what buyers are willing to pay, and a higher value appears when a business offers comparable utilities but at a lower price than competitors; or offers unique add-ons, and the buyer remains satisfied with a higher-than-usual price. Nguyen et al. (2021) measure competitive advantage through some criteria such as return on investment, market share, profit, and sales. Besides, reputation with customers, suppliers, and competitors are also considered elements that contribute to the competitive advantage of an enterprise.

The theory of competitive advantage shows that IT competence is one of the factors creating competitive advantages for enterprises. When IT competence is good, enterprises can integrate activities within the enterprise on the same system; thereby, information is synchronized and more accurate. IT competence also helps businesses to effectively approach, serve and communicate to customers. From there, there will be more value created for customers. Creating value for customers will increase customer satisfaction and loyalty to the business more than competitors. As a result, business performance is improved through reduced costs, increased profits, increased loyalty, and increased customer satisfaction.

2.4. Business Performance

Business performance is a set of organizational performances such as revenue, profit, market share, and stakeholder satisfaction (Connolly & Deutsch, 1980). Business performance reflects the success of the enterprise (Sumiati, 2020). Owners and company stakeholders expect the enterprise to provide maximum benefits in the long term (Tobing et al., 2021). There are many ways to measure business performance, of which two are common. It is a measurement based on the comparison between the performance of the enterprise with the performance of the competitors; or measuring the performance of the business itself over different time points (Chandler & Hanks, 1993). The first measurement method is applied by some authors in the research; however, this measure has the disadvantage that the interviewees do not know the competitor's performance, so the results are often subjective (Juliana & Jermias, 2021). The second approach is favored by more authors, with tests yielding high convergence. Interviewees can better understand the performance of the business than the performance of competitors.

Agreeing with this approach, Day and Wensley (1988) proposed factors used to measure business performance, including: (1) Customer satisfaction, (2) Customer loyalty, (3) Market share, (4) Profit, and (5) Revenue. This research uses the approach of Day and Wensley (1988) to develop a

research model. These definitions are the foundation for hypotheses related to IT competence, customer value creation, competitive advantage, and organizational performance.

2.5. Hypotheses

Based on the literature review, research hypotheses are proposed as follows:

2.5.1. IT Competence and Business Performance

Although many studies have found a positive relationship between IT investment and organizational performance (Brynjolfsson & Hitt, 1996), other studies indicate that there is no significant relationship or relationship negative relationship between IT investment and organizational performance (Strassmann, 1990; Weill et al., 1992; Brynjolfsson et al., 2013; Berndt & Morrison, 1995). This lack of consensus is known as the 'Productivity Paradox' of information technology (Brynjolfsson & Hitt, 1996). In cases where IT capabilities are critical to organizational performance, some scholars have further found that IT competence flexibility is seen as a favorable competitive weapon by businesses (Byrd & Turner, 2000; Kayworth & Sambamurthy, 2001). IT capacity flexibility refers to the ability to easily diffuse or support a wide variety of resources from the technical infrastructure and human components of existing IT capabilities (Byrd & Turner, 2000). Fink and Neumann (2009) defined IT flexibility as the ability of IT capabilities to adapt to new, different, or changing business requirements; they point out that flexibility is needed as IT competencies are a source of value in business. The proposed hypothesis is:

H1: There is a positive impact of an enterprise's IT competence on its business performance in omnichannel.

2.5.2. IT Competence and Customer Value Creation

In recent years, the development and dissemination of IT have been an important tool for many companies to improve the operational efficiency and response speed of the chain system, thereby improving the organization's operational efficiency. The use of IT enables stakeholders throughout the supply chain — suppliers, manufacturers, distributors, and customers — to connect and share information, making the overall supply chain valuable and lowering operating costs. Therefore, IT has become a powerful tool for companies to create value for customers (Chung et al., 2019). Li and Lin (2006) showed that sharing high-quality information can make supply chain processes more transparent, improve operational processes, and reduce inventory costs. These benefits will help businesses increase the value provided

to customers. Customers have a better experience on browsers such as websites, Facebook, etc., that businesses provide. Customers' requirements are also responded to faster and more accurately thanks to IT's efforts. In brief, IT competence may impact the creation of customer value even in omnichannel.

H2: There is a positive impact of an enterprise's IT competence on its customer value creation in omnichannel.

2.5.3. IT Competence and Competitive Advantage

Over the past two decades, IT has been promoted as one of the resources that organizations can use to gain a competitive advantage (Benjamin et al., 1984; Clemons, 1986). IT competence changes the goals, activities, products, or environmental relationships of organizations to give them an edge over other businesses in their industry. Strategic managers in organizations are constantly on the lookout for resources that can give their businesses a competitive edge. This concept was popularized by Porter (1985). He says that competitive advantage develops from the value a company can create that exceeds the company's costs to create the product or service. It is made possible by companies adopting strategies that harness their intrinsic strength by responding to opportunities in the environment while at the same time neutralizing threats and avoiding internal weaknesses. So the proposed hypotheses are:

H3: There is a positive impact of an enterprise's IT competence on its competitive advantage in omnichannel.

2.5.4. Customer Value Creation and Competitive Advantage

O'Cass and Ngo (2011) proposed that the purpose of creating customer value is (1) to deliver the superior capabilities that the customers are looking for, (2) to provide the price that the customers are willing to pay, (3) to support the customers with a convenient shopping experience, and (4) to interact with customers to co-create the consumption experience. Thereby, businesses improve operational performance and increase customer satisfaction and loyalty. Barney (1991) argued that a company will only gain a sustainable competitive advantage over its competitors if its resources meet the following four criteria: valuable, rare, inimitable, and non-existent replaceable. When you provide unique, useful value to your customers, you create a valuable competitive advantage. At the same time, when customers are satisfied with the value of the business, their loyalty level also increases with the price. This is also a competitive advantage that is difficult for other businesses to replace or imitate (Woodruff, 1997). Therefore, the next hypothesis is:

H4: There is a positive impact of an enterprise's customer value creation on its competitive advantage in omnichannel.

2.5.5. Customer Value Creation and Business Performance

In the exchange process, companies provide customers with a set of benefits (constituent value), to receive customer-generated values. Customers provide the company with values such as sales, information, and feedback. According to O'Cass and Ngo (2011), businesses create four groups of values for customers: performance value, price value, relationship value, and co-creation value. The resulting value is measured through how well the business meets customer needs, exceeds customer expectations, and continuously improves. When the resulting value is high, businesses will have the opportunity to increase profits, revenue, and service quality. Price value shows customers whether or not there is satisfaction between the cost they spend and the value brought to them. Price value helps businesses improve customer loyalty. The value of the relationship gives businesses cooperation and support from customers; customers feel more satisfied with the service quality of the business. Co-creation value connects companies with customers, understands customer needs, co-thinking with customers, and then produces high-value products that meet customer expectations. On that basis, the hypotheses are built as follows:

H5: There is a positive impact of an enterprise's customer value creation on its business performance in omnichannel.

2.5.6. Competitive Advantage on Business Performance

Raduan et al. (2009) concluded that there is a close relationship between competitive advantage and business performance. They suggested that the resource-based view of a firm's competitive advantage is one of the keys to strategic management theories regarding the interpretation of organizational performance. Competitive advantage is a concept that can be used as an objective guideline for business activities in particular and performance in general (Majeed, 2011). Competitive advantage based on the RBV perspective not only demonstrates the capabilities of businesses but also aims to explain the larger picture of business performance (Raduan et al., 2009). Nowadays, omnichannel is also considered a competitive advantage for companies (Rusane, 2019). Through omnichannel, companies have more chances to get approach customers, understand customer needs clearly, serve them better and increase customer loyalty. These elements will be competitive tools in comparison with competitors. From the above points of view, the following hypothesis is proposed (Figure 1):

