KEY FACTORS FOR THE DEVELOPMENT OF RURAL E-COMMERCE IN VIETNAM BASED ON THE O2O MODEL

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SUMMARY

E-commerce has explosively developed, followed by the O2O model which has gradually affirmed its advantages in agricultural products trading, especially fresh specialties. The construction of rural e-commerce in Vietnam based on this model certainly seizes opportunities to promote local farm produces (specialties, diversities) in Vietnam to travel throughout the country, and go global, to develop TAM NONG Vietnam policy in the digital era. This research uses logistic regression and cross-sectional descriptive methods, aiming at shedding light on the key factor for the development of rural e-commerce in Vietnam based on the O2O model, which is a logistics management system, thereby evaluating and introducing solutions to apply the "The Last Kilometer" - a model of Chinese e-commerce as the basis for expanding rural E-commerce strategy in Vietnam. The results showed the key point of kick-start rural E-commerce in Vietnam is logistic management, which can be described by the following factors: transport systems, delivery time and location networks, the supermarket chain, automatic counters and professional employees' attitudes. The results also confirmed that logistics management has an important role in the development of rural e-commerce in Vietnam according to the O2O model, and the application of the "the last Kilometer" solution of Chinese e-commerce is appropriate with the development trend of logistics in Vietnam.

Keywords: logistics management, O2O model, rural e-commerce, the last kilometer.

1. INTRODUCTION

The emerging of information technology (IT) in the world has brought a big change in the aspect of market structure globally. Information technology has created a platform for the digital economy where emergence of the electronic commerce (e-commerce) has taken place. Since the 1990s, the Internet had entered gradually into the business environment and the e-commerce had become more and more populous in people's life. Comparing to the traditional trading mode, the e-commerce or online-business has many benefits and characteristics (Li and Liu, 2010).

The potential benefits of rural e-commerce in the agricultural sector have been studied by many researchers. It can be mentioned: Johnson, America in the 2010 document clearly stated that it was not until the technical information grows explosively did e-commerce spread a large-scale connection, which simultaneously promoted policies in rural e-commerce areas, leading to farmers' active participation and the improvement of the service process. Through the local area and the households required for rural e-commerce, we set up a warehouse of trade data to promote agricultural exports (Thanh Tuyen Nguyen, 2010). E-commerce in the world has early developed; as a result, foreign scholars pioneered the research of correlative theories and the application of O2O mode techniques to bring forward studying the O2O risk method. Theoretically, standards of prevention and risk management are put forth while it is proposed to frame the relevant structure technically. Ai Rui basing on the eMarketer's analyzed data found out that in terms of global scale practical application, O2O becomes a pattern of universal interest. Especially in daily life, more and more people are fond of completing online transactions through the O2O model. O2O

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business has gradually formed the e-commerce market, resulting in the mushroom growth of new cooperation such as Uber, eBay… which achieved howling success. EMarketer estimated that 1.4 out of 2 billion American Internet users utilized O2O mode, accounting for 71%, which increased 10% as popular as it had been.

Published in the Chinese Scientific journal, many types of research on the O2O model were written such as the creation of rural O2O model – analysis from "Manufacturers – Markets – Consumers", information system for operating logistics in farm produce supermarket under O2O model, developing E-commerce adventure tourism in a rural area, comparing the O2O model of fresh agricultural products, analyzing the circulation of O2O farm produces e-commerce, etc. All the authors HeShaoShan, ChenYuan, LiHaiQing, YeHuiFang have analyzed deeply into O2O model through Guangzhou agricultural products in the context of Internet development. Author ZhangYan, who based on the O2O pattern, did profound research on fresh products then affirmed that this model makes farm produce easily spread all over China (ZhangYan, 2016).

