

An Empirical Study on the Impacts of Cultural Factors on The Demand for Fast-Moving Consumer Goods

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Abstract. Over the past 25 years, the economy in general and the Fast Moving Consumer Goods (FMCG) market in particular in Vietnam have been fiercely competitive. Every year, our country has many businesses and companies established and many of them have to close and go bankrupt. One of the reasons to explain the failure is that the business cannot determine the demand of the industry in which it operates. Determining demand is difficult, determining factors affecting demand is even more difficult. Consumer demand is not only influenced by factors of consumer income; but also influenced by cultural factors such as religion, belief, age, gender, work, living area and many more. Vietnam, a country with a thousand years of civilization. Therefore, considering the influence of cultural factors on Vietnamese consumer demand for the fast-moving consumer goods industry is extremely necessary. Therefore, an in-depth study using mathematical models to clearly quantify the influence of cultural factors on consumer demand for the FMCG industry will have reference value for businesses, as well as policy makers. This article conducts research to determine the influence of cultural factors on consumer demand for fast-moving consumer goods in Vietnam; as well as compare the differences in consumer demand when they are culturally different. The study conducted expert interviews and quantitative calculations with a sample size of $n = 1221$ samples from Vietnamese citizens aged 20 years and older. Collected data are processed using SPSS 20 and SmartPLS 4.0 software to test the suitability of research hypotheses and models. The results show that the influence of culture on consumer demand exists. Future research should explore more different professions at home and abroad.

Keywords: E-commerce application, small and medium enterprises in Ho Chi Minh City, exploratory factor analysis, regression analysis

1. Introduction

In the context of economic integration and development, Ho Chi Minh City has constantly created a favorable and breakthrough investment environment to encourage and support the development of small and medium-sized enterprises, especially in the field of e-commerce. In recent years, the application of e-commerce by small and medium-sized enterprises in Ho Chi Minh City has always faced difficulties in terms of capital, human resources and legal basis (Ministry of Industry and Trade, 2021). The limited understanding of the benefits of e-commerce as well as the fear and lack of initiative in changing business directions have partly hindered the application of e-commerce in small and medium-sized enterprises in Ho Chi Minh City.

Therefore, the objective of the study is to determine the degree of influence of cultural factors on consumer demand for FMCG in Vietnam; and compare the differences in consumer demand when they differ culturally. Thereby, we propose development policy implications for manufacturing and trading enterprises in the fast-moving consumer goods industry, as well as macroeconomic policy makers.

This research addresses the limitations of previous studies by: (1) Simultaneously consider the relationship of four factors of Technological innovation, Organizational factor, External factors Leadership characteristics; Research aimed at small and medium enterprise, meeting the growing needs of this type of enterprise; (2) Elements of Technological innovation, Organizational factor, External factors Leadership characteristic are considered thoroughly and systematically; (3) Data processing method is both qualitative and quantitative, bringing high reliability and accuracy

2. Literature Review and Research Model

The Dutch management researcher, Geert Hofstede, created the theory of cultural dimensions in 1980 (Hofstede, 1980). Hofstede's cultural dimensions stem from a large survey he conducted between the 1960s and 1970s to examine value differences between different IBM divisions, a multinational computer manufacturing company. This study included more than 100,000 employees from 50 countries across three regions. Hofstede, using a specific statistical method called factor analysis, initially identified four dimensions of value: individualism and collectivism, power distance, uncertainty avoidance, masculine and feminine. Later research by Chinese sociologists identified a fiftieth dimension, either long-term or short-term orientation (Bond, 1991). Finally, a copy of Hofstede's research, conducted in 93 separate countries, confirmed the existence of five dimensions and identified a sixth dimension known as indulgence and restraint (Hofstede and Minkov, 2010).

Demand is defined as the quantity of a good that Consumers are able to buy and willing to pay a certain price for at a given time. Theory of Demand is a Law that states the relationship between the quantity demanded of a product and its price, assuming that all other factors affecting Demand are constant. According to the law of demand theory, the quantity demanded of a good is inversely related to its price in the market. The factors affecting demand include: Price of the good, Number of consumers, Price of related goods, Income, Consumer Expectations, Tastes and Preferences (Mankiw, 2003).

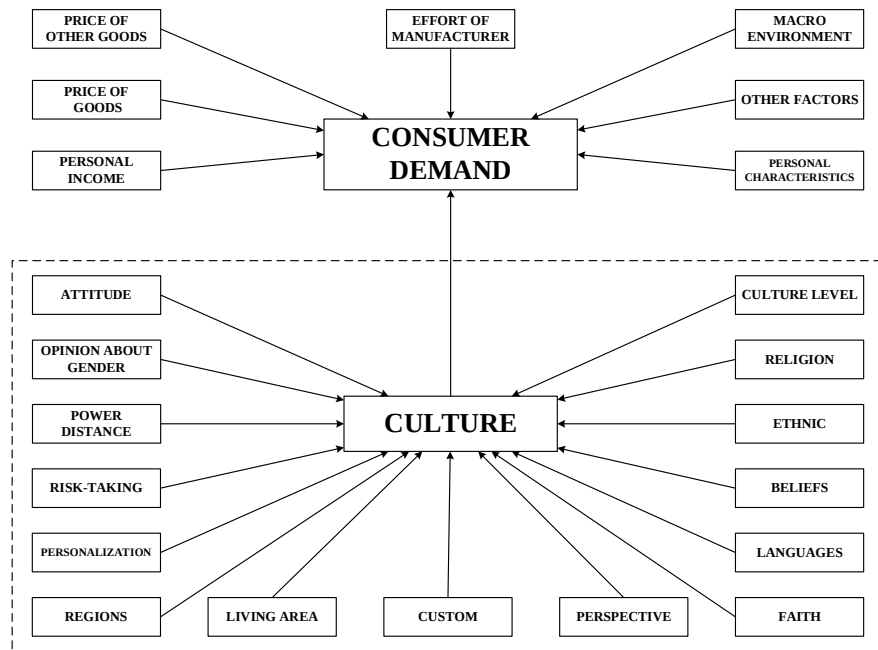
The study conducts a literature review and presents the result in Table 1. The points drawn from previous studies (Ahmad, 2008; Durmaz et al., 2011; Nguyen Thi Gam, 2009; Park and Lemaire, 2011; Pham Thanh Thai, 2013) are as follows: Firstly, the research is weak. Cultural factors affecting consumer demand for fast moving consumer goods (FMCG) at national as well as international level are not found. Secondly, the method used by the groups in the research is to compare, synthesize, test and build linear or nonlinear models, and after that pointed out the differences in demand, buying behavior of groups of people with different characteristics and cultural aspects. Thirdly, most studies only study a branch of culture affecting demand as well as the impact of culture on consumer behavior to a narrow extent.

Table 1. Literature review result

No	AUTHOR(S) AND RESEARCH TITLE	CULTURAL FACTORS	RESEARCH METHODOLOGY
1	Alkhalaf, Ahmad Abdullah, Cultural differences and its influence on consumer behavior (2008).	Only use cultural characteristics including: Ethnicity, language, religion, traditions, customs, values.	Qualitative research methods
2	Dr. Durmaz Yakup, Dr. Celik Mücahit and Oruc Reyhan. The influence of cultural factors on consumer purchasing behavior - Assessment through actual survey (2011).	Only use cultural characteristics: Religion, traditions, customs, values, regions.	Qualitative research methods
3	Beatrix Brügger, Rafael Lalive, Andreas Steinhauer and Josef Zweimüller. Demand for social insurance: Is it a matter of culture? (2011).	Only use cultural characteristics: Language, living area.	Qualitative and quantitative research methods
4	Bagozzi, Richard P., Wong, Nancy, Abe, Shuzo, & Bergami, Massimo. Culture and contingency and the theory of reasons for action (2000).	Use cultural characteristics as rituals and cultural aspects as personalization.	Qualitative and quantitative research methods
5	Dr. Jacqueline J. Kacen and Dr. Julie Anne Lee. The influence of culture on consumers' unplanned purchasing behavior (2002)	Use cultural characteristics as ethnicity and cultural aspects as individualization.	Qualitative and quantitative research methods
6	Chui and C. Kwok, National National Culture and Life Insurance Spending (2008)	Using cultural characteristics including: Ethnicity and religion and cultural aspects including: Power distance, individualization, gender attitudes and risk-taking.	Qualitative and quantitative research methods
7	Srikes Monthathip, Louvieris Panos and Collins Catherine. The influence of culture on mobile phone purchases: A comparison between Thai and UK consumers (2008).	Use cultural characteristics such as ethnicity and cultural aspects including: Power distance, individualization, cultural values.	Qualitative and quantitative research methods
8	Sojung Carol Park and Jean Lemaire. The influence of culture on the demand for non-life insurance (2011)	Use cultural characteristics including: Ethnicity, religion and cultural aspects including: Power distance, individualization, gender attitudes and adventurousness.	Qualitative and quantitative research methods
9	Sojung Carol Park and Jean Lemaire, Cultural issues: The long-term vision and demand of life insurance (2011)	Use cultural perspectives including: Power distance, individualization, gender attitudes and risk taking and long-term vision	Qualitative and quantitative research methods
10	Atieh Bathaee, Culture Affects Culture influences consumer behavior – Clarifying the theory through illustrative examples between Germany and Iran (2011)	Using cultural characteristics as ethnicity and cultural aspects include: Power distance, individualization, gender attitudes and risk-taking.	Qualitative and quantitative research methods
11	Pham Thanh Thai, Analysis of the demand structure of meat and fish products: an empirical study according to an econometric approach for the case of Vietnam	Using only cultural features that are living areas (rural, urban)	Qualitative and quantitative research methods
12	Nguyen Thi Gam, Research on some factors affecting the buying behavior of consumers aged 18-25 for clothing products in Thai Nguyen city.	Using only the cultural aspect is personalization.	Qualitative research methods

(Source: Reviewed by author, 2023)

Consumer demand is influenced by many factors such as: personal income, prices of substitute products, macro policies, culture, personal characteristics and a few other factors. Table 1 below details the factors affecting demand.