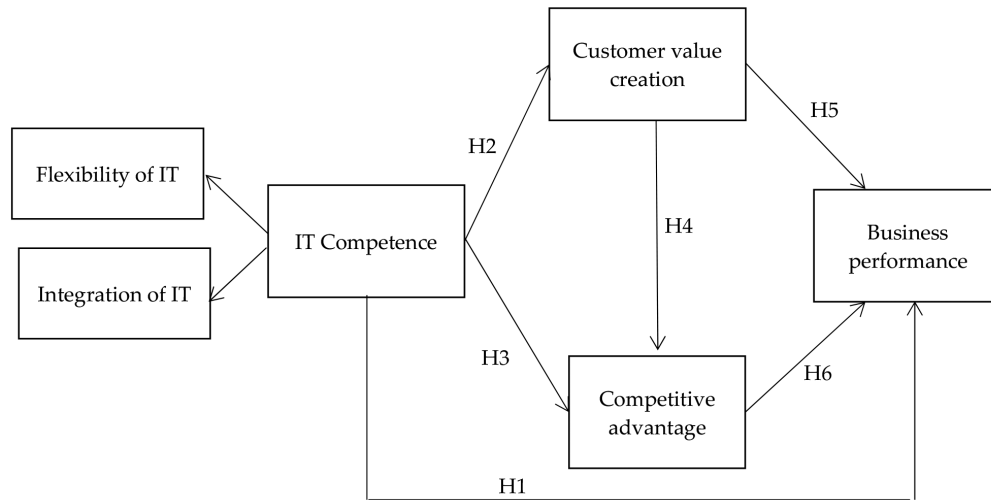


Figure 1: Research Model

H6: There is a positive impact of an enterprise's competitive advantage on its business performance in omnichannel.

3. Research Methods and Materials

Quantitative approaches were used to conduct this research. Before adjusting and establishing observable items of the constructs in the research model, previous empirical research was carried out. As a result, there were 31 remained items. IT competence is a second-order construct, while customer value creation, competitive advantage, and business performance are first-order constructs. The translation from English to Vietnamese was done by an English teacher. To ensure the validity and exact of items in the questionnaire, a pilot test was conducted with a sample of 50 respondents. The quantitative research was carried out by using a convenient sampling survey.

A formal Vietnamese questionnaire with 31 measurement items was set up to measure the dimensions of IT competence, customer value creation, competitive advantage, and business performance. Among them, two dimensions of IT competence were measured flexibility and integration of IT. The first dimension of flexibility was measured by 6 items. The second dimension of integration was measured by 6 items. Similarly, 9 items were used to measure customer value creation, 5 items were used for measuring competitive advantage, and 5 items were used for measuring business performance. A 5-point Likert scale (from strongly disagree to strongly agree) was used to indicate the level of agreement with each item of the respondents. The list of 250 retail companies in the Vietnam omnichannel was built based on

the official information from Ho Chi Minh Development and Research Institute¹. These companies have operated in the omnichannel for at least 1 year. The distribution of firm size was 12% of retailers are large, 61% is medium and 27% is small. Interviewees were the managers of companies in the omnichannel who have good knowledge about IT operations as well as a consumer market and competitors.

A Structural Equation Model (SEM), a multivariate technique has been considered a data analysis tool. PLS-SEM was selected because it provides more advantages for researchers when dealing with i) non-normality data set ii) minimum demand for sample size.

4. Results and Discussion

4.1. Evaluation of the Measurement Model

The requirements of evaluating the measurement model include internal consistency reliability, indicator reliability, convergent validity, and discrimination validity. Particularly, Cronbach's alpha (CA) must be more than 0.6, and composite reliability (CR) must be more than 0.7 (Hair et al., 2014). Moreover, indicator reliability must be more than 0.5; this means outer reliability should be more than 0.7. In addition, the Average Variance Extracted (AVE) is greater than 0.5 to confirm the reliability and the convergence validity of the scale. This research also uses the Heterotrait-monotrait ratio; Fornell-Lacker, and Cross Loadings to analyze discriminant validity (Hair et al., 2017).

The result presented in Table 1 shows that all factors have Cronbach alpha of all factors are higher than 0.7 and AVE is higher than 0.7. This means the internal consistency

Table 1: Construct Reliability and Validity

	Cronbach's Alpha	Composite	Average Variance
		Reliability	Extracted (AVE)
Competitive advantage	0.959	0.892	0.826
Customer value creation	0.861	0.822	0.703
IT competence	0.865	0.800	0.953
Business Performance	0.884	0.874	0.676

Table 2: Fornell–Larcker Criterion

	CA	CVC	ITS	BP
Competitive advantage (CA)	0.861			
Customer value creation (CVC)	0.268	0.798		
IT competence (ITC)	0.250	0.299	0.781	
Business performance (BP)	0.455	0.363	0.402	0.827

Table 3: Heterotrait-Monotrait Ratio (HTMT)

	CA	CVC	ITC
Competitive advantage (CA)			
Customer value creation (CVC)	0.288		
IT competence (ITC)	0.264	0.312	
Business performance (BP)	0.503	0.398	0.436

reliability and convergent validity of these constructs are obtained.

Table 2 refers to Fornell- Larcker criteria. According to these criteria, $\sqrt{\text{AVE}}$ of each construct is more than the correlation value of this construct with others in the model. The results prove that all $\sqrt{\text{AVE}}$ in the cross line is higher than the correlation coefficient of each couple constructs.

Table 3 shows HTMT values are less than 0.85. This indicates that each construct is distinguished from another one. In brief, the information in Table 2 and Table 3 prove the discriminant validity of the measurement model achieved. With the results discussed above, this measurement model is accepted for further steps.

4.2. Evaluation of the Structural Model

The criteria to evaluate the structural model in PLS-SEM are: Collinearity assessment, coefficients of determination (R^2), predictive relevance (Q^2), size and significance of

path coefficients, and f^2 and q^2 effect sizes. The results in Tables 4, 5, and 6 show that all variables in the research model are in the permitted scope. Specifically, VIF values range from 1.00 to 1.148, less than 5, so there is no problem with collinearity (Hair et al., 2017).

The model needs to be re-tested for reliability by using bootstrapping with a repeated sample size of 500. The estimated results from 500 observations indicate that the original weight has significant meaning for the average weight of bootstrapping because all weights are within the 95% confidence interval. Thus, the estimates of the model are reliable.

The R^2 value ranges from 0% to 100%, and the larger the R^2 value, the higher the predictive accuracy of the research model. $R^2 = 0.75$, 0.50, and 0.25 values are considered significant, moderate, and weak (Hair et al., 2017; Henseler et al., 2009). According to Hair et al. (2017), in the consumer goods sector research, a value of $R^2 = 0.20$ is considered high. The R^2 values in the research model are relatively high, ranging from 0.094 to 0.968, showing the accurate prediction of the research model.

According to Cohen (1988), the values $f^2 = 0.02$, 0.15, and 0.35 are considered to be small, moderate, and significant. If the value of f^2 is less than 0.02, it is considered that the independent variable has no effect on the dependent variable. The f^2 values in this research show that all independent variables have an average influence on the dependent variable when f^2 values vary from 0.035 to 0.153.

Similarly, Geisser and Stone (1974) proposed to use the Q^2 value to evaluate the significance of the dependent variable in the research model. In the structural model, the dependent variable is significant in the research model when the value of Q^2 of the dependent variable is greater than 0. All values of Q^2 ranging from 0.074 to 0.591 are greater than zero, showing that the model is significantly predictive.

Testing the hypothetical model that the study sets out is eligible to accept and confirm the positive relationship between the factors proposed and included in the SEM model. Thus, the study achieves the objectives set out in examining the impact of IT competence on the business performance of retailers in Vietnam omnichannel through the mediating role

Table 4: Conclusion of a Hypothesis Test

	Original Sample (O)	Mean (M)	Standard Deviation (STDEV)	T-statistics (O/STDEV)	P-values	Conclusion
ITC → BP	0.233	0.222	0.062	3.577	0.000	H1. Accepted
ITC → CA	0.209	0.212	0.076	2.747	0.006	H2. Accepted
ITC → CVC	0.258	0.390	0.061	6.427	0.000	H3. Accepted
CVC → CA	0.215	0.217	0.072	2.949	0.003	H4. Accepted
CVC → BP	0.233	0.203	0.058	3.376	0.001	H5. Accepted
CA → BP	0.336	0.339	0.063	5.364	0.000	H6. Accepted

Table 5: Specific Indirect Effect

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T-statistics (O/STDEV)	P-values
ITC → CA → BP	0.070	0.073	0.031	2.275	0.023
ITC → CVC → BP	0.055	0.054	0.021	2.664	0.008
ITC → CVC → CA → BP	0.019	0.018	0.009	1.983	0.048

Table 6: Total Effect

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T-statistics (O/STDEV)	P-values
ITC → CA	0.264	0.267	0.072	3.669	0.000
ITC → PER	0.377	0.373	0.086	4.369	0.000
CVC → PER	0.285	0.291	0.058	4.938	0.000

of customer value creation and competitive advantage. The specific results are as follows:

According to the results shown in Table 4, all factors have certain levels of impact according to the research hypothesis. In which the impact of IT competence on creating value for customers reached $\beta = 0.390$; the impact of competitive advantage on performance has $\beta = 0.338$, and the impact of IT competence on performance has $\beta = 0.223$. Thus, the analysis results show that the impact of the factors together according to the research model is completely statistically significant.

In Table 5, the mediating role of customer value creation and competitive advantage in the relationship between IT competence and business performance exists with p values sequentially ha β equal to 0.023 and 0.008.

Table 6 shows the total effects. The indirect effects have higher total effects than direct effects. More specifically, the effects of IT competence on business performance through

the mediating role of customer value creation and competitive advantage has β equals 0.337; meanwhile, the direct effect of IT competence on business performance has β equals 0.233. This proves the mediating role of customer value creation and competitive advantage strengthens the relationship between IT competence and business performance.

4.3. Discussion

IT competence has a positive effect on business performance with $p = 0.000$. Although many studies have found a positive relationship between IT investment and organizational performance (Brynjolfsson & Hitt, 1996), other studies indicate that there is no significant relationship or relationship negative relationship between IT investment and organizational performance (Berndt & Morrison, 1995; Weill et al., 2005) as related to investment costs. The results of this study support the view that there is a

positive relationship between IT capabilities and business performance in omnichannel. Thus, enterprises need to promote IT competence to increase business performance, thereby increasing revenue, profit, and customer satisfaction.

IT capabilities have a positive impact on customer value creation. Rehman et al. (2018) emphasize that when businesses invest in IT development, it will help improve service quality for customers. Chung et al. (2019) also acknowledged a positive relationship between IT capabilities and value creation for customers. The findings of this research confirm this positive relationship, and businesses with strong IT capabilities will be able to maintain and grow the value they provide to customers.

IT competence has a positive effect on competitive advantage with an impact level of 0.209. Thus, any enterprise with good IT competence will have an advantage in competing with competitors. In other words, with the rapid changes in science and technology, enterprises need to step up their IT capabilities to keep up with trends and lead in their fields of operation. In previous studies, Davenport and Linder (1994) demonstrated that the flexibility of IT capabilities is an important competitive weapon that has a positive impact on developing a sustainable competitive advantage. Rockart et al. (1996) demonstrate that the flexibility and adaptability of IT capabilities is a prerequisite for doing business globally, where the sharing of information and knowledge is seen as crucial. The conclusion of this study again shows that having good IT skills makes a company more competitive.

