

Factors Affecting Consumer's Decision To Purchase Household Appliances in Chengdu City

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Abstract:- The objectives of this research were: (1) To study personal factor affecting the marketing mix. This research is quantitative research. (2) to study opinions about the factor marketing mix factors in purchasing decision household appliances in Chengdu city. The sample size for this study is 438 people. Simple sampling was used. The tool for collecting data is a questionnaire. Statistics used in the analysis include percentages, standard deviations, T-Test, F-Test, and analysis of variance.

The results of the study found that (1) Demographic characteristics affect consumers' decision to purchase household appliances. Among the demographic factors gender differences educational level differences income difference Differences in housing types and differences in the number of family members It has a significant impact on the results of marketing promotions. These findings help organizations Carry out market classification management Different advertising investments Market segmentation and price manipulation policy and increase market density market effectiveness and market capabilities. (2) factors in the marketing mix that influence the decision to purchase electrical appliances of consumers in Chengdu. It is a factor that has strong consensus among consumers covering all 7P's. Comparatively, Product factor ranks the top influencing factor and Price factor ranked the second, and the third is Promotion, while Process, People, Place and Physical Evidence are the fourth, the fifth, sixth and seventh respectively. In more detail, zero installment payment in Promotion is regarded most important to consumers, and the certification standard in Products is the top second concern to buyers.

Keywords:- Affecting Factors, Consumer's Decision, Purchasing Household Appliances, Chengdu City.

I. INTRODUCTION

Nowadays technology and various electrical appliances come to play an important role in the daily life of human beings is undeniable. People are increasingly relying on electrical appliances to provide convenience. from 2000 to 2019 and during the COVID-19 lockdown in 2020 for Chengdu in the upper reach, we hope to provide some water governance suggestions. In 2019, water at 66% of 93 sites in

Chengdu did not achieve the national III standards using measurements of 23 water quality parameters. The top two pollutants were total nitrogen (TN) and fecal coliform (Xue2021).

Chengdu is one of China's important economic centers. and is famous for its strong economy. Economic conditions play an important role in consumers' decisions to purchase household appliances. Factors such as income level, employment rate and purchasing power are important considerations. According to data released by the Chengdu Bureau of Statistics, Statistics Bureau of Chengdu Municipal People's Government (2023) data statistics: by the end of 2022, Chengdu city has a resident population of 21,268,000 people and the capita GDP was 98100 yuan. Comparatively, the economic growth rate slows down, particularly the household appliance retail was depressed with attack of COVID 19. So how to reawake household appliance demand in new economic situation, we need to investigate the consumer decision-making in purchasing household appliance and thus expect find an effective path to market household appliance. As per the social conditions, it also impact consumers' decision-making processes. With the economic and social changes in the world today, social income, consumer preferences and social supply have changed significantly. Home appliance market is the barometer of local economic development, and the influencing factors of consumers' home appliance purchase decisions are the real observation window of local economy, which provides important information for studying local economic and social development. Ecological Environment Bureau of Chengdu Municipal People's Government (2021) said as a new first-tier city in China, Chengdu has deeply implemented the national development policies such as high-quality development, green development and supply-side reform. Chengdu City, energy saving, emission reduction and response to climate change work leading opinions (2020) issued on the "Chengdu City, low-carbon city construction 2020 annual plan" said accelerate the construction of green household appliances consumption, and strive to make green low-carbon become the city's most distinctive traits and most enduring advantages. Nowadays, Green Development is very important political background in China. Under the policy of Green Development, in Chengdu city, there is an increasing awareness of environmental issues and a growing concern for green consumption.

➤ *Research Objective*

- To study personal factor affecting the marketing mix.
- To study opinions about the factor marketing mix factors in purchasing decision household appliances in Chengdu city

➤ *Rerearch Framework*

The researcher reviewed the literature from Philip Kotler's (2015) created the following conceptual framework.

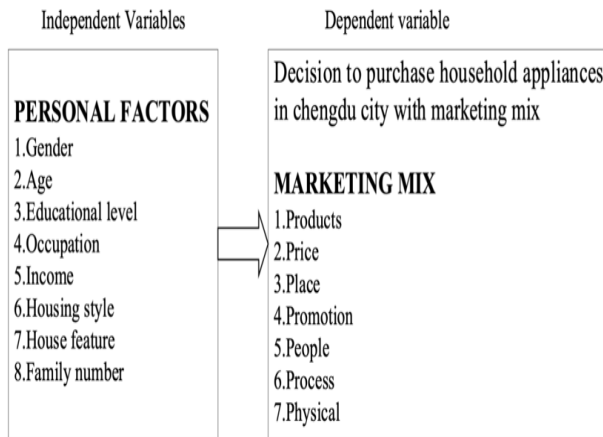


Fig.1 Research framework

II. LITERATURE REVIEW

➤ *Marginal utility theory*

Hicks (1975) proposed the principle of diminishing marginal utility in his work, that is, with the increase of consumption, the marginal utility of each unit of consumption will gradually decrease. He argues that when consumers are fulfilling one need, they divert resources to other needs because of their pursuit of marginal utility. If the marginal utility of one demand falls, consumers may switch to other demands in order to obtain a higher marginal utility. Hicks also introduced the law of marginal utility, which states that in rational consumer behavior, consumers will allocate their finite income across different goods and services so that the marginal utility per unit of monetary expenditure is equal across all goods and services. This means that, ideally, consumers would make their purchase decisions based on the marginal utility of goods and services in order to maximize their overall utility. Marshall (2009) introduced the concept of marginal utility, which was defined as the additional satisfaction or loss caused by a consumer's gain or loss of a unit of goods or services. He argued that people evaluate the importance of different goods or services according to their marginal utility in the process of consumption. Second, Marshall proposed the principle of diminishing marginal utility, which means that the marginal utility of each unit of consumption will gradually decrease as the quantity of consumption increases.

➤ *Theories of income effect and substitution effect*

Hicks (1975) holds that commodity price changes will cause consumers' income changes, and then affect their

consumption decisions. When the price of a good falls, the real income of consumers increases relatively and they can buy more goods. On the contrary, when the price of goods increases, the real income of consumers is relatively reduced and the quantity of goods they are able to purchase decreases. Hicks refers to the impact of such changes in income caused by price changes on consumer demand as the income effect. Hicks also believes that commodity price changes will also change the relative price relationship between goods, which will trigger consumers to adjust the choice of alternative goods. When the price of a certain good rises, it becomes more expensive relative to other goods, and consumers tend to reduce their demand for that good and switch to cheaper alternatives.

Deaton & Muellbauer (1980) deeply discussed the concept and application of demand-income effect in this book. They provide a review of demand income effects and explain the role of income and substitution effects in consumer decision making. Deaton and Muellbauer say that income effects are an important part of the impact of commodity price movements on demand. When the income of consumers increases, they usually increase their demand for certain goods, which is because they have more disposable income to spend on goods and services.

➤ *DEMAND CURVE AND PRICE ELASTICITY THEORY*

Marshall (1890) explored the concept of price elasticity of demand as an important measure of the sensitivity of a market to supply and demand. Hicks (1945) proposed concepts of "income effect" and "substitution effect" to provide a theoretical basis for explaining changes in the price elasticity of demand. These concepts have had a profound impact on later demand theory and price elasticity research. Slutsky (1915) made important contributions to the concept and measurement of the price elasticity of demand. He proposed the famous "Slutsky's law of recovery" for decomposing the total effect into income and substitution effects, and explored the calculation of the price elasticity of demand. Barten (1964) emphasized the utility maximization framework as the basis for understanding consumer behavior and demand. He argued that individuals allocate limited income to different goods and services in order to maximize their utility or satisfaction, viewing price elasticity as an indicator of the responsiveness of demand to price changes. Barten emphasizes that elasticity refers to the corresponding change in quantity demanded as a result of a given proportional change in price. He discusses how elasticities provide insights into the fungibility of goods, market competitiveness, and the potential impact of price changes on consumer welfare.

➤ *Consumer Goods and Industrial products classification*

Griliches (1979) discussed the contribution of R&D to productivity growth. He divides products into R&D-intensive products, such as high-tech products, and non-R&D-intensive products, such as traditional consumer goods, and analyzes the impact of different types of products on economic growth. Blinder (2006) discussed the impact of globalization and industrial structural changes.

He divides products into substitutable sterilizable products (such as customer service) and non-substitutable physical products (such as manufacturing products) and explores the evolution and division of labor of these product types in the context of globalization. This research literature has made important contributions to the theoretical and empirical research on the classification of consumer and industrial goods. They provide theoretical frameworks and empirical analyses that help us understand the differences and connections between consumer and industrial goods, revealing their role in economic development and structural change. Reading this literature can deepen the understanding of the classification of consumer and industrial goods and provide implications for related research and practice.

➤ *Commodity hierarchy Theory*

Levitt (1960) proposed the concept of "Marketing Myopia" and discussed the core, practical, and extended levels of a product. He emphasized that enterprises should focus on the basic benefits and core functions provided by products, rather than just the external features of products. Kotler & Armstrong (1991) discussed the commodity hierarchy theory in detail in *The Principles of Marketing*. They divided products into core products, actual products, and extended products, and explained the concept and role of each level. Doyle (1979) discussed brand building and brand strategy. He viewed brands as part of an extended product, emphasizing the importance of brands for product differentiation, adding added value, and building consumer loyalty. Wind & Mahajan (1997) discussed the problems and opportunities of new product development. They referred to the concepts of product innovation and extended products and explored how consumer needs could be identified and met during the development of new products.

➤ *Product life cycle theory*

Product life cycle theory: Product life cycle theory describes the development and evolution process of a product in the market. It divides the life cycle of products into leading-in period, growth period, maturity period and decline period, and guides enterprises to adopt corresponding marketing strategies in different stages. Bass (1969) proposed the famous Bass Model, which is used to describe the market growth process of new products. He divided the product life cycle into the leading-in period, the growth period, the maturity period and the decline period, and proposed the growth model and forecasting method for the different stages. Mahajan et al., (1990) reviewed the research on the new product diffusion model in the marketing field. They review different models and approaches and explore key factors and strategies in the process of new product diffusion. Urban & Hauser (1980) discussed the product life cycle theory in detail in *The Design and Marketing of New Products*. They explored key issues in new product development and marketing, including product innovation, market positioning and sales strategies. Tidd & Bessant (2018) discussed the theory and practice of innovation management. They covered the concepts and methods of product life cycle management,

emphasizing the strategies and decisions of enterprises in different life cycle stages.

➤ *Consumer Purchase Behavior Theory*

There are many researchers on consumer purchase behavior models, among which Philip Kotler's (1971,2015) consumer purchase behavior model is widely used in marketing, which aims to describe various behaviors and decision-making processes of consumers in the purchase process. We will focus on the theory. The main elements of Kotler's model include: external stimuli, purchase decisions (psychological reactions and decision-making processes - stimulus information processing processes), and actual behavior. Achrol & Kotler (1999) believed that Consumer Behavior refers to the behavior of any individual. Kotler's model argues that the motivation that leads to the decision to purchase a product or service starts with the stimulus that creates the demand, which is transmitted to the buyer's feelings (buyer's black box), also known as (buyer's characteristics). When the stimulus is transmitted to the consumer's feelings, it is like a box where the seller cannot predict what the consumer wants from the consumer's feelings. This will lead to a response (buyer response) due to a variety of factors. Philip Kotler's model of consumer purchasing behavior is detailed.

➤ *Theory of Marketing Mix and "7 P"*

Dominici (2009) said that, the marketing mix refers to a set of strategic elements that organizations use to achieve their marketing objectives. These elements typically include product, price, promotion, and place (distribution). Together, they form a comprehensive framework for designing and implementing marketing strategies.

Philip Kotler and Kevin Keller (2015) said that This widely-used marketing theory provides a comprehensive overview of marketing management, including a detailed discussion of the marketing mix elements and their integration within a broader marketing strategy.

III. RESEARCH METHODOLOGY

This research study is quantitative research. The researcher has developed a conceptual framework based on the law of demand. consumer behavior market stimulus Consumer purchasing decision process and related previous research the research content is as follows:

➤ *Population*

The target population of this study is the general population living in Chengdu City, P. R. China, Chengdu city has a resident population of 21,268,000 people.

➤ *Sample size*

In this study the sample size was determined by reference. According to the Cochran formula, this formula sets the confidence level to 95% and there are error values. To accept the significance level is (+/-) not exceeding 5%.

➤ *Research tools*

This study is a quantitative analysis and will use a questionnaire as a data collection tool.

➤ *Method of data collection*

In this study, the researcher gave Respondents answered questions online. And the collection method is "snowball" to expand the collection sources Zoho Survey, Golden Data, Questionnaire Star and Tencent Questionnaire.

➤ *Statistics Used in the Research and Data Analyses*

Descriptive statistics were used to analyze the characteristics of the data obtained by describing the nature of the data through questionnaire survey and collection of sample data. Based on the data analysis, the synchronization and sensitivity of consumers' household appliance purchase decisions to product characteristics such as price, income, brand, gender, education, consumer characteristics, and third-party characteristics are obtained. Analysis methods include frequency distribution tables, percentages, means, and standard deviations.

➤ *Analysis of variance*

In this research study, ANOVA was used to analyze the relationship between variables and variables that vary by themselves. ANOVA is a statistical method used to compare the means between two or more groups that are significantly different. or not.

IV. RESULTS

➤ *Analysis of Respondents' Demographic Attributes*

Table1. Respondents' demographic features

Demographic attribute	Num in 438	%
Gender		
Male	194	44.4
Female	244	55.6
Age		
<30	5	1.1
30-39	224	51.2
40-49	175	40
50-59	33	7.5
>60	1	0.2
Education		
Junior college	30	6.9
Bachelor Degree	227	51.7
Master or PHD	181	41.4
Occupation		
Gov./SOE clerk	95	21.8
Business man	118	26.9
Employee private	225	51.3
Average monthly income		
6000-9000	159	36.3
9001-12000	167	38.2
>12000	112	25.5
House style		

Villa	19	4.4
Suite	337	76.9
Apartment	82	18.7
House attribute		
House for Rent	75	17.2
Private residence	365	82.9
Family number		
1-2	163	37.2
3-4	181	41.2
5-6	90	20.6
7 and above	4	1

From table 1, it is found that most of the respondents are in terms of gender, there are 194 males, accounting for 44.4%, and 244 females, accounting for 55.6% respectively it is found that most of the respondents were under 30 years old, there are 5 accounted for 1.1% and were 30-39 years old, there are 224 accounted for 51.2 %, 40-49 years old there are 33 accounted for 7.5%. And more than 60 years old, there are 1 for accounted for 0.2 %. It was found that, in terms of education level, there are 227 people with bachelor's degree, accounting for 51.7%. 181 people with master's degree or above, accounting for 41.4%; 30 people have college degrees, accounting for 6.9%. In terms of interviewees' occupations, there are 95 employees in government or state-owned enterprises, accounting for 21.8%. There were 118 businessmen, accounting for 26.9 %. 225 employees in private enterprises, accounting for 51.3%; It was found that, in terms of income, there are 159 respondents with an average monthly income of CNY 6000-9000, accounting for 36.3%. There are 167 respondents with average monthly income of 9001-12,000, accounting for 38.2%. There are 167 respondents with an average monthly income of more than 12000-yuan, accounting for 25.5%; It was found that, in terms of housing type, 19 respondents live in Villa, accounting for 4.4%. The housing type of the respondents is Suite, 337 people, accounting for 76.9%. The housing type of the respondents is apartment, 82 people, accounting for 18.7%; It is found that, in terms of housing feature, there are 73 respondents who rent houses, accounting for 17.1%. A total of 365 respondents bought houses, accounting for 82.9%; It is also found that, in terms of family size, there are 163 respondents with 1-2 family members, accounting for 37.2%; There are 163 respondents with 1-2 family members, accounting for 37.2%; There are 181 respondents with 3-4 family members, accounting for 41.2%; There are 90 respondents with 5-6 family members, accounting for 20.6%; There are 4 respondents with more than 7 family members, accounting for 1.0%.

Table 2. Analysis on Respondents Feedback to Marketing Mix Strategies

Marketing mix	Mean	S. D.	Weight
1.Product	4.51	0.61	Strongly Agree
1.1 Brand reputation and credibility	4.52	0.60	Strongly Agree
1.2 Certification standards	4.60	0.56	Strongly Agree
1.3 modern technology and functions	4.39	0.64	Strongly Agree
2.Price	4.24	0.71	Strongly Agree
2.1 Cheaper product	4.06	0.77	Agree
2.2 Price comparison before purchase	4.41	0.63	Strongly Agree
2.3 The price suitable for modern technology	4.35	0.68	Strongly Agree
3. Place	4.18	0.83	Agree
3.1 Many distribution channels	3.64	0.81	Agree
3.2 online-order channels	4.11	0.75	Agree
3.3 Many branches, nearby community, convenience	4.62	0.75	Strongly Agree
4. Promotion	3.93	0.85	Agree
4.1 Advertise and offer special discounts vis social media	4.04	0.79	Agree
4.2 Discounts for specified purchases	3.53	0.87	Agree
4.3 Zero installment payment	4.20	0.74	Strongly Agree
5.People	3.96	1.02	Agree
5.1 The clean dressed and polite salespeople	4.10	0.76	Agree
5.2 Knowledgeable salesman and well recommending	4.48	0.65	Strongly Agree
5.3 Good-looking salespeople	3.30	1.20	Neutral
6.Physical Evidence	3.82	0.81	Agree
6.1 Product reviews through online and social media	4.04	0.71	Agree
6.2 use modern layout to support presentations	4.00	0.62	Agree
6.3 Celebrity as the host	3.41	0.94	Agree
7.Process	3.99	0.83	Strongly Agree
7.1 Simple, convenient, fast and accurate services	4.38	0.81	Strongly Agree
7.2 Using technology to provide customer service	4.15	0.75	Agree
7.3 Use modern equipment to provide services	3.45	0.75	Agree

From table 2, it is found that Based on the 7P theory of marketing mix theory, we decomposed the 7P factor into 21 sub-factors, and obtained the evaluation of home appliance purchasing decision makers (respondents) through the online questionnaire, and then we obtained the scoring evaluation. We used the average score of each sub-factor to represent the attention degree of home appliance purchasing decision makers (respondents) through the online questionnaire, and then we obtained the scoring evaluation. We used the average score of each sub-factor to represent the attention degree of home appliance purchasing decision makers to this sub-factor. The higher the score is, the higher the attention of the decision maker of home appliance purchase is. The standard deviation shows the level of dispersion in the score of this subfactor. According to the sub-factor score value of each factor item, we determine that the sub-factor is the strongly agree factor agree factor and neutral factor in the marketing mix factor.

V. DISCUSSION

Based on the “7P” theory of the marketing mix theory, this paper divides the marketing mix factors into 21 sub-factors. (1) Product certification standards, brand awareness and modern technology functions are important factors affecting consumers' decision to purchase home appliances. (2) Consumers pay great attention to the price suitable for modern technology and functions in the decision to purchase home appliances, and the price factor matching the

product function almost becomes the decisive factor in the purchase decision. (3) Consumers are very interested in the sales channel of installment payment with zero down payment, which is one of the important factors for consumers with zero down payment to purchase home appliances. (4) Consumers prefer nearby and convenient purchasing channels. The ease of purchase in the distribution channel is the strongly agree factor consumer's purchase decision. Have many branches, close to the community, easy to buy. (5) The personal professional quality of sales personnel or salesmen is an important factor affecting consumers' decision to purchase home appliances. Whether the salesperson or salesperson is familiar with the business knowledge and can recommend the product well plays a crucial role. (6) Consumers are highly sensitive to online reviews when making home appliance purchase decisions. Product reviews on the Internet or social media directly affect consumers' product reviews, which greatly affects their purchase decisions. (7) Pre-sale and sales services highly affect consumers' decision to purchase home appliances. Whether home appliance suppliers can provide simple, convenient, fast and accurate information services, technical services and maintenance services directly affects consumers' evaluation level, and ultimately affects consumers' decision-making results in purchasing home appliances.

➤ *Suggestions for further research*

A sample of other regions should be studied in order to have diversity and more distribution which would make the information reliable and available. There should be qualitative research such as in-depth interviews to deeply understand the multi-faceted information of consumers. This will produce information that can be used. With the highest efficiency, more complete, complete development, improvement and application in research.

➤ *Practical suggestions*

- Enhance market research. Conduct market research to gain insight into consumer preferences and needs. Through surveys, interviews, and observations, information on consumer preferences, purchase behaviors, and decision-making factors for home appliances were collected to better understand consumer needs and preferences.
- Optimize marketing strategy. According to the characteristics of marketing mix factors, formulate effective marketing strategies. Factors such as pricing, promotional activities, channel selection and advertising communication of products are considered to attract the attention of consumers and prompt them to purchase home appliance products. For example, price concessions, bundling, product displays, and multi-channel sales can be used to increase the attractiveness and visibility of products.
- Strengthen personalized marketing. According to the characteristics of consumer demographics, personalized marketing methods are adopted. Different groups of people may have different needs and preferences when purchasing home appliances, such as different age groups, genders, geographical locations and income levels. Through targeted advertising, promotional activities and services, we meet the needs of different consumer groups to improve purchase rates and customer satisfaction.
- Strengthen data analysis and feedback. Continuously improve product and marketing strategies through data analysis and consumer feedback. Collect and analyze sales data, market feedback and consumer opinions, understand consumer evaluations on products and services, identify problems and make adjustments and improvements in a timely manner, so as to continuously enhance the competitiveness and market share of enterprises.
- Provide good post-sales service. Consumers also attach great importance to the quality of after-sales service after purchasing home appliances. Providing timely, efficient and personalized after-sales services, including product warranty, repair support and customer consultation, can enhance consumer satisfaction with products and increase brand loyalty and word-of-mouth.

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