(Source: Proposed by author, 2023)

Fig.1: Model of factors affecting demand

3. Research Methodology

The research framework of the topic includes the following parts: Firstly, research theories related to the topic including: Theory of culture, demand and factors affecting consumer demand. Secondly, review previous research by domestic and foreign authors related to the topic to learn about the applied theory, research methods and results achieved. From there, it helps the author have a direction to carry out this topic. Thirdly, interview experts to determine the theoretical framework as well as design a questionnaire to conduct field surveys. Fourthly, field surveys aim to find the answer data mentioned above. Fifthly, results and discussion of research results.

The research process of the project includes 12 steps. The first step is to define the research objective and the last step is to conclude the factors affecting demand for fast-moving consumer goods in Vietnam. The research process is shown in Figure 2 below.

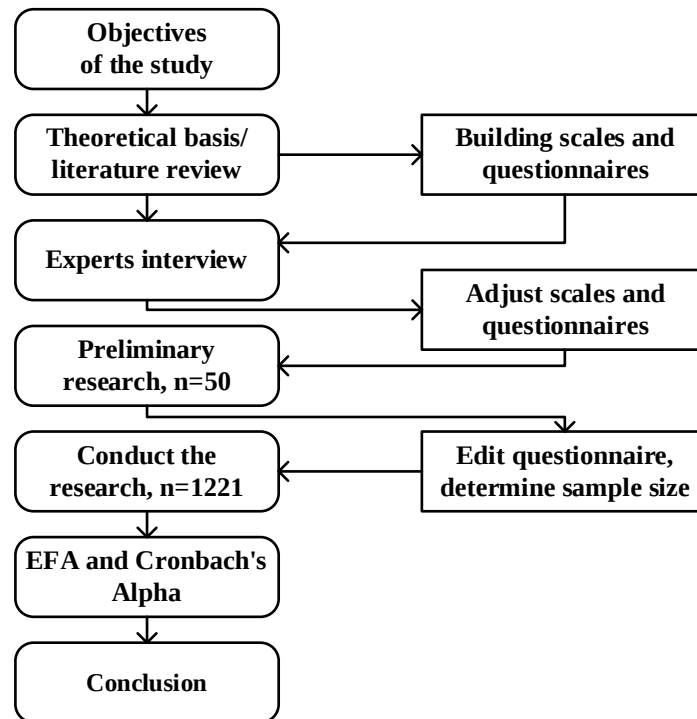


Fig.2: Research process

3.1. Qualitative research method

Qualitative research is a method of filtering information from surveys and observations; is an approach to compare, describe and analyze the characteristics of cultural factors and other factors that influence consumer demand. In this topic, qualitative research method was used by the author as follows:

Firstly, in the stage of building the theoretical framework as well as designing the questionnaire, the author applies the method of in-depth interviews with experts; to determine whether cultural characteristics and aspects influence consumer demand in a particular market. There were two questionnaires used for two groups of experts, one for cultural researchers and one for managers. The collected results help the author determine the theoretical framework, complete the questionnaire and identify variables in the quantitative model. Although there have been previous studies, most of the above studies were conducted in different countries around the world and were not in the fast-moving consumer goods industry.

Secondly, after collecting secondary data, the author applies methods such as comparison and analysis to find out the influence of cultural factors on consumer demand.

Thirdly, collected data with a sample size of 1221, the author conducts descriptive statistics on demographic characteristics such as age, gender, occupation, living area, ethnicity, etc. as well as compare the demand of consumers in the above groups to see if there is any difference. Finally, interpret and discuss the research findings.

3.2. Quantitative research method

Through the qualitative research above, the author has identified influencing variables as well as necessary information for research. The next step is to conduct quantitative research. Quantitative research method is essentially a method of collecting specific numerical data, applying econometric models to quantify the influence of factors on consumer demand. Within the scope of this topic, the author uses quantitative research methods as follows: Firstly, build a questionnaire and measurement scale. Secondly, test the reliability of the scale (CA coefficient). Thirdly, exploratory factor analysis (EFA). Finally, conclude findings and limitations of the research.