Customer value creation is a source of competitive advantage that needs attention and development. Customer value creation has a significant impact on a company's competitive advantage, helping a business strengthen its competitive advantage over its competitors. Thus, the research results of the thesis are consistent with previous studies; customer value creation is a factor that creates competitive advantages for businesses. There is also a positive impact of customer value creation on the performance of the business. This result has the same opinion as the previous author's studies, both admitting that customer value creation has a positive impact on the performance of businesses in omnichannel.

Finally, this research proved that competitive advantage has a great impact on the performance of the business. Thus, enterprises need to increase their competitive advantages to maintain and increase their performance levels.

5. Conclusion

IT competence is reflected through the flexibility of IT and the integration of IT. IT flexibility is measured through observed variables: The IT department has the ability to solve problems flexibly and develop solutions, enterprise IT department has the ability to manage and maintain the commercial network. In e-commerce, the enterprise's IT

department is capable of supporting customers when they need it, the enterprise's IT department is capable of providing accurate, clear, and timely information on the e-commerce site, and its IT department Enterprises have skills in developing applications on e-commerce websites, and their IT department keeps up with the development trends of IT. Most enterprises have a relatively well-functioning e-commerce network, and the flexibility of IT is enough to support customers when needed. The integration of IT is measured through the observed variables: Information is consistent when shared between departments, and there are very few bottlenecks between departments in the operation of e-commerce, departments. IT fully integrates information for customers, information is transmitted between different applications easily, databases are linked and exchanged between departments, and application platforms on e-commerce sites are integrated. Reasonably appropriate. Currently, departments in the enterprise work together to share information and solve operational bottlenecks. E-commerce platforms are also being operated in a reasonable and easy-to-use manner.

To strengthen IT competence, administrators need to promote the flexibility of IT in internal operations as well as in customer service. The e-commerce website is always updated to ensure that customers always have the latest and most accurate information. Administrators also need to pay attention to the improvement and investment in IT because IT competence has an impact on distribution competence and customer value creation. IT competence is also a competitive advantage for enterprises and helps businesses improve their performance. Therefore, paying attention to and investing in IT is a job that administrators need to pay attention to.

At the same time, the integration of IT needs to be focused on. Information needs to be shared systematically so that departments can access and process information based on their functions and tasks. To untie the knots, they need to be in sync with each other. This way, the functions will work together more scientifically and rhythmically.

Research results show that IT competence positively affects business performance. Business performance is measured through observed variables such as revenue, profit, market share, and customer loyalty. Research results also show that in the past 3 years, almost all omnichannel businesses have had a relatively good business performance. At the same time, adding value to customers and investing in IT are also issues that need attention. For an omnichannel that combines online and in-store sales, IT competence is important. The integration and flexibility of IT will bring customers better experiences, increase customer trust and satisfaction, and strengthen the relationship between customers and businesses.

Research results show that IT competence and value creation for customers will increase the competitive

advantage of enterprises. Thus, to increase competitive advantage, managers need to use distribution competence, IT competence, and value creation for customers as core elements. When businesses have a strong distribution system, investment in modern IT, as well as when businesses are interested in customer value creation, these factors will become core values that create profits. This gives the company a competitive advantage over its competitors.

In conclusion, the application of omnichannel in Vietnam has been a certain trend at present and in the future. With the maturity of omnichannel, the development of IT competence should be invested correspondently. This research result shows that there is an impact of IT competence on business performance through the mediating role of customer value creation and competitive advantage. This result is similar to other authors' opinions in the world. Therefore, Vietnam's omnichannel is being developed at the same pace as omnichannel around the world.

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Endnotes

- 1 Ho Chi Minh Development and Research Institute is a scientific research organization which has legal status and belongs to Ho Chi Minh city People’s Committee in Vietnam.