

Factors Affecting the Purchasing Decision For Digital Age Electrical Appliances in Hainan Province

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Abstract:- The objectives of this research were: (1) to study the factors that consumer demographic decision for digital age. (2) to study the factors that marketing-mix decision for digital age. The research model is quantitative research. Hainan province has a resident population of 10,270,000 people, and the sample group for the study is 390 individuals. Use a specific randomization method. By using questionnaires as a tool to collect data. The statistics used in the analysis were percentage, mean, standard deviation, t-test, f-test, multiple regression.

Major Findings: (1) By investigating Hainan's electrical appliances consumers, it was found that demographic characteristics affect consumers' decision for digital age to purchase electrical appliances. Among demographic factor, the gender difference, age difference, work difference, monthly income difference, education level difference, number of family members difference and life style difference these demographic factors have a significant impact on the consumers' purchase decision for digital age. (2) Marketing-mix decision for digital age affect consumers' decision to purchase electrical appliances. Regarding the factors affecting the data about marketing mix, we found that product factors ranked first, the quality factors of the product were the most important factor affecting consumer decision making. The price factor ranked second, of which price satisfaction is an important factor affecting consumer decision making. The place factors ranked third, of which the number of online stores was the largest. The physical factors ranked fourth, the usage effect is an important factor affecting consumer decision making. The promotional factors ranked fifth, of which the discount promotion activities factors are important factor affecting consumer decision making. The personal factors ranked sixth, and the merchant service attitude is an important factor affecting consumer decision making. Judging from the research results of the purchase behavior, consumers' own purchasing power factors have the greatest influence. The marketing factor ranked second. The installation experience factors ranked third. The competitor factors ranked fourth. The service attitude factors ranked fifth. The buying desire factors ranked sixth. The findings help enterprises better understand the demands and purchasing behavioral characteristics of target consumers, so as to formulate targeted marketing strategies and improve market competitiveness.

Keywords:- Decision; Electrical Appliance; Hainan Province.

I. INTRODUCTION

The current electrical appliance market is severely affected by internal competition, and high-quality development has become a common choice for electrical appliance enterprises and channel merchants. Both the online and offline markets have entered an era of deep user operation, with high-end and high-quality upgrades imminent; the sales of products have also shifted from single products to series products; Exploring new categories and developing new tracks have become a choice for enterprises to expand their business space. By 'exchanging old for new', high-end and intelligent home appliance products will 'rejuvenate' consumers' lives and bring a more high-quality lifestyle. (China's home appliance industry semi-annual report, 2021)^[4]

At the same time, the rapid development of the mobile Internet profoundly reconstructs social life scenes, and the boundaries of electrical retail are gradually blurred. The survey shows that when consumers buy electrical appliances, they believe that important steps are to compare the brand information of the product, choose to buy channels, and experience the offline store experience. Therefore, when 66% of consumers buy electrical appliances, they will choose to combine online and offline, comprehensive online comparison products, and offline actual experience. This also means that the integration of omni channel has become a major trend of electrical consumption. The online and offline omni channel integration model is being released to more powerful retail potential energy. Through offline scenes, consumers have a clearer experience in products, which will help consumer decisions, while online shopping convenience and unified standardized service, Let the goods cross the space and reach more consumers. (Li Zhengbo, Qiu Qiong, 2017) With the improvement of the quality of life, people have higher requirements for electrical appliances, and they will buy electrical appliances in order to upgrade product functions and quality of life. After solving the demand for product richness and quality, consumers' awareness of logistics services and product after sales service of electrical retail platforms has also improved significantly. The enhancement of service demand has become an obvious feature of the new generation of consumer power represented by the post 90s generation. (Yuqing Z, 2022).

At the same time, the decline in electrical prices is also an important factor affecting the changes in the demand or demand of electrical appliances. More and more electrical brands, coupled with easy access and diversified communication technical factors, will be easier to guide consumers for electrical consumption. Therefore, when searching for products, consumers will compare new technologies, product characteristics, applicability, and changing new technologies. In the eyes of consumers in the digital age, electrical products will be further upgraded to high end, intelligent, and electrical consumption will steadily move towards the era of "digital intelligence". (Han Y, Sun H, Liu X, 2023).

The study is interested in studying "factors affecting the purchasing decision for digital age appliances in Hainan province". In this study, it focuses on the right to make the consumer group with the right to make a direct purchase decision. And focus on the development of online and offline shopping channels to find conclusions and find new knowledge, including to show the results of research to business operators, to choose appropriate marketing promotion strategies, and affect consumer or target groups to consume. The demand is centered, and the joint partners continue to create a higher experience shopping scene, creating more value for merchants and consumers.

➤ *Research Objective*

- To study the factors that consumer demographic decision for digital age.
- To study the factors that marketing-mix decision for digital age.

➤ *Research Hypothesis*

- Hypothesis 1: Demographic affecting to decision for digital age.
- Hypothesis 2: Marketing-mix affecting to decision for digital age.

➤ *Research Framework*

The researcher reviewed the literature from Mosquera, A., Juaneda-Ayensa, E. , Olarte-Pascual, C. , & Pelegrín-Borondo, Jorge. (2018) Kohli R, Melville N P. (2019) and Gomes J. (2019) created the following conceptual framework.

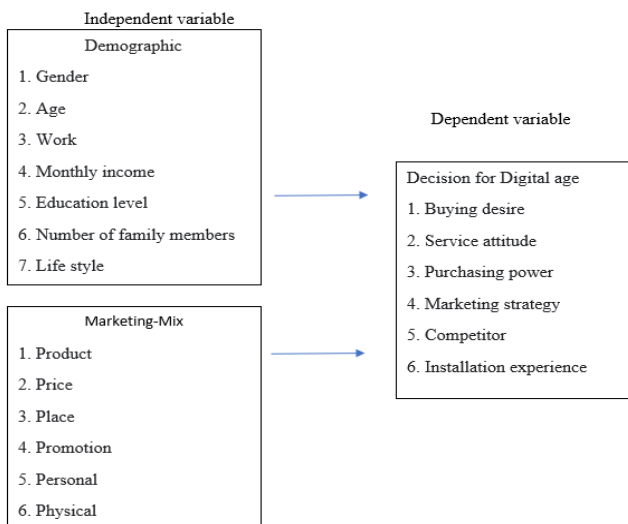


Fig.1 Research framework

II. LITERATURE REVIEW

➤ *Marketing Mix*

➤ *Composition of product factors on marketing-Mix as follows:*

Qin Shuai (2017) as an indispensable part of People's Daily life, with the development of social economy, electrical appliance products need to meet consumer demand at the same time, according to consumer aesthetic innovation of product appearance, which requires designers before product design, a lot of visiting survey, the demand of consumers in product appearance, on the basis of design and production of electrical appliances can have greater competitiveness in the market, achieve the effect of improving enterprise efficiency.

Mosquera, A (2018) said their actual behavior, and found that the most important predictors in the habit, performance expectation and hedonic motivation.

Combining the design of the function and appearance of electrical appliance products, the appearance of electrical appliance products is based on today's society the industrial technology will develop rapidly, and through the research of consumer aesthetic, the final formation of a social practice activities, therefore, it can be said that the appearance design of electrical appliance products requires designers to have superb technical level, and advanced aesthetic ability. According to consumer aesthetic product design, is a kind of on the basis of technology and art development of creative activities, the benefit is to bring good shopping experience and consumer experience, the appearance of electrical appliance products and consumer aesthetic trends, can make consumers in the process of use, fully experience the product itself function and the appearance of the fashion brought by the combination of comfort. Therefore, when the designer designs the appearance of electrical appliances, he needs to study the functions on the basis of satisfying the product itself, so as to achieve the effect of perfect integration of function and aesthetics.

As an important element in the process of product design, can give full play to the product appearance in the form of electrical appliances, can meet the basis of the product itself has a unique charm through psychological and visual two aspects, finally achieve the purpose of the product itself form. As the core factor for consumers to choose electrical appliances, it is necessary to pay full attention to the function of the products themselves on the basis of ensuring the appearance of the product to meet the consumers' aesthetic needs. Unlike appearance, in the process of product function show more to rational thinking, the product needs to have the function, can influence the direction of the designer in the design process, therefore, this requires the designer in the process of electrical appliance product design, through the way of integrated product function, makes every effort to achieve the best design effect.

➤ *Composition of price factors on marketing-Mix as follows:*

Zhang Chunhe (2003) said the price elasticity of product demand is an important factor that enterprises should consider when making price decisions. It is generally defined as the negative value of the percentage change of price divided by the negative value obtained by the percentage change of demand. The formula is:

$$E = \frac{(Q_2 - Q_1)/Q_1}{(P_2 - P_1)/P_1} \quad \text{formula ①}$$

E—Demand elasticity coefficient

P1—Initial product price

P2 —Price after product change

Q1—market demand under initial price of product

Q2—Market demand for products after the price change

Formula ① is known as demand point elasticity in microeconomics. It indicates that small price changes (P2-P1) can bring a change in Q1 (Q2-Q1). At present, most of the calculation formulas of demand price elasticity used in marketing actually come from the concept of point elasticity of microeconomics. It must be noted that because the different points on the demand curve have different elasticity values at different prices, the elasticity coefficient is actually a varying value. This determines that only if the price changes very little, can it be put according to the formula! The determined elasticity coefficient is regarded as an invariant. Only when the elasticity coefficient of price and demand is regarded as a constant value, the relationship between price, demand and product income is as follows:

When $E > 1$, we say that the product is a flexible product. If the product price drops very slightly, the total market demand of the product will rise, and the product income of the enterprise will not fall with the small decline of the product price, but will rise with the decline of the price.

On the contrary, when $E < 1$, the product is an inelastic product. If the price of the product drops very little, the market demand of the product will rise, and the product income of the enterprise will decline. The above conclusion can be proved as follows:

Set a product $E > 1$, the price slightly decreased $\Delta P = P_1 - P_2 > 0$, demand change

$$\Delta Q = Q_2 - Q_1 > 0$$

Then the change in income is

$$\Delta S = (Q_1 + \Delta Q)(P_1 - \Delta P) - Q_1 P_1 \\ = (1 + \Delta Q/Q_1)(1 - \Delta P/P_1) - 1$$

And because $E > 1$, from formula ①:

$$\Delta Q/Q_1 > \Delta P/P_1 \\ (1 + \Delta Q/Q_1)(1 - \Delta P/P_1) - 1 > -(\Delta P/P_1)^2$$

Therefore, if $\Delta S > 0$, then $(\Delta P / P_1)^2$ must be small and close to zero to obtain:

At $E > 1$, when prices fall, the conclusion that corporate product revenue increases.

Using the same method, we can also prove that when $E < 1$, only the price drop is very small to prove the conclusion that the enterprise product income decreases with the price decline.

The above proof shows that the demand price elasticity formula ① is applicable to the product demand change, the product demand changes of the price change and the product income change of the price change.

➤ *Composition of place factors on marketing-Mix as follows:*

Nicosia (1966) said the place factor in the marketing portfolio, also known as the distribution channel strategy, refers to the decision and activities of the company's selection and management sales centers during the circulation of products or services. The place factors mainly involve the following aspects:

Place selection: Enterprises need to choose distribution channels suitable for their own products and target markets. Common channels include direct sales, agents, wholesalers, retailers, e-commerce, etc. When choosing channels, you need to consider factors such as channel costs, channel coverage, and target market needs.

Place layout: Enterprises need to determine the number, location and scale of the sales center. This involves how to set up sales points, warehouses and logistics centers in different regions to ensure that products can quickly reach the target market.

Place cooperation: The cooperative relationship between enterprises and sales centers is also an important consideration for position factors. The cooperation method can include exclusive distribution, non-exclusive distribution, and cooperation development new markets. Through cooperation with the sales center, enterprises can better control the promotion and sales of products in the market.

Place management: Enterprises need to effectively manage sales centers to ensure that they can sell and serve in accordance with the requirements of the enterprise. This includes training, assessment and incentive mechanisms with sales centers.

Place evaluation: Enterprises need to continuously evaluate and adjust the effects of sales centers, and understand the operating conditions and market feedback of the channel. This helps enterprises discover problems in time and take corresponding measures to improve the efficiency and profitability of channels.

Through the consideration and management of reasonable place factors, enterprises can better introduce products into the market and ensure that the product can be passed to the hands of the final consumers smoothly, thereby achieving sales goals and increasing market share.

➤ *Composition of promotion factors on marketing-Mix as follows:*

Engel (1968) said promotional factor is an important part of the marketing portfolio. They are usually used to stimulate market demand, increase sales and enhance brand awareness. Here are some common promotional factors:

Advertising: Advertising is a promotional method for passing products or service information to the target audience through media channels. It can attract consumers through various media forms (such as television, broadcasting, newspapers, magazines, Internet, etc.) and stimulate their interest in products.

Sales promotion: Sales promotion refers to the use of price discounts, gifts, special discounts and other methods to attract consumers to buy products. For example, discount sales, buy one free one, full reduction, etc. Sales promotion can effectively stimulate sales and increase product competitiveness.

Promotional activities: Promotional activities can be temporary activities for specific products or services, which aims to attract potential customers and increase sales. For example, promotion discount date, anniversary celebration activities, limited time buying, etc. These activities can not only increase sales, but also enhance consumers' awareness and loyalty to the brand.

Public relations activities: Public relations activities spread information about enterprises through interaction with the media, consumers and other stakeholders. These activities can include press releases, media interviews, sponsorship activities, etc., to improve the brand image and reputation.

Promotion: Promotion sales through direct interaction with target consumers. For example, a product exhibition meeting, samples, and trial outfits are held so that consumers can experience the product in person and increase their confidence and interest in the product.

Digital marketing: With the popularity of the Internet and social media, digital marketing is becoming increasingly important. Through search engine optimization, social media marketing, email marketing and other means, companies can communicate and interact more directly with the target audience to achieve precise marketing and personalized recommendations.

These promotional factors are usually used in combination to achieve the best market effect. Enterprises can choose suitable promotional methods based on their own product characteristics, target audience and market environment to enhance sales and market share.

➤ *Composition of personal factors on marketing-Mix as follows:*

Hodhand (1963) said personal factors play an important role in the marketing portfolio. Marketing portfolio refers to a series of strategies and tools used by enterprises to promote and sell products or services. Personal factors involve the characteristics, attitudes, behaviors, and decision-making processes of consumers, which is essential for enterprises' marketing activities and product positioning.

Personal characteristics: personal characteristics include age, gender, occupation, income level, education background, etc. Enterprises need to determine suitable marketing strategies and communication channels based on the personal characteristics of the target market.

Perception and attitude: Personal perception and attitude of products or services will affect their purchase decisions. Enterprises need to understand the perception and attitude of the target market, and shape positive perception and attitude through brand image, publicity activities and user experience.

Purchasing decision -making process: Individuals will be affected by personal factors during the purchase of decision-making, including demand recognition, information search, evaluation alternatives, purchase behavior, and follow up evaluation. Enterprises need to understand consumer purchase decision-making process and provide relevant information and support according to their needs.

Personal values and lifestyle: Personal values and lifestyles will also affect purchase decisions. Enterprises can attract consumers who fit the values and lifestyle of the target market through brand shaping and market positioning.

Personal behavior habits and preferences: Personal behavior habits and preferences will affect the use and re-purchase of products. Enterprises can meet consumers' personal needs by providing convenient purchase channels, personalized product customization and high-quality after-sales service.

In short, personal factors cannot be ignored in the marketing portfolio. Understand the personal characteristics, perception and attitude of the target market, the process of purchasing decision -making, values and lifestyle, as well as behavioral habits and preferences, which can help enterprises better formulate marketing strategies and communication activities, thereby improving the market competitiveness of products or services.

➤ *Composition of physical factors on marketing-Mix as follows:*

Chen lu (2019) ²said the connotation of tangible display: All physical products and facilities that can convey the characteristics and advantages of service, all physical products and facilities that help production services and packaging services, and personnel who are good at managing and utilization can help customers feel the characteristics of service products. And improving the benefits obtained when enjoying the service will help establish the image of service products and service companies, and support the implementation of relevant marketing strategies; if they are not good at managing and using these tangible display, they may convey wrong information to customers, It affects customers' expectations and judgments of the product, and then destroys the image of service products and their enterprises. The display of products and services can help consumers understand and buy products. Before consumers purchase products, companies need to provide consumers with tangible goods and service guarantees.

The role of formal display: allows consumers to form an early impression, so that consumers have a sense of trust, and through sensory stimuli, let consumers feel the interests they bring to themselves. Promote employees with high-quality services. It is conducive to identifying service concepts, identification service characteristics, promoting service innovation, settlement and service quality, service promotion.

In conclusion the 7P principle of marketing can provide a framework for your marketing plan and how to effectively promote the target market. This marketing principle also helps to consider in the daily marketing decision-making process, aiming to attract correct potential customers through marketing activities to successfully carry out marketing. The marketing portfolio is a guide for drafting and creating an external promotional activity for any enterprise. However, the concepts covered by these propaganda frameworks do not include brand considerations. To create a complete marketing plan, we need to consider the combination of these guidelines. When developing a marketing portfolio, consider how each element affects other elements, from user experience to the perceived value of products, and create a unified brand experience for consumers. For example: how the price of the product changes its promotional strategy, how product specifications affect pricing, and how sales staff perform the sales process, etc.

➤ *Consumer purchase decision theory*

At the beginning, people's cognition of the purchase decision is consumers' decision on whether to buy products. However, some scholars believe that this cognition is too one-sided and narrow, and consumers' purchase decision should also include the process of information search and evaluation before their purchase behavior.

Kenneth A. Conney (2016) believes that consumers' purchase decisions include the process of activities in which consumers choose, acquire, use, and dispose of their products or services to meet their needs, and even include the ideas in these processes, and thus their impact on themselves and society.

Qin Shuai (2017) ³focus on the process of consumer purchase decision, to explore the influencing factors, found that consumers in the process of time, shopping attitude and itself have product knowledge to a certain extent will guide consumers to commodity information search behavior, at the same time also will have important influence on the final purchase decision.

Lee (2015) and others made special research on electronic products consumption field, according to consumer understanding of product knowledge will be distinguished, the study found that the more rich product knowledge tester can more efficient access to information, that consumers' own knowledge reserves can guide consumer information behavior, to provide guidance for purchase decisions.

➤ *Digital age Electrical appliances Market Research Literature*

Digital economy. With the popularity of the Internet around the world, computers and its related technologies has been promoted a lot in the commercial category. Finance, education,

media and other industries are exploring new models of industry development under the digital economy. In China, the added value of the digital economy accounts for about 40% of GDP, and the digital economy plays a big role. At present, different researchers have different views on the concept of digital economy.

Don Tapscott (1996) first put forward the concept of digital economy in his own works. He believes that the development of digital economy needs intelligent network technology, gather considerable knowledge, give full play to creativity, and ultimately promote the generation of social wealth.

Pang Jian and Zhu Xinmin (2013) summarized the definition of digital economy according to the UK, Australia, they argue that "the digital economy is based on information and communication technology, Through the Internet, mobile communication networks, the Internet of Things, etc., Realize the digitalization of transaction, communication and cooperation, Promote economic and social development and progress." They also argue that the digital economy needs to be included in any area where the technology is based.

Liu Shuchun (2019) believes that the digital economy needs to digitize knowledge and information for production and business activities. What distinguishes the digital economy from the past lies in the need for modern information networks and communication technology as tools.

According to the views of the various scholars and institutions mentioned above, This paper holds that digital economy refers to the organization, production and operation mode different from traditional agriculture and industrial economy, Relying on communication technology and modern information networks, Digital processing of information and knowledge, Realize the digitalization of production, communication and transactions, Economic activities to promote the efficiency of production and living and social and economic development.

➤ *Digital economy drives the high-quality development of Hainan's economy is conducive to the sales of electrical appliances*

Qi Miao (2023) Said digital economy has played a great role in promoting the high-quality development of Hainan's economy. At present, the digital economy has become a new economic power in the world. The integrated development of digital economy and real economy has a great impact on China's economic development. In the context of the development of digital economy, the digital economy industry in Hainan province is in a period of rapid development.

With the continuous promotion of "Internet Plus", all regions and departments have accelerated the deep integration of "Internet Plus" with various industries. Digital economy, as a new economic form, has provided a new driving force for regional economic development. The digital economy plays a significant role in driving the development of the whole province.

The digital economy has a good development trend and has become an important engine of Hainan's economic development. As a new economic form, digital economy is a high-quality development based on digitalization and realizing the

transformation of economic growth and social development mode through technological progress and innovation. In recent years, Hainan digital economy has developed well, and the scale of information consumption in Hainan is continuously expanding; the scope of intelligent medical application is continuously expanding; "Internet + tourism" has accelerated development and achieved positive results; the construction of Hainan Free trade port has advanced policies and measures with "Digital Hainan"; the new Internet business has achieved rapid development; mobile payment and online shopping consumption have been widely promoted.

At present, Hainan digital economy presents a series of important features: rapid growth of scale; continuous optimization of structure and growth rate exceeding traditional industries.

III. RESEARCH METHODOLOGY

The researchers conducted the research according to the research process and quantitative research methods. This is a descriptive study by using questionnaires to collect information from population samples. The research mainly adopts the methods of literature research, interview and questionnaire.

➤ *Population*

The population studied in this study were customers of electrical appliance enterprises. We interviewed consumers in Hainan Province to make the survey data more accurate and universal. Hainan province has a resident population of 10,270,000 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. The questionnaire was divided into the following 3 sections.

- *Questions related to personal factors*

This section aims to obtain the basic information of the respondents. This part of the questionnaire has the following characteristics: closed questionnaire, select an answer, fill in the information of gender, age, work, monthly income, education level, number of family members, life style and so on.

- *Issues related to consumer behavior*

The questions in this section aim to obtain information about consumer behavior regarding the purchase of electrical appliances. This part of the problem with additional information of the single choice problem and closed questions.

- *Marketing-Mix factors related issues*

This part of the questionnaire aims to obtain consumer feedback on the marketing and promotion strategy of electrical appliances. The questionnaire was marketed using closed-ended questions (marketing mix). This part of the questionnaire is an approximate Rating Scale based on the Linkert Rating Scale, and the respondents can choose to answer.

➤ *The statistics used in data analysis*
Descriptive statistical analysis.

- Part 1: Of the questionnaire uses frequency, percentage mean.
- Part 2: Uses the mean standard deviation to describe the general information from the sample and the analysis of opinion data, independent variables and dependent variables. The criteria for interpreting the results are as follows:
- Part3: T-test, F-test, Multiple regression.

IV. RESULTS

➤ *Analysis of opinion data about marketing mix*

Table 1 Shows the mean and standard deviation of the opinion level of product.

Product	\bar{x}	SD	Percentage
1. Brand	4.18	0.67	Agree
2. Security	4.05	0.78	Agree
3.Type	4.09	0.69	Agree
4.Function	4.32	0.72	Strongly Agree
5.Quality	4.35	0.68	Strongly Agree
total	4.19	0.71	Agree

From Table 1, It is shown that The Quality of the product has a greater impact on consumers ($\bar{x}=4.35$ SD=0.68) , followed by Product Function ($\bar{x} = 4.32$ SD=0.72) , Product Brand ($\bar{x}=4.18$ SD=0.67), Product Type ($\bar{x}=4.09$ SD=0.69) and Product security ($\bar{x}=4.05$ SD=0.78) . Consumers in terms of product strongly agree to decide the function and quality of the product when buying, followed agree by brand, security and type.

Table 2 Shows the mean and standard deviation of the opinion level of price.

price	\bar{x}	S.D.	viewpoint
1. Price satisfaction	4.32	0.67	Strongly Agree
2. Cost performance	4.04	0.68	Agree
total	4.18	0.67	Agree

From table 2 that the Price satisfaction a greater impact on consumers ($\bar{x}=4.32$ S.D.=0.67), followed by Cost performance ($\bar{x}=4.04$ S.D.=0.68). Consumers in terms of price strongly agree price satisfaction, cost performance is agree.

Table 3 Shows the mean and standard deviation of the opinion level of place.

place	\bar{x}	S.D.	viewpoint
1. Retailers	4.12	0.70	Agree
2. Online store	4.18	0.71	Agree
3.Specialty stores	4.11	0.69	Agree
total	4.13	0.70	Agree

From table 3, It is shown that Online store has a greater impact on consumers ($\bar{x}=4.18$ SD=0.71), followed by Retailers ($\bar{x}=4.12$ SD=0.70) and Specialty stores ($\bar{x}=4.11$ SD=0.69). Consumers in terms of place agree retailers, online store and specialty stores.

Table 4 Shows the mean and standard deviation of the opinion level of promotion.

promotion	\bar{x}	S.D.	viewpoint
1. Discount promotion activities	4.32	0.72	Strongly Agree
2. Complimentary promotional activities	4.31	0.68	Strongly Agree
3. Buy one get one free	2.77	0.73	Neutral
total	3.80	0.70	Agree

From table 4, that Discount promotion activities has a greater impact on consumers ($\bar{x}=4.32$ SD=0.72), followed by Complimentary promotional activities ($\bar{x}=4.31$ SD=0.68) and Buy one get one free ($\bar{x}=2.77$ SD=0.73). Consumers in terms of promotion strongly agree discount promotion activities and complimentary promotional activities, keep a neutral attitude towards the Buy one get one free.

Table 5 Shows the mean and standard deviation of the opinion level of Personal.

personal	\bar{x}	S.D.	viewpoint
1. Merchant service attitude	4.14	0.69	Agree
2. Professional level of service personnel	4.12	0.70	Agree
3. After-sale service	4.07	0.68	Agree
4. Business	2.23	0.82	Disagree
total	3.64	0.72	Agree

From table 5, that Merchant service attitude has a greater impact on consumers ($\bar{x}=4.14$ SD=0.69), followed by Professional level of service personnel ($\bar{x}=4.12$ SD=0.70), After-sale service ($\bar{x}=4.07$ SD=0.68) and Business ($\bar{x}=2.23$ SD=0.82). Consumers in terms of personal agree merchant service attitude, Professional level of service personnel and after-sale service, disagree business.

Table 6 Shows the mean and standard deviation of the opinion level of Physical.

Physical	\bar{x}	S.D.	viewpoint
1. Warranty duration	4.08	0.71	Agree
2. Usage effect	4.19	0.67	Agree
3. Installation services	4.09	0.70	Agree
total	4.12	0.69	Agree

From table 6 that Usage effect has a greater impact on consumers ($\bar{x}=4.19$ SD=0.67), followed by Installation services ($\bar{x}=4.09$ SD=0.70) and Warranty duration ($\bar{x}=4.08$ SD=0.71). Consumers in terms of physical agree warranty duration, usage effect and installation services.

➤ *The results of the study on the level of purchasing decision for digital age*

Table 7 The results of the study on the level of purchasing decision for digital age.

Decision for digital age	\bar{x}	S.D.	viewpoint
1. Buying desire	2.78	0.73	Neutral
2. Service attitude	4.09	0.71	Agree
3. Purchasing power	4.31	0.68	Strongly Agree
4. Marketing strategy	4.14	0.73	Agree
5. Competitor	4.11	0.72	Agree
6. Installation experience	4.13	0.67	Agree
total	3.92	0.71	Agree

From Table 7, Purchasing power factor ($\bar{x} = 4.31$ SD = 0.68), Marketing factor ($\bar{x} = 4.14$, SD = 0.73). Installation experience factor ($\bar{x} = 4.13$, SD = 0.67). Competitor ($\bar{x} = 4.11$, SD = 0.72), Service attitude ($\bar{x} = 4.09$, SD = 0.71) and Buying desire ($\bar{x} = 2.78$, SD = 0.73). Decision for digital age consumer strongly agree purchasing power, agree service attitude, marketing strategy competitor and installation experience. Keep a neutral attitude towards the buying desire.

V. DISCUSSION

This article studies the factors affecting the purchasing decision for digital age electrical appliances. This study mainly uses quantitative research and qualitative discussions as supplements. Quantitative analysis is based on the samples of electrical consumers in Hainan Province of China, and uses questionnaires to investigate the data collected. The research methods adopted are supplemented by qualitative discussions and quantitative analysis. Through quantitative and qualitative analysis, the following conclusions are obtained.

➤ *Demographic affect consumers' decision to purchase electric appliances*

Based on the statistical analysis and qualitative discussion of the survey data, this paper draws the following conclusions:

Demographic factors such as gender differences, age differences, differences in work, differences in income, differences in education, the difference in number of family members and the lifestyle of consumers have a significant impact on marketing promotion effects. This result shows that these population statistical factors have a significant impact on consumers' purchase decisions.

➤ *Marketing mix affect consumers' decision to purchase electric appliances*

In the digital age, how people make electrical purchase decisions. For consumers for electrical appliances, they focus on quality and pursue technology, which is the backbone of the home appliance market. Not only do they pay attention to the price of the product, they also value the performance and quality of the product. They want to buy not only the product itself, but also the symbol of quality life. They pay attention to practicality and convenience, and they are often cautious about complicated and redundant electrical products. They are more inclined to choose electrical products with simple operations and complete functions to meet the needs of daily life. Their requirements for after sales service are also quite high, not only required the quality of the product, but also hoping that they can get timely and professional technical support and maintenance services after purchasing. They are willing to pay for high quality after-sales service, because it is directly related to their experience and family safety. Price factors occupy an important position in consumer purchasing decisions. Price is one of the most important factors that affect consumers' purchase of electrical appliances. The price of the product may directly affect the decision-making of consumers' purchase. Hainan Province's residents have relatively high income and relatively low price sensitivity. However, the price is not the only decisive factor, and the cost effective products are more popular with consumers. The price / performance ratio mainly depends on the performance of the product's performance to the price. Therefore, how to control the cost while ensuring the quality of the product is a problem that electrical producers need to think about.

In general, the purchase decision of electrical appliances in the digital age is a complex process, which involves factors, product, price, place, promotion, personal, physical and other factors. Electric purchasing consumers are a group of people who pursue quality, pay attention to practicality, pay attention to after sales, and focus on environmental protection. They are willing to pay for high quality products and high quality services, which is an important consumer force in the market. Therefore, merchants should pay attention to product quality and after sales service to meet their needs and win market share.

➤ *Dependent variable factors affect consumers' decision to purchase electric appliances*

In the digital age, purchase decisions are often affected by emotional and psychological factors. For example, it will be influenced by the purchase experience of others on social media. When we see the effects of others, we may be inspired to make a purchase decision. At the same time, some consumers' purchase behavior is also affected by their own psychological needs. For example, they may buy a certain electrical appliances because of some self-actual desires. Services are also one of the important factors affecting consumers' purchase decisions. For some large electrical products, pre sales and after sales services are particularly important. Consumers not only want products to meet their needs, but also hope that they can be treated and resolved in a timely manner when problems. Therefore, electrical manufacturers need to provide high quality pre sales and after sales services to improve consumer satisfaction and loyalty. In addition, community influence is also one of the important factors affecting consumers' purchase of decisions. In Hainan, some consumers will refer to the evaluation and recommendation of the community to choose electrical products. Therefore, electrical manufacturers can increase their reputation and

credibility by establishing a good community relationship. Competitors and marketing models also affect consumers' purchase decisions. Emerging brands have sprung up in the end of the rain. They are gradually changing the market structure with innovative technology and high quality services. Consumers must not only face price war, but also respond to brand wars and scientific and technological warfare. In this market environment, consumers' choices have become more diversified and more complicated.

In order to solve the dilemma of consumers, companies need to take a series of measures. First of all, manufacturers need to strengthen the development and production of products, and provide more high quality, high performance and cost effective products. Secondly, they need to strengthen after-sales service, provide timely and professional consulting and services to solve the worries of consumers. Finally, they can provide convenient shopping experience and flexible payment methods through online platforms to meet the personalized needs of consumers. With the progