

Analysis of factors affecting to customer behavior for safe vegetable products in Danang city, Vietnam

Le Thuy Huong

National Economics University, Hanoi, Vietnam

Abstract

This study was conducted based on direct interview on 100 people who are using safe vegetables. The paper aims to analyze the factors affecting the customer's choice of safe vegetable products. The results showed that safe vegetable was distributed mainly through super-market system. The majority of customers were those who have relatively high income. There were three factors affecting significant to quantity of safe vegetable, namely, distance to market, customers' belief, and the availability of the products. Print order to develop a safe vegetable market in Danang city, Vietnam some following measurements were recommended: develop more marketplaces for safe vegetable, diversifying distribution system to help customers more convenient in buying the safe vegetable, growers and distributors should jointly create label or trademark for the safe vegetable, and forming cooperatives for safe vegetables products.

Keywords: Customer Behavior; Distribution System; Safe Vegetables.

Introduction

Vegetables are an indispensable food in daily meals. Safe vegetables is a term used to refer to vegetables that are grown on an acreage soil with controlled chemical composition - soil (especially the content of heavy metals and toxic substances derived from fertilizers, from protective agents plants and domestic wastes remaining in the soil), produced by the technical process just to certain (especially is Quy submit use fertilizer, insecticide deep and watering country), and ask for a favor so vegetable guarantee tell Okay the pepper standard guard born an fullreal Products.

Due to many reasons, the issue of safe vegetable production in Vietnam actually started to be mentioned a lot in the 90s of the last century. In recent years, awareness of the issue of safe vegetable production and consumption from the perspective of health protection and environmental pollution prevention has increased significantly thanks to the active communication of scientists and scientists. public opinion. Thanks to the strong attention of authorities at all levels, professional agencies, scientific research and technology transfer organizations, the response of farmers, the safe vegetable production industry has been formed and gradually improved. early development.

Theoretically, when income conditions increase, consumers tend to use safer products , especially foods for daily consumption. The objective of this study is (1) to assess the current status of safe vegetable production and consumption in the Da Nang city, (2) Analyze the factors affecting the decision to buy safe vegetables, and (3) Analyze the factors affecting the consumer's spending on safe vegetables in the Danang city.

Theoretical basis

Theory of consumer behavior

There are many theories to explain human behavior in general and consumer buying behavior in particular. Among them, about the intention to perform the behavior, there are the theory of rational behavior (TRA) (Fishbein and Ajzen, 1975) and the theory of planned behavior (TPB) (Ajzen, 1991). These two theories are very widely used in explaining the intention to perform human behavior. Over the past decade, the theory of planned behavior has been used to predict many types of behavior with great success. The predicted behaviors are diverse such as intention to reuse waste paper, intention to buy or copy copyrighted computer software for personal use, intention to use new computer system... This theory is also used as the foundation theory to explain the intention to buy eco-friendly straws (e.g. Zeinab Seyed Saleki and Seyedeh Maryam Seyed Sleki, 2012; Chen, 2007; Sudiyanti Sudiyanti 2009, Sparks and Shepherd , 1992). The results of this study show that the ability to explain consumer purchase intention through this theory is significant. Some argue, however, that this theory is more effectively applied in established and normative markets where patterns of consumer behavior such as UK schools (Kalafatis et al., 1999). In this study, the author wishes to re-test this statement by using this theory as a theoretical basis and partially testing the theory's model in Vietnam. Besides, according to Ajzen (1991), the model of this theory can be supplemented by adding new factors affecting behavioral

intention, as long as those new factors contribute a part in explaining behavioral intentions. Therefore, in the topic, besides using some factors in the model of the theory of Planned Behavior, the author wishes to add some other factors suitable to Vietnamese conditions to test the feasibility of the project. ability to explain the intention to use eco-friendly straws of Vietnamese consumers.

Theory of safe vegetables

The The document of the State agency of Vietnam has regulated and adjusted the concept of Safe Vegetables, as well as detailed standards on production areas, production processes, quality criteria, preliminary processing and storage processes. Information, licensing of Safe Vegetables products... Specifically, including:

Decision 04/2007/QD-BNNPTNN, dated January 19, 2007 safe vegetables are understood as: fresh vegetable products (including all kinds of safe vegetables: leaves, stems, tubers, flowers, fruits, seeds, food fungi...) are produced, harvested, preliminarily processed, packaged and preserved according to technical regulations to ensure that residues of harmful microorganisms and chemicals are below the maximum permissible limit according to regulations. provisions of the law.

Decision 99/2008/QD-BNNPTNT dated October 15, 2008 explains: Safe vegetables and fruits are fresh fruit and vegetable products that are produced and preliminarily processed in accordance with regulations on ensuring food safety and hygiene. products included in VietGAP (Good Agricultural Practices for Safe and Fresh Vegetables in Vietnam) or other GAP standards equivalent to VietGAP and typical samples meeting food hygiene and safety standards as prescribed by law. Current law.

Circular 59/2012/TT-BNNPTNT dated November 9, 2012 states that: Safe vegetables and fruits are fresh fruit and vegetable products that are produced, preliminarily processed and processed in accordance with national technical regulations on conditions. ensure food safety or conform to the technical process of production and preliminary processing of safe vegetables and fruits approved by the Department of Agriculture and Rural Development or in accordance with regulations related to ensuring food safety. products included in the good agricultural production practice process for safe fresh vegetables and fruits VietGAP, other GAP standards and typical samples that meet the food safety standards as prescribed.

Circular 07/2013/TT-BNNPTNT dated January 23, 2013 , fresh vegetables, fruits and tea buds are eligible to ensure food safety in production and preliminary processing (referred to as fresh vegetables, fruits and tea buds for short) safe) means a product that is manufactured and preliminarily processed in accordance with the prescribed food safety assurance conditions.

This proves that the State is very interested in the production and strictly controls the quality of SV products. Among the above documents, Circular 59/2012/TT-BNNPTNT in 2012 clearly and in general outlines the concept of safe vegetables; and the author will use the concept of safe vegetables in the thesis.

Safe vegetables are fresh vegetable products that are produced, preliminarily processed and processed in accordance with national technical regulations on conditions to ensure food safety or in accordance with the technical process of safe vegetable production and preliminary processing. approved by competent authorities or in accordance with regulations related to ensuring food safety in good agricultural production practices for safe fresh vegetables VietGAP, other GAP standards and typical samples meeting food safety standards as prescribed.

Research Methods

Way next near research assist

Research assist Okay up onion follow way next near bridge follow physical theory onion Because pepper use. According to this approach, an individual's consumption decision goes through five steps like in Figure first below this:

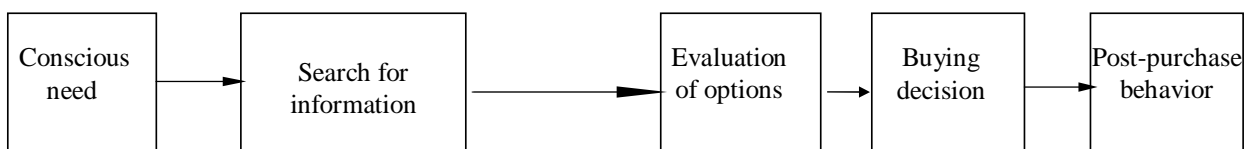


Image first: Decided determined buying row of the People pepper use

Thus, the buying decision process is, first of all, the consumer has a sense of and needs to consume the product. Next, they will search for information through many different forms such as: searching on the mass media, finding out through friends and colleagues who have used the product in question, advertising of the manufacturer. Through the process of receiving information, they can know that many products of the same type can meet their needs and they have different characteristics in terms of quality, price, purchasing method,

etc. The next step is to come up with different consumption options and conduct an assessment of the benefits of using each type of product. Evaluation criteria include: price, usage time use, convenience, financial ability of the buyer, etc. After evaluating, the customer Consumers will make a decision to purchase one of the product categories that will bring again give surname profit useful high best. Although of course, too submit buying row are not right dot stop in this, but bag hours People pepper use after when the decide determined buying shopping one product Products any there There is also a need for after-sales service for the seller (warranty period, mode tell maintain,...).

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Research assist history use number Whether rank grant and number Whether thing tra Sister grant. Number Whether rank grant Okay collect ten are from the newspaper fox row five of the Danang city, year supervisor system list and conclude fruit study of previous researches at home and abroad in the field safe vegetables . Number Whether Sister grant Okay collect ten pine via direction France to hit price shallow village yes the greed family (Participatory Rural Appraisal - PRA) opposite to with the opposite to statue to be People safe vegetable production and expert assessment (KIP) for suppliers (collectors), and feces mix product Products (the super market and door row sell safe vegetables). Outside out, to feces volume consumer behavior and factors affecting consumer behavior, research also up onion thing tra on duty next 100 People pepper use fish core presently are yes history use safe vegetables follow direction France choose sample random course above geography table Da Nang city pine viaboard sentence ask thing check.

Analytical methods

To evaluate the influence of factors on the level of spending for the use of safe vegetables, research using multivariable regression analysis method. Equation anise rules yes form like after:

$$Y = \beta_0 + \sum_{i=1}^n \beta_i \cdot X_i + \sum_{j=1}^n \delta_j \cdot D_j + \varepsilon \tag{1}$$

In there:

- Y: Average expenditure per capita/month for safe vegetables (VND)
- X_i: The i-th independent variable is hypothesized to have an effect on the dependent variable Y.
- X₁: Age of the consumer (years)
- X₂: Distance from home to place to buy safe vegetables (m)
- X₃: Consumer confidence in product safety (values from 1 to 5)
- X₄: Number of people living together in the household (person)
- X₅: Food expenditure per capita per month (VND)
- X₆: Income/month of the household (VND)
- X₇: Price ratio of safe vegetables / common vegetables of the same type (times)
- D_j: The jth dummy variable is hypothesized to have an effect on the variable Y
- D₁: Availability of safe vegetable products
(1: easy to find; 0: not easy to find)
- D₂: Gender of the consumer (1: male; 0: female)
- β₀: Root coefficient
- β_i: estimate coefficient of independent variable i
- _j: Effect coefficient of the jth dummy variable
- ε: Error.

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Table 1. Sign period hope of the tissue Figure anise rules

No	Variable symbol	The content of the variable	Unit	Expectation sign
1	X ₁	Consumer's age	year	+
2	X ₂	The distance from home to the place to buy vegetables is safe	meters	-
3	X ₃	Consumer confidence in product safety (values from 1 to 5)	1÷5	+
4	X ₄	Number of people living in the same household	people	+
5	X ₅	Average monthly expenditure on food of people in the province	copper	+
6	X ₆	Average monthly household income	copper	+
7	X ₇	Price ratio of safe vegetables to common vegetables of the same type		-
8	D ₁	Availability of safe vegetable products (1: easy to find; 0: not easy to find)	0/1	+
9	D ₂	Consumer's gender	0/1	-

(1: male; 0: female)

(Source: Author in 2022)

Research results

Descriptive statistics

In general, vegetable production in Da Nang city still has many limitations. Currently, Da Nang city yet? Figure Fort region product export safe vegetables yes rules tissue great. The the point plant safe vegetables are small and fragmented. Most of the safe vegetable growing areas are invested from the budget local or production projects. Very few farmers invest in safe vegetable production by themselves because short market school pepper tree sure sure. Products Products safe vegetables in Da Nang city yet? Yes Okaya widespread consumption system. Safe vegetables have no labels, and no certificates receive products to build trust with consumers. In 2008 the planted area safe vegetables in the Danang city is now now about 5.167 ha. Vegetables are safe plant feces canopy in mostall districts of the Danang city. Following the development orientation of the vegetable industryof the Danang city, the area for growing safe vegetables will be expanded in the near future direction contact conclude product export. Conclude fit family get a raise product export with open wide market school pepper tree safe vegetables to be item pepper play develop of the branch safe vegetables in Danang city time time next. BesideIn addition, the development orientation of safe vegetable production in the direction of process enhancement inspecting and monitoring product quality, building technical production processes with crop protection techniques, and in combination with training, transfer deliver carefully jutsu product export safe vegetables in the region plant safe vegetables important the point.