4. Research Scales Analysis

4.1. Data collection and initial scales forming

The sample size is 1221 with observed variables including: Age, educational level, gender, family status, income. There were 555 male interviewees and 666 female interviewees, with an average age of 32.56 years, which is the ideal age for the study. The majority of respondents to the questionnaire were married, accounting for 52.2%; singles accounted for 46.3%, the rest were divorced or separated. Besides, the education of the research group is statistically as follows: Postgraduate accounted for 16%; college and university graduates account for 58%; High school and intermediate level account for 24.1%, the rest are below intermediate level. The average income of the interviewees is 9.6 million/month, this figure is not too high compared to the per capita income of Vietnam. The living area of the surveyed people is as follows: Living in urban areas accounts for 67%, the rest 33% is in rural areas. Participants in this study are mainly Kinh ethnic group, accounting for 93%, the remaining 7% are other ethnic groups. The hometown of the sample is shown as follows: the South accounted for 36%, the Central region accounted for 37% and the North accounted for 27%. However, the majority of people live in the South, this proportion accounts for 49%, the Central region accounts for 18% and the North accounts for only 33%. The individual demand levels for the commodity categories are presented in Tables 2, 3, 4, 5, 6, 7 and 8 as follows.

Table 2. Expenditure on milk

Age range	Expenditure on milk by age (thousand VND)					Average expenditure/month	
	<100	100-150	150- 200	200- 250	>250	Thousand VND	Kg
From 20 - 30	314	146	83	37	83	132.06	0.50
From 31 - 41	77	64	45	34	106	179.11	0.68
From 42 - 52	51	58	21	3	42	154.06	0.58
From 53+	22	9	10	6	9	148.68	0.56

(Source: Author's calculations from collected data, 2023)

Looking at the statistics, we can see that the age group with the greatest demand is from 31 to 41 years old, reaching 0.68kg/month, followed by the age group 42 -52 with 0.58kg/month, the age group from 20 to 30 has the lowest demand with 0.5kg/month. In general, this data is consistent with common observations, the average demand of all the above age groups is 0.58kg/month, equivalent to a expenditure level of 148,500 VND/month. If compared with the average expenditure on milk in 2015 of the whole Vietnamese market, which is nearly 80,000 VND/month, this figure is slightly higher; however, the mean is the average divisor for the entire population of Vietnam, while the average in the study only focuses on people who use milk every month.

Table 3. Expenditure on instant noodles

Age range	Expenditure on instant noodles by age (thousand VND)					Average expenditure/month	
	< 40	40- 60	60- 80	80- 100	>100	Thousand VND	Kg
From 20 - 30	503	77	21	31	31	40.2	0.73
From 31 - 41	213	54	31	10	18	43.4	0.79
From 42 - 52	106	34	16	7	10	45.0	0.82
From 53+	34	7	9	3	3	46.3	0.84

(Source: Author's calculations from collected data, 2023)

With the instant noodles industry, the age group with the largest demand is the group from 53 years old and above with 0.84kg/month, equivalent to about 46.3 thousand VND/month. However, this age group only accounts for a very small proportion of the 1221 samples of this study (4.7%). The age group with the highest demand, 0.73kg/month, equivalent to 40.2 thousand/month, is the age group of 20 - 30 years old. The average demand of the groups in this study is about 0.77kg/month, equivalent to 42 thousand VND/month. Similarly, if compared with the average expenditure of the whole of Vietnam in 2015, this figure also has a difference of 42 thousand VND/month (research) compared to 24.3 thousand/month (the average of the whole country).

Table 4. Confectionery expenditure

Age range	Expenditure on confectionery by age (thousand VND)					Average expenditure/month	
	<40	40- 60	60- 80	80- 100	>100	thousand VND	Kg
From 20 - 30	444	95	39	24	63	44.9	0.58
From 31 - 41	203	54	28	12	30	46.3	0.60
From 42 - 52	92	40	21	9	12	47.9	0.62
From 53+	39	4	10	2	1	43.2	0.56

(Source: Author's calculations from collected data, 2023)

With the above two categories (milk and instant noodles), the demand for confectionery age groups in this study is not significant, the difference between the group with the highest demand and the group with the lowest demand. Only 0.06kg, equivalent to 4 thousand VND. The age group with the largest demand is the group from 42 to 52 years old, reaching 0.62kg/month, equivalent to 47.9 thousand VND/month, the group from over 55 years old has a low demand of 0.56kg/month, equivalent to 43.2 thousand VND/month. If compared with the national average (2015) estimated at nearly 20 thousand VND/month, the demand level in this study is higher. Similar to the dairy industry, per capita is calculated as total market demand divided by total population, including non-users. Meanwhile, the participants in this study were those with monthly use.

Table 5. Expenditure on fish sauce, soy sauce

Age range	Expenditure on fish sauce and soy sauce by age (thousand VND)					Average expenditure/month	
	<20	20 - 40	40 - 60	60 - 80	>80	thousand VND	Kg
From 20 - 30	348	211	83	15	6	23.45	0.73
From 31 - 41	134	146	39	7	-	25.07	0.78
From 42 - 52	71	61	30	9	3	28.29	0.88
From 53+	27	19	9	1	-	24.74	0.77

(Source: Author's calculations from collected data, 2023)

Similar to the instant noodles industry, the difference in demand levels between groups is not significant. The highest demand is from 42-52 years old, with 0.88kg/month, equivalent to 28.29 thousand VND/month. The age with the lowest demand is the age from 20 to 30 years old with a demand of 0.79kg/month, equivalent to 23.45 thousand VND/month. The average demand of the age groups in the study is 0.7kg/month, equivalent to 24.6 thousand VND/month; This expenditure is higher than the average expenditure of Vietnam in the past year, estimated at more than 12 thousand VND/person/month.

Table 6. Expenditure by gender, area of residence

Line of products	Average expenditure (thousand VND; kg)/month							
	Gender				Area of residence			
	Male		Female		Urban areas		Others	
	Expenditure	Kg	Expenditure	Kg	Expenditure	Kg	Expenditure	Kg
Milk	147.7	0.55	149.2	0.56	151.6	0.57	127.4	0.48
Instant noodle	41.4	0.76	42.5	0.78	41.7	0.76	44.2	0.81
Confectionery	43.6	0.57	47.2	0.61	45.2	0.59	48.4	0.63
Fish sauce, soy sauce	22.0	0.69	26.7	0.83	25.0	0.78	21.9	0.68
Total	254.7	2.57	265.5	2.78	263.5	2.70	241.9	2.60

(Source: Author's calculations from collected data, 2023)

There are differences between men and women in expenditure across most categories. However, this difference is not too big, this gap is from 1,000 VND to 3,000 VND but if calculated for all four categories, the difference is up to nearly 11,000 VND. In terms of kilograms, women have a demand of 2.78kg/month while men only have 2.57kg/month.

Table 7. Expenditure by region

Line of products	Average expenditure (thousand VND; kg)/month					
	Region					
	North		Central		South	
	Expenditure	Kg	Expenditure	Kg	Expenditure	Kg
Milk	160.2	0.60	127.0	0.48	152.0	0.57
Instant noodle	44.3	0.81	38.5	0.70	42.5	0.78
Confectionery	50.4	0.65	39.3	0.51	46.4	0.60
Fish sauce, soy sauce	28.8	0.90	19.9	0.62	25.1	0.78
Total	283.7	2.96	224.7	2.31	266.0	2.73

(Source: Author's calculations from collected data, 2023)

There is a huge difference in demand levels between regions and regions. The North (MB) has the highest average among regions, respectively dairy, instant noodles, confectionery and fish sauce, soy sauce are 0.60kg/month, 0.81kg/month, 0.65kg, 0.90kg, this result is slightly different from the secondary data, while the Central region (MT) has the lowest level of 0.48kg/month, respectively, 0.70kg/month, 0.51kg/month, 0.62kg/month, finally, the South (MN) has demand of 0.57kg/month, respectively, 0.78kg/month, 0.60kg/month, 0.78kg/month. If comparing all four categories, this difference is very clear when MB has a demand of 2.96kg of all kinds/month, MT has only 2.31kg/month and MN is 2.73kg/month.

Table 8. Expenditure by marital status

Line of products	Average expenditure (thousand VND; kg)/month					
	Single		Married		Divorce/Separation	
	Expenditure	Kg	Expenditure	Kg	Expenditure	Kg
Milk	124.9	0.47	162.11	0.61	108.4	0.41
Instant noodle	43.0	0.78	44.22	0.80	43.4	0.79

Confectionery	49.0	0.64	46.09	0.59	51.2	0.66
Fish sauce, soy sauce	24.7	0.77	26.51	0.83	19.7	0.61
Total	241.88	2.66	278.93	2.83	222.44	2.47

(Source: Author's calculations from collected data, 2023)

In general, the monthly demand level of the married group is the highest, in all four commodity groups (milk; instant noodles; confectionery; fish sauce, soy sauce) respectively 0.61kg; 0.80kg; 0.59kg and 0.83kg. Meanwhile, the group of people who are separated and divorced have the lowest demand when all four groups together have only 2.47kg/month. However, this group (divorced/separation) has a rather small sample size (18 people) compared to the single group (570) and the married group (633). In summary, with the above analysis and comparison results, it can be seen that, between groups with different cultural characteristics, the demand level is different.

4.2. Cronbach' Alpha reliability analysis

Analyze the reliability of the product belief factor

The draft scale of product belief factor is presented in Table 9; and the results of Cronbach's Alpha analysis are presented in Table 10.