Increasingly developed as it is, rural E-commerce has recently been such a new field in Vietnam. Nevertheless, this model must be of paramount importance in promoting the online exchange of farm produces (local specialties), boosting the regional economy as well as enhancing farmers' income. Not only do countries in the world but Vietnam has also focused on agricultural E-commerce exchange, which contributes to the revitalization of the rural economy. Therefore, we decided to carry out some researches on the O2O model, which paves the way for the development of E-commerce in Vietnamese rural areas. Here are our specific goals:

Utilizing logistic regression method to clarify the key factor, which exerts positive effects on the enhancement of Vietnam rural economy according to O2O model.

Putting E-commerce solution "The Last Kilometer" of China into application in rural areas of Vietnam.

2. RESEARCH METHODOLOGY

2.1. Research data

The research subjects are Vietnamese people from all over the country, who utilize E-commerce, regardless of gender, age, educational background, or region. We submitted a random survey of 700 people in the period of one year from December 2019 to December 2020. There were over 500 samples, however, after being selected, 436 papers were qualified enough to be collected.

Table 1. Demographic characteristics

		N=436	%
Gender	Male	219	50.2%
	Female	217	49.8%
Age	<30 years	279	64.0%
	31 – 50 years	106	24.3%
	> 50 year	51	11.7%
Educational background	Below high school	53	12.2%
	High school	74	17.0%
	Training course	64	14.7%
	Bachelor	223	51.1%
	Postgraduate	22	5.0%
Living region	Rural area	177	40.6%
	Urban area	259	59.4%

The design of the questionnaire concentrates on the willingness to utilize E-commerce and the factors influencing this behavior. The questionnaire is consulted by experts and then we conduct a test survey to ensure that its content and words are suitable for the goals as well as the subjects. The results of demographic characteristics are demonstrated in table 1.

2.2. Model selection

To identify the key factors, which exert influence on the development of E-commerce, our research utilizes logistic regression for each group of factors to find out whether there is a relationship between them and E-commerce using rate or not as well as a degree of changes of this ratio. Afterward, all the specified variables are analyzed to build a general model as well as identify the key element.

Binary Regression or Binary Logistic regression, which is a considerably common model used in research, can estimate the probability of an upcoming event. The characteristic of the binary recess is that the variable depends on only two values: 0 and 1, which results in the impossibility to analyze with the usual form of recess since it will violate the assumptions. Normally, it is clear that since the dependent variable has only two manifestations in Binary regression, its residue will have binominal distribution, which contravenes the assumption that the residue has a standard one. Consequently, there is no point in testing the audits in the usual regression.

The goal of logistic regression is to study the correlation between one (or more) factors that exert impacts on an analytical subject. Therefore, the major problem is to clarify how to estimate the interrelation of the factors and the subject. As a result, statistics expert, David R.Cox developed a model called Logistic Regression (the 1970s) to analyze binary variables.

$$Log\left(\frac{p}{1-p}\right) = \sum \beta 0 + \beta iXi \quad (1)$$

p is the probability of an event.

β0: is a constant.

β1, β2, ... βk: regression coefficients of independent variables x1, x2,..., xk.

The coefficients show the strength and dimension that independent variables influence on the probability of a study event. If the figure is positive, independent variables increase the likelihood (probability) of the study event and vice versa.

The equation above can be rewritten as follows.

$$\left(\frac{p}{1-p}\right) = e^{\sum \beta 0 + \beta iXi} \quad (2)$$

The groups of factors taken into consideration include purchasing habits, local agricultural characteristics, logistic systems, knowledge of barcode in traceability.

To determine whether the "The Last Kilometer" model of China is effective or not, we use the cross-section description method to evaluate the actual state of this model. Frequency and quantity tables to depict the characteristics, status, or value rate are utilized to indicate the proportion of each component trait in a particular characteristic in the sample.

3. RESULTS AND DISCUSSION

3.1. Results relationship with the dependent variable

3.1.1. Habit with e-commerce

The analysis result from table 2 showed that factors such as the use of social networks, and preference for local specialties have a statistically significant impact (sig <0.05) on e-commerce participation.

Specifically, the following rate of social network users is 2.2 times higher than that of

people who do not use social networks. People who prioritize local products have 2.408 times more participation in e-commerce than non-priority people. Other factors such as buying habits, cash payment habits, and self-sufficiency do not have a statistically significant relationship with participating in e-commerce.

Table 2. Habit

	Sig.	p/1-p
Use social networks for e-commerce transactions	0.000	2.208
Buying and selling agricultural forestry products directly through the market	0.166	1.376
Use of agricultural forestry products subsistence	0.533	1.215
Cash payment	0.653	1.095
Priority to buy local specialty products	0.008	2.408
Sig<0.05: significant at less than 5%; p: percent join		

3.1.2. Logistics with e-commerce

Table 3. Logistics management system

	Sig.	p/1-p
Transportation systems ensure agricultural specialty products nationwide circulation 1 day	0.001	28.004
Place of delivery and receipt from the nearest	0.014	.505
Service quality of delivery staff	0.053	2.653
Delivery time	0.000	25.038
Automatic delivery counters	0.566	.411
Shipping tracking application	0.057	3.764
Sig<0.05: significant at less than 5%; p: percent join		

The analysis result from table 3 showed that factors such as traffic system, delivery location, delivery time have a statistically significant impact on the participation of the telecom trade. The impact of the remaining factors is not statistically significant.

If there is a 1-day free transportation system for the buyer, the participation rate is higher than 28. For delivery locations within 1 km or more, the participation rate is 0.505. The faster the delivery time increases the e-commerce participation rate, in particular, when the delivery is from slow or normal to fast, the rate of participation in e-commerce increases to 25.038.

3.1.3. Knowledge with participation in e-commerce

The analysis result from table 4 showed factors such as supporting government e-commerce knowledge, knowledge about the benefits of barcoding, barcode-attached products had a statistically significant impact on participation.

With government support for e-commerce knowledge, participation increased by 2.38, barcoded products increase participation to 5.83. The participation rate is also proportional to the perception of the origin traceability barcode, the person who perceives the benefit of the symbology has an increased participation rate of 2.243.

Table 4. Knowledge

	Sig.	p/1-p
Traceability barcode scanned	0.931	1.029
The product has been barcoded by the regulatory authority	0.004	5.832
Benefits of barcode	0.000	2.243
Supporting all levels of government in e-commerce knowledge	0.014	2.380

Sig<0.05: significant at less than 5%; p: percent join

3.1.4. Products with e-commerce:

The analytical results from table 5 showed connecting a variety of products, the number of specialty products, and quality guaranteed products has a statistically significant impact on the rate of participation in e-commerce.

Specifically, if the locality has a diversified connection of products, the participation rate increases by 3.102, whereas the locality has many specialty products, the participation rate increases by 8.255, and the quality assurance product increase by 2.038.

Table 5. Specialty products

	Sig.	OR
Connecting a variety of specialty products	.037	3.102
Number of specialty products	.039	8.255
Specialty products have been posted on the rural e-commerce floor	.906	.962
Local specialty products ensure	.023	2.038
E-commerce has cooperative	.845	1.084

Sig<0.05: significant at less than 5%; p: percent join

3.2. Regression model results

The regression results in table 6 show that variables such as the use of social networks, transportation system, delivery location, time of receipt, barcode-issued products, and quantity of agricultural forestry specialties have a significant impact on statistics with e-commerce participation rate.

In which, the delivery location has the opposite effect, which means that the farther the delivery place is, the lower the rate of participation in e-commerce.

The remaining variables had a positive effect on participation rates, meaning that when these variables increased or decreased, the participation rate also increased or decreased accordingly.

Transportation systems are the most important factor affecting e-commerce participation rate, if other factors remain constant when traffic increases by 1 unit, participation rate increases $e^{4.173}$. Similar to delivery time being the second most influential factor, fast delivery times, e-commerce participation increased by $e^{3.70}$, followed by the number of Specialty Agro-Forestry Products, Barcode Products, and use social networks with corresponding coefficients $e^{2.442}$; $e^{1.543}$; $e^{0.653}$

The variable distance of the delivery location has an impact coefficient of -0.789 which means that under conditions other factors remain constant if the distance increases by 1 unit, the participation rate decreases $e^{0.789}$.

The general model of the e-commerce participation rate is specifically written as follows:

$$\frac{p}{1-p} = e^{(-12.887+0.653Se+4.434Tp-0.765Pd+2.442Np+1543Bc+3.70Rt)} \quad (3)$$

Where:

p: Participation rate of e-commerce;

Se: Use social networks for e-commerce transactions;

Tp: Transportation systems ensure agricultural specialty products nationwide circulation 1 day;

Pd: Place of delivery from the nearest play is about;

Np: Number of local specialty products;

Bc: The product has been barcoded by the regulatory authority;

Rt: Receiving time.

The results revealed that traffic is the most important factor influencing the E-commerce participation rate. If others are constant, when traffic increases by 1 unit, the joining rate will, at the same time, witness the growth of e^4.173 times. Similarly, the second factor is the time of delivery, followed by the number of specialties, products granted barcodes, and the usage of social media.

The distance variable has an impact factor of -0.789, which means that if others remain constant if the distance goes up 1 unit, the participation rate will see the plunge of e^0.789 times. This figure plays an important role in determining the O2O location of delivery. Besides, it enables customers to receive their orders as quickly as and as near as possible (The faster it goes, the fresher the products are). Therefore, it is undeniable that O2O is effective in rural E-commerce development.

3.3. The modal "The Last Kilometer" of China's e-commerce is used for e-commerce logistic management in general and e-commerce in Vietnam's rural areas in particular

According to the results of the study on the main factors affecting the development of rural e-commerce in Vietnam above, delivery time is one of the key factors to help develop e-commerce in rural Vietnam, agricultural products. The faster it reaches consumers, the closer the delivery location is to the home, the more trusted it will be, and the better the quality of agricultural products will be. That means the role of logistics management in rural e-commerce. In the study, we propose a solution to apply the last kilometer model of Chinese e-commerce.

The last kilometer does not mean 1km, but here is a professional word in logistics management (transporting goods to consumers in the last mile with the closest possible desire), to this day, countries have The developed logistics industry has adopted the motto of bringing goods to a location within a distance of at least 100m from the recipient, even to the door (Industry Research, 2021). In the article to update the progress, the author has used the last 100m option to orient the freight solution to ensure the last kilometer for logistics management in Vietnam in all localities and regions.

Table 6. Regression results

	Beta	Wald	Sig.
Use social networks for e-commerce transactions (Se)	0.653	4.760	0.029
Priority to buy local specialty products (Pb)	0.142	.079	0.778
Place of delivery from the nearest play is about (Pd)	-.765	6.207	0.013
Supporting the government sector level of knowledge about e-commerce (Sg)	0.230	.187	0.665
The product has been barcoded by the regulatory authority (Bc)	1.543	4.540	0.033
Benefits of barcode (Bb)	0.139	.367	0.545
Local specialty products guaranteed (Pg)	0.635	1.657	0.198
Number of local specialty products (Np)	2.442	4.079	0.043
Connecting diverse local specialty products (Cp)	1.373	3.260	0.071
Receiving time (Rt)	3.700	37.836	0.000
Transportation systems ensure agricultural specialty products nationwide circulation 1 day (Tp)	4.343	14.000	0.000
Constant	-12.887	25.900	.000
Overall Percentage		91.7	
Nagelkerke R Square		0.664	
-2 Log likelihood		140.784a	
Chi-square		189.701	
Sig (Chi-square)		0.00	

[a]Estimation terminated at iteration number 8 because parameter estimates changed by less than .001.
Sig<0.05: significant at less than 5%

3.3.1. Objective assessment about the "The Last Kilometer" of the Vietnamese

Standardized survey data were verified, processed by cross-sectional descriptive method and the last 100m logistic system of Chinese E-commerce (at least one center of delivery within 100m) is evaluated in Table 7 below.

The last 100m logistics system of China was considered good by 41.7% of people who were included in the survey. Additionally, excellent assessment accounts for 32.3% while the remaining said that it was comparatively normal.

This model is worth inquiring about and putting into application since it is said to be suitable for the infrastructure as well as facilities in Vietnam. As a result, condominiums, colleges, professional schools, villages… should construct delivery systems, which enable products to be transported quickly and conveniently to customers.

Table 7. The last 100m logistics system of China

Response		Quantity	Rate %
Valid	So-so	113	25.9
	Good	182	41.7
	Excellent	141	32.3
	Total	**436**	**100.0**

3.3.2. Analysis of the Chinese e-commerce "The Last Kilometer" model

After being purchased through E-commerce, the items will be delivered to the distribution points (O2O chain of stores, the nearest delivery location, customer's receiving location) and goods are transported from the sorting center to customers to achieve the most convenient door-to-door service. The "The Last Kilometer" of delivery is not a real kilometer but the process of shipment through which products are sent to customers from the logistics sorting center. Therefore, the shortest possible distance should be called one-kilometer delivery or the "The Last Kilometer" logistics. This short-distance allocation, which is the final stage, plays an irreplaceable role in the entire logistics system. Not only is this distance the key to the success of rural E-commerce but it is also extremely important for rural area customers.

3.3.3. The prevalence of the "The Last Kilometer" model in China in the period of 2 years 2014 – 2015 and the solutions to a similar problem in Vietnam

(1) Banning or restricting bulky trucks from entering cities or small areas, especially where traffic congestion has always been a head-splitting issue. Therefore, those vans are limited or even forbidden.

(2) Sparsely populated areas where few customers live are scattered, as a result, it is difficult to arrange large trucks to deliver goods because high shipping costs, as well as few packages, contribute to wastage.

(3) 90% of customers and delivery men's working hours coincide, which comes into conflict.

(4) The existence of professional ethics problems such as the information systems to monitor stages of delivery, inexperienced staff who can lose the packages, steal the goods, reveal good's sample, etc.

(5) Delivery men who lack training, together with the imperfect institution are responsible for uncontrollable problems at a peak time such as congestion, oblivion, etc.

(6) The shortage of human resources in rural areas. Facilities and manpower must be available to kick-start E-commerce in the countryside. Additionally, the explosive development of technology networks in those areas is leading to the increasing participation of residents. Thus, the fact that provincial districts will become the potential markets in the near future is undeniable.

3.3.4. The application of Chinese the "The Last Kilometer" to develop the orientation of rural E-commerce in Vietnam

(1) Government agencies should remove the restrictions on freight vehicles.

In the United States, instead of restricting vans or trucks which deliver goods into urban areas, this country has enacted several laws and regulations since the 1980s to loosen state control of the transportation market. Therefore, the transportation industry in the US is provided such a good environment to revitalize itself.

Besides, Japan's logistics has undergone more than half a century of development. In other words, policies and regulations of Elben are considered fairly perfect since the Japanese government has concentrated on investing in the construction and improvement of logistics infrastructure as well as the erection of standard highway, which seizes the favorable opportunity to the means of conveyance's circulation, and gradually forms a model of logistics regulations including basic laws,

comprehensive laws and special laws. It is clear that countries and cities where logistics service develops explosively do not prohibit freight vehicles from entering the city. Therefore, this allowance plays an important role in ensuring fast and timely delivery within urban areas (TanShufang, 2015).

(2) Deloy general distribution

General distribution is a new model in the logistics industry. In Europe, the overall distribution rate has come up to 90%, in the US, this proportion has reached about 70% while in Japan, this percentage has exceeded 50%. Those are the telling examples that point out that general distribution has become the dominant model. In China, the logistics industry appeared comparatively late and the application of general distribution was initially difficult, but it has recently flourished. Nevertheless, the implementation of this model still has a long way to go. As a consequence, Vietnam can boost our distribution model by learning and absorbing foreign experiences and lessons. Moreover, the final problem of expressing delivery can be solved by adopting a general shipment method, which establishes a distribution network in the same regions and, afterward, the freight forwarders will send goods to customers or delivery locations. Gather, classification and temporary storage are conducted in a general distribution network which, then, expresses products to customers, or locations. This process, however, requires some freight forwarders to unite and sponsor another company under such a considerably fair condition, which specifically aims to achieve an agreement in the last stage of delivery (Tan Shufang, 2015).

The implementation of general distribution can effectively reduce the total number of vehicles in the city, which contributes to reducing traffic congestion caused by the loading and unloading process, improve traffic and transportation conditions significantly and, as a result, decrease the traffic pressure in urban areas. Additionally, it is undeniable that this process can avoid wasting human resources as well as improve shipping efficiency and realize green logistic services.

(3) Establishing “community logistics” and “cooperative logistics”

These days, the community is a small group of residents in the city; therefore, expressing delivery companies can set up the “community logistics” model. Property can be regarded as a temporary storage point. As a result, the freight forwarders will send goods to community property, where products will be kept until being delivered to customers. Through this method, this property will receive management fees, hence, we can take advantage without investing plenty of capital. In terms of customers, not only does this method eliminate the conflict time between them and the delivery man but it also helps you to arrange your time effectively. For courier companies, the deployment of community logistics is considered as such a wonderful way to integrate their customers, which significantly reduces shipment costs and improves delivery efficiency (Tan Shufang, 2015). The establishment of these community services enables individuals who sign a contract with a freight forwarder to send and receive goods in a convenience store. As a result, the manager can operate and sell several daily necessities in the community as well as assist other companies in collecting packages. Moreover, staff can also

check the delivery information and arrange their free time to collect money. Therefore, the implementation of community logistics in this way both improves transportation efficiency and provides local job opportunities. Nevertheless, this solution requires such stricter information publication as well as transparency, which means honesty and responsibility, in every stage of delivery.

(4) Speeding up the construction of the "going rural" strategy.

In 2014, Chinese E-commerce witnessed the first proposal about the "going rural" project, which reflects the demand for expressing delivery of rural residents. Besides, the shipment industry realized that the rural market is such a potential one that can seize a new direction for the whole sector. This market has both huge area and high demand, however, brand stores, as well as chain ones, are comparatively rare in this area. As a result, most residents can only purchase low-quality and daily essentials in limited quantities. Since the income of people continues to increase, purchasing power witnesses a significant soar, which means those products no longer meet the needs of customers. Additionally, as the popularity of the Internet is spreading, more and more farmers are willing to buy online, which leads to the understandable trend: rural residents depend on E-commerce even more than those in the cities. Therefore, it is undeniable that the rural market will increasingly attract delivery companies (Tan Shufang, 2015).

Since rural residents live relatively dispersed, if the delivery process is door to door, it turns out to be ineffective. Authorization can provide such a completed service. By this means, public service platforms will be available for all freight forwarders and villagers who receive packages through information systems. Hereby, it has opened new sources of income for service corporations. The continuous improvement of delivery services in rural areas will promote the development of E-commerce as well as stimulate domestic consumer demand.

(5) E-commerce companies, organizations, individuals and governments join hands to invest in facilities for people throughout the country. To introduce local specialties as well as diversify high-quality products, people need to broaden their knowledge about IT, E-commerce laws…

Since October 2014, major corporation Alibaba has been working with the government of China to develop Rural Taobao. According to this project, Alibaba invested 10 billion yuan to establish Taobao service centers in 100.000 villages nationwide, especially in remote areas. These centers are fully equipped with computers and staff to assist farmers open shops on Taobao sites and making online orders. Moreover, farmers are even supported to buy smartphones with an Internet connection to sell their agricultural products online to those in the cities. In addition to Taobao, its rival JD also opened similar centers in 1700 towns to promote E-commerce in the countryside. By 2016, "Going rural" becomes a national strategy in China, aiming at completely eradicating poverty by 2020. Billions of Yuan have been spent on constructing roads, logistics networks as well as upgrading infrastructure in rural areas. Besides, a series of low-interest loan policies and tax incentives are also enacted (VTV24, 2020)

(6) Speeding up quickly E-commerce

payment by scanning payment apps, and the community should join hands to build quite a few apps selected by governments and prestigious organizations in the field of E-commerce. In China, some payment apps are extremely reputable for their security and convenience (Wechat, Zhifu, Zhifubao, etc.).

(7) Constructing a rural E-commerce system based on O2O E-commerce is under the protection of Vietnam's laws such as eradicating chain of convenience stores, automatic counters, self-management logistic system, the connection of specialties throughout the nation, and the construction of educational experience areas.

4. CONCLUSIONS

Through using the model to evaluate the factors affecting the participation of rural e-commerce in Viet Nam, this study has shown that the main factors affecting this decision include: the transport system, delivery time, product delivery and delivery location, barcoded specialty products, the number of specialty products and participation in social networks...

Our research discovered the key point of kick-start rural E-commerce in Vietnam is logistic management, which can be described by the following factors: transport systems, delivery time and location networks, the supermarket chain, automatic counters, professional employees' attitudes, etc. Furthermore, the "The Last Kilometer" model of China, along with the O2O model, which has quite a few suitable characteristics for boosting the development of E-commerce in Vietnam, was also utilized. The "The Last Kilometer" is so efficient research, especially in the deployment of consumers' delivery locations (convenient, automatic, closest or at the door).

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CÁC YẾU TỐ CHÍNH ĐỂ PHÁT TRIỂN THƯƠNG MẠI ĐIỆN TỬ NÔNG THÔN Ở VIỆT NAM DỰA TRÊN MÔ HÌNH O2O

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[2]Trường Đại học Lâm nghiệp

TÓM TẮT

Thương mại điện tử phát triển mạnh mẽ, kéo theo là mô hình O2O đã từng bước khẳng định lợi thế kinh doanh nông sản, đặc biệt là đặc sản tươi sống. Việc xây dựng thương mại điện tử nông thôn Việt Nam theo mô hình này chắc chắn nắm bắt cơ hội để thúc đẩy nông sản địa phương (đặc sản, nhiều loại khác nhau) của Việt Nam đi khắp đất nước và vươn ra toàn cầu, nhằm phát triển chính sách TAM NÔNG của Việt Nam trong kỷ nguyên số. Nghiên cứu này sử dụng phương pháp hồi quy logistic và phương pháp mô tả cắt ngang, nhằm làm sáng tỏ yếu tố then chốt của sự phát triển thương mại điện tử nông thôn Việt Nam dựa trên mô hình O2O, là hệ thống quản lý hậu cần, từ đó đánh giá và đưa ra các giải pháp áp dụng "Kilômét cuối" - một mô hình thương mại điện tử của Trung Quốc làm nền tảng cho chiến lược mở rộng thương mại điện tử nông thôn ở Việt Nam. Kết quả cho thấy điểm mấu chốt của thương mại điện tử nông thôn ở Việt Nam là quản lý hậu cần, có thể được mô tả bằng các yếu tố sau: hệ thống giao thông, mạng lưới địa điểm và thời gian giao hàng, chuỗi siêu thị, quầy tự động và thái độ của nhân viên chuyên nghiệp. Kết quả cũng đã khẳng định rằng quản lý hậu cần có vai trò quan trọng trong phát triển thương mại điện tử nông thôn Việt Nam theo mô hình O2O và việc áp dụng giải pháp "Kilomet cuối" của thương mại điện tử Trung Quốc là phù hợp với xu thế phát triển của logictic tại Việt Nam.

Từ khóa: kilômét cuối, mô hình O2O, quản lý hậu cần, thương mại điện tử nông thôn.

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