Conclude fruit to hit price KIP opposite to with the home manager physical extra blame the set department buying row and sell products at CoopMart and Metro supermarkets in Danang city shows that demand pepper tree safe vegetables are yes afternoon direction family get a raise. Although of course, presently yes very much difficult towelin the business of this product. Firstly, finding a supplier of safe vegetables with potential force nest position bow application product Products guarantee tell correct matter quantity and time time deliver row to bevery difficult. This affects the irregularity of this product being present business system of supermarkets. Second, lack of a quality assurance process quantity in product export safe vegetables. Thing this guide arrive feebleness element matter quantity, one count matter The importance of safe vegetables is not guaranteed and makes customers feel insecure when choosing to buy safe vegetables at the supermarket. Third, the diversification of safe vegetable products is limited. Only a few safe vegetable products are regularly displayed for sale while the consumer's request is to have more safe vegetable products to choose from than just a monotonous product. Finally, consumers' buying habits such as convenience, buying distance, etc. are also the main limitations that prevent the current safe vegetable distribution system from being widely covered.

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Table 2 presents a summary of key household information in the sample consumers. In general, users of safe vegetables have a high level of education (in that: 23% in middle school or below, 23% in high school, and 54% above high school) and has a rate of import jar army person/month rather high. Thing this give see market school safe vegetables lie in high-income market segment. In addition, the purchasing distance is relatively long for see the are not favorable convenient of the face row safe vegetables this opposite to with People pepper use.

Regarding the time to use safe vegetables, the survey results showed that 67% of the respondents say they have been buying safe vegetables for more than a year, and 33% of respondents only buy safe vegetables little than one five. Thing this give see coin direction pepper use safe vegetables are Figure Fortand has a lot of prospects in the near future when consumers' perceptions change change follow direction volume pole in onion. Because pepper use of the me. Conclude fruit survey close alsoshows that the average expenditure/person/month for safe vegetables is 40,000 VND, respectively VND, 40,000 - 80,000 VND, and over 80,000 VND respectively for 41%, 40%, and 39% of people surveyed. In particular, the survey results on the awareness of safe vegetable consumptionshows that 100% of respondents perceive the use of safe vegetables as beneficial to health strong. However, there is still a high percentage (45%) of consumers who do not understand a way full enough about pepper standard safe vegetables.

Table 2. Some characteristics of consumers of safe vegetables in the Da Nang city

No	Targets	Age (year)	Education (grant)	Income monthly average (million VND/person)	Purchase distance (km)

1	Average number	35.29	3.30	9.28	2.23
2	Smallest number	19.00	1.00	5.23	1.00
3	Biggest number	71.00	4.00	13.62	3.00
4	Standard deviation	11.60	0.85	0.79	0.66

(Source: Survey data and Author's calculation in 2022)

Factors affecting the decision to buy safe vegetables

The survey results show that there are five factors considered by consumers in deciding to buy safe vegetables (see Table 3). In which, the prestige factor of the distributor is ranked first. Most of the respondents said that at present, they only trust distributors in modern distribution channels such as Metro, CoopMart, Vinatex, etc. to be able to supply safe vegetables to ensure their safety because these places care about your brand. Next, they are interested in the external characteristics of the product such as: freshness of vegetables, vegetables with beautiful, eye-catching and clean shapes and variety of vegetables, etc. In addition, the issue of price Safe vegetables are also of interest to consumers, although they are ranked at a lower priority.

Table 3. The feebleness element image enjoy arrive decide determined buying vegetable an full

No	Element	Rating	Note
1	Distributor's reputation	1	
2	Vegetable quality (fresh, beautiful, clean) and vegetable variety	2	
3	Convenient shopping	3	
4	Good price	4	
5	good service attitude	5	

(Source: Survey data and author's calculation in 2022)

Analysis of factors affecting the level of spending on safe vegetables

Based on Theoretical Model (1) and using the Backward method in regression analysis, the results of the appropriate model analyzing the factors affecting the consumption of safe vegetables are presented below:

$$Y = 43,089 - 40,075X_2 + 18.179 X_3 + 34,627 D_1 \quad (2)$$

$$P\text{-test value: } (0.9712) (-4.1188)(2.7563)(2.6928)$$

$$R^2 = 0.46$$

$$F\text{-test value: } 53.9580$$

The results show that the factors: distance to purchase (X_2), customer confidence in safe vegetable products (X_3), and availability of safe vegetables (D_1) are the main factors. has a statistically significant effect on consumers' spending on safe vegetables. Meanwhile, other factors that play an important role in the theory of consumer behavior do not have a statistically significant effect on the level of consumption of safe vegetables. It should also be noted that the influence of these three factors is only at 46%, while the others not included in Model (2) can cause residual influence on the level of vegetable expenditure. safe. This shows that the reality of safe vegetable consumption is that the factors of convenience (such as purchase distance and product availability) and trust in safe vegetable products are the most important factors affecting the health of vegetables. affects the behavior of consumers to choose to buy safe vegetables despite the huge differences such as income, education level, etc. of consumers. In addition, the analysis results also show that there is no statistical basis to conclude that the age and sex factors of the consumer, the size of the consumer household, the level of food expenditure of the consumer, income of consumers, the ratio of the price of safe vegetables to vegetables often affects the level of spending on safe vegetables of consumers.

Conclusion and Discussion

Conclusion

In general, the safe vegetable industry of Da Nang city still faces some difficulties such as there is no specialized area for safe vegetable production with a large scale and area, and the cultivation of safe vegetables is still small and fragmented. Most of the safe vegetable growing is done from local investment funds or production projects. There are very few producing households who invest their own funds to grow safe vegetables because they cannot guarantee a stable output for their products. Safe vegetables of Da Nang city have not built a wide consumption network. Safe vegetables have no labels, no certificates of authorities. In addition, the issue of developing safe vegetables in the Danang city has just stopped at technical training and model building. In addition, at present, safe vegetable producers have not been able to connect with distributors to consume the produced vegetable products.

Consumption of safe vegetables in Da Nang city tends to increase. There are three factors that influence the level of safe vegetable spending : purchasing distance, consumer confidence in the product, and availability of safe vegetables are important factors affecting the level of safe vegetables spending. of consumers. Perhaps there will be many other factors besides the three found in this study that affect the level of spending on safe vegetables , but because the sample size of the study was not large enough and/or limited in due to the full identification of factors affecting the research problem, the variables identified in the Model only partially explain the change in the level of spending on safe vegetables. The research results also show that the factors related to the organization and distribution of safe vegetables have a great influence on the level of safe vegetable consumption . In which, the sales position and meeting the sufficient quantity and variety of safe vegetable products are issues of concern for distributors.

Discussion

From the research results, the following discussions and policy implications are given to contribute to the development of safe vegetable production and consumption in the Danang city market:

Firstly, it is necessary to quickly replicate safe vegetable production models according to product quality control procedures. The formation of concentrated safe vegetable production areas allows safe vegetable production in the direction of product diversification, thus meeting the diverse needs of consumers.

Second, forming linkages between safe vegetable producers and key safe vegetable consuming places such as the system of large supermarkets and retail stores dealing in safe vegetables . The close association between these two important actors in the current period will help safe vegetable products penetrate the market deeper and deeper as well as contribute to the awareness of consumers about good safe vegetables . than. In addition, the development of safe vegetable retail points in convenient locations for buyers will contribute to promoting a wider safe vegetable consumption network.

Third, the role of communication on food safety in general and safe vegetables in particular will contribute to promoting the production and consumption of safe vegetable products . Once consumers have great confidence in safe vegetables , promoting the safe vegetable market will have a higher chance of success. This is a very important premise for the development of this exciting yet new market.

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