Table 9. Initial scales of Product belief factor

Question	Answer (1 is strongly disagree... 5 is strongly agree)				
	1	2	3	4	5
I believe, manufacturers care about my needs before production					
I believe, manufacturers care about my culture before production					
I believe, manufacturers care about my habits before production					
I believe, the manufacturers provide enough information about the product for me					
I believe, manufacturers set the selling price in accordance with its real value					
I believe that manufacturers when advertising products do not exaggerate the truth					
I believe, manufacturers comply with state regulations					

The result of Cronbach's Alpha coefficient of Product belief factor is 0.737 and Cronbach's Alpha coefficient of the observed variables is also presented in Table 10 as follows. Cronbach's Alpha coefficient of the product belief factor > 0.6 is satisfactory, Cronbach's Alpha coefficient of the product confidence factor is the largest (compared to the component variables) so the component variables are not excluded.

Table 10. Cronbach's Alpha analysis results of Product belief variables

Variables	Average value if excluding	Value of the variance if excluding	Total variable correlation	Cronbach's Alpha to exclude
NTSP4	9.894	5.378	0.488	0.701
NTSP5	10.132	4.531	0.615	0.625
NTSP6	10.490	4.662	0.537	0.674
NTSP7	9.823	5.226	0.483	0.703

(Source: author's compilation, 2023)

Reliability of the factor Environmental belief

The scale of environmental belief factor is presented in Table 11 and the results of Cronbach's Alpha analysis are presented in Table 12. Cronbach's Alpha coefficient of environmental trust factor > 0.6 is satisfactory, Cronbach's Alpha coefficient of the environmental trust factor is the largest (compared to the component variables) so the component variables are not excluded. The draft scales of the factors expenditure attitudes, personifications, and gender attitudes are presented in Tables 13, 14 and 15.

Table 11. Initial scale of environmental belief factor

Question	Answer (1 is strongly disagree... 5 is strongly agree)				
	1	2	3	4	5
I believe our economy is					
I believe our social structure is					
I believe our education system is					
I believe ours is					
I believe our health system is					
I believe our institution is					
I believe my work in the near future is					

(Source: author's compilation, 2023)

Table 12. Results of Cronbach's Alpha analysis of environmental belief variable

Variables	Average value if excluding	Value of the variance if excluding	Total variable correlation	Cronbach's Alpha to exclude
NTMT1	16.361	10.595	0.669	0.823
NTMT2	16.216	10.063	0.708	0.815
NTMT3	16.404	9.782	0.680	0.820
NTMT4	16.595	10.166	0.657	0.825
NTMT5	16.273	10.418	0.593	0.837
NTMT6	15.542	11.421	0.532	0.847

(Source: author's compilation, 2023)

Table 13. Initial scale of the expenditure attitude factor

Question	Answer (1 is strongly disagree... 5 is strongly agree)				
	1	2	3	4	5
If I had money, I would buy what I wanted					
I will buy the product if it's new					
I will carefully review the price of the product before buying					
I often compare products with each other when buying					
I usually find out the information of the product before buying					
I often buy the products I want more than the products I need					

(Source: author's compilation, 2023)

Table 14. Initial scale of the Personalization factor

Question	Answer (1 is strongly disagree... 5 is strongly agree)				
	1	2	3	4	5
When shopping, I usually DO NOT ask my parents (if they still have them)					
When shopping, I usually DO NOT ask my family members					
When shopping, I usually do NOT consult my friends					
When I shop, I usually do NOT observe the people around me					

When shopping, I usually do NOT buy what my idol is using (if any)					
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(Source: author's compilation, 2023)

Table 15. Initial scale of gender perspective factor

Question	Answer (1 is strongly disagree... 5 is strongly agree)				
	1	2	3	4	5
Women have the same right to work as men					
Women have the same right to be managers/leaders as men					
Women also have the right to make decisions in family matters					
Women also have the right to participate in the upbringing of children in the family					
Women have the same right to enjoy life values as men					
The role of women in society is the same as that of men					

(Source: author's compilation, 2023)

The Reliability analysis results of the scale are summarized in Table 16.

Table 16. Reliability analysis results of the scale

Observed variable	Total correlation coefficient	Cronbach's Alpha if exclude	Observed variable	Total correlation coefficient	Cronbach's Alpha if exclude
Product belief (Cronbach's Alpha = 0.732)			Gender perspective (Cronbach's Alpha = 0.910)		
NTSP4	0.488	0.701	QG1	0.764	0.892
NTSP5	0.615	0.625	QG2	0.838	0.882
NTSP6	0.537	0.674	QG3	0.763	0.893
NTSP7	0.483	0.703	QG4	0.776	0.891
Environmental belief (Cronbach's Alpha = 0.849)			QG5	0.758	0.893
NTMT1	0.669	0.823	QG6	0.620	0.913
NTMT2	0.708	0.815	Risk-taking (Cronbach's Alpha = 0.622)		
NTMT3	0.680	0.820	MH1	0.389	0.597
NTMT4	0.657	0.825	MH2	0.458	0.534
NTMT5	0.593	0.837	MH3	0.447	0.552
NTMT6	0.532	0.847	MH6	0.389	0.585
Expenditure attitude (Cronbach's Alpha = 0.704)			Cultural characteristics influence (Cronbach's Alpha = 0.820)		
TD3	0.481	0.649	AH3	0.591	0.797
TD4	0.543	0.568	AH4	0.674	0.759
TD5	0.522	0.600	AH5	0.687	0.752
Idols and family influence (Cronbach's Alpha = 0.723)			AH6	0.618	0.785
CN1	0.38	0.73			
CN2	0.48	0.68			
CN3	0.51	0.67			
CN4	0.55	0.65			
CN5	0.56	0.66			

(Source: author's compilation, 2023)

The reliability of the questionnaire's factors ranges from 0.6 to 0.95 meeting the requirements for reliability (Hung Anh, 2023). In addition, the factor loading coefficient of the observed variables > 0.3 should be satisfactory for further analysis.

4.3. Exploratory factor analysis EFA

After analyzing Cronbach's Alpha, conduct factor analysis for all factors of the scale. The results of EFA analysis show that the KMO coefficient is 0.781 (> 0.5), the Barlett test has a Sig significance level. = 0.000 (< 0.05). This shows that the EFA analysis data are consistent and that the variables are correlated (Table 17).

Table 17. Statistical results of KMO and Bartlett's Test coefficients

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	0,781
Approx. Chi-Square	18.544.3
df	496
Bartlett's Test of Sphericity	
Sig.	0.000

(Source: author's compilation, 2023)

Table 18. Total Variance Explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	% of Accumulation	Total	% of Variance	% of Accumulation	Total	% of Variance	% of Accumulation
1	4.887	15.272	15.272	4.887	15.272	15.272	4.245	13.266	13.266
2	4.050	12.655	27.927	4.050	12.655	27.927	3.586	11.207	24.473
3	2.751	8.597	36.524	2.751	8.597	36.524	2.645	8.265	32.737
4	2.416	7.552	44.076	2.416	7.552	44.076	2.278	7.120	39.857
5	2.034	6.356	50.431	2.034	6.356	50.431	2.042	6.382	46.240
6	1.562	4.882	55.313	1.562	4.882	55.313	1.964	6.137	52.377
7	1.496	4.675	59.989	1.496	4.675	59.989	1.935	6.047	58.423
8	1.357	4.241	64.230	1.357	4.241	64.230	1.858	5.806	64.230
9	0.937	2.927	67.157						
10	0.834	2.607	69.764						
11	0.778	2.432	72.195						
12	0.753	2.353	74.549						
13	0.687	2.145	76.694						
14	0.659	2.060	78.754						
15	0.600	1.874	80.628						
16	0.578	1.806	82.434						
17	0.557	1.740	84.174						
18	0.516	1.613	85.787						
19	0.490	1.532	87.319						
20	0.484	1.513	88.832						
21	0.463	1.447	90.279						
22	0.440	1.375	91.654						
23	0.432	1.351	93.005						
24	0.362	1.131	94.136						
25	0.351	1.098	95.233						
26	0.322	1.006	96.239						
27	0.296	0.926	97.165						

28	0.261	0.815	97.980						
29	0.250	0.782	98.762						
30	0.216	0.675	99.437						
31	0.158	0.495	99.932						
32	0.022	0.068	100.000						

(Source: author's compilation, 2023)

The total variance extracted is 64.23%, so the survey explains 64.23% of the research topics and the observed variables meet the requirements of convergent and discriminant values. After factor analysis, the structure of factors changed from 32 questions belonging to 7 factor groups to 8 factors. For easy follow-up, the author presents the elements of the official questionnaire in Table 19 below.

Table 19. Appropriate scale to measure the impact of culture on FMCG demand

No	NOTATION	VAR.	CONTENT
1	QDVG (Gender perspective)	QG1	Female have the same right to work as male
2		QG2	Female have the same right to be managers/leaders as male
3		QG3	Female have the right to decide on family matters
4		QG4	Female have the right to participate in the upbringing of children in the family
5		QG5	Female have the same right to enjoy life values as male
6		QG6	The role of female in society is the same as that of male
7	NTMT (Environmental belief)	NTMT1	I believe our economy is very good for a 5, or very bad for a 1
8		NTMT2	I believe our social structure is very good if answered 5, or very bad if answered 1
9		NTMT3	I believe our education system is very good for a 5, or very bad for a 1
10		NTMT4	I believe our health system is very good for a 5, or very bad for a 1
11		NTMT5	I believe our institution is very good if answer 5, or very bad if answer 1
12		NTMT6	I believe that my work in the future is very good if I answer 5, or very bad if I answer 1
13	AHVH (Cultural characteristics influence)	AH3	Would you buy a product when you need it, regardless of whether it is related to your religion or not? (reply from strongly agree to strongly disagree)
14		AH4	Would you buy a product when you need it, regardless of whether it's related to your beliefs or not? (reply from strongly agree to strongly disagree)
15		AH5	Will you buy the product when needed, regardless of whether it is related to tradition or not? (reply from strongly agree to strongly disagree)
16		AH6	Will you buy products when needed, regardless of whether the product is related to your customs or not? (reply from strongly agree to strongly disagree)
17	NTSP (Product belief)	NTSP4	I believe, the manufacturers provide enough information about the product for me (on a scale of 1 - 5, answer 5 is strongly agree, answer 1 is strongly disagree)
18		NTSP5	I believe, manufacturers set the selling price in accordance with its true value (on a scale of 1 - 5, answer 5 is strongly agree, answer 1 is strongly disagree)
19		NTSP6	I believe, manufacturers when advertising products do not exaggerate the truth (on a scale of 1 - 5, answer 5 is strongly agree, answer 1 is strongly disagree)
20		NTSP7	I believe that manufacturers comply with state regulations

			(on a scale of 1 - 5, answer 5 is strongly agree, answer 1 is strongly disagree)
21	TDTD (Expenditure attitude)	TD3	I will carefully review the price of the product before buying (on a scale of 1 - 5, answer 5 is strongly agree, answer 1 is strongly disagree)
22		TD4	I often compare products with each other when buying (on a scale of 1 - 5, answer 5 is strongly agree, answer 1 is strongly disagree)
23		TD5	I usually find out the information of the product before buying (on a scale of 1 - 5, answer 5 is strongly agree, answer 1 is strongly disagree)
24	AHGD (Family influence)	CN1	When shopping I usually DO NOT ask my parents (if there are parents); (on a scale of 1 - 5, answer 5 is strongly agree, answer 1 is strongly disagree)
25		CN2	When shopping, I usually DO NOT ask my family members (on a scale of 1 - 5, answer 5 is strongly agree, answer 1 is strongly disagree)
26		CN3	When shopping, I usually do NOT consult my friends (on a scale of 1 - 5, answer 5 is strongly agree, answer 1 is strongly disagree)
27	MH (Risk-taking)	MH1	If I have money, I also do NOT invest in stocks (on a scale of 1 - 5, answer 5 is strongly agree, answer 1 is strongly disagree)
28		MH2	I usually buy 100% new instead of second hand, even though it's cheaper (on a scale of 1 - 5, answer 5 is strongly agree, answer 1 is strongly disagree)
29		MH3	I prefer to buy familiar branded products over unbranded products even though it is cheaper, has more features (on a scale of 1 - 5, answer 5 is strongly agree, answer 1 is strongly disagree)
30		MH6	I will not do anything that is NOT clear about the outcome (on a scale of 1 - 5, answer 5 is strongly agree, answer 1 is strongly disagree)
31	AHTT (Idols influence)	CN4	When shopping, I usually do NOT observe people around (on a scale of 1 - 5, answer 5 is strongly agree, answer 1 is strongly disagree)
32		CN5	When shopping, I usually do NOT buy what my idol is using (if yes, on a scale of 1 - 5, answer 5 is strongly agree, answer 1 is strongly disagree).

(Source: author's compilation, 2023)

5. Conclusion

The study has formed an research model to study the relationship between culture factors and consumer demand for FMCG in Vietnam. Secondary data provides full information on market demand and cultural influences, specifically as follows: Firstly, the market size is large and the growth rate is good in recent years and in the near future. Secondly, the level of demand varies between regions and residence area, which proves that regional factors have an influence on consumer demand, although consumer demand is also affected by other factors. Thirdly, the demand of people in urban areas is always higher than that of people in rural areas. Fourth, product trust and environmental trust have a great influence on consumer demand through their response to quality problems as described above.

Despite many efforts, there are still limitations. Here are the limitations of the study. *Firstly*, despite great efforts in increasing the sample size from 248 as required to 1221, with the above number, the sample of the study is quite small. *Secondly*, the selection of sampling method according to living area, region, occupation...; of the interviewees to ensure uniformity, but the author himself also acknowledges that the sampling method used in the study cannot fully reflect the characteristics of the population. *Thirdly*, using a questionnaire with more than 35 questions (many questions have small questions inside),

there are many difficult questions that make it possible for survey participants to provide inaccurate information. *Fourthly*, the results of this study have some points contrary to common belief, for example, people with high education level often have a higher demand for instant noodles than those with low education; Meanwhile, reality shows that highly qualified people do not necessarily use as much instant noodles as the results above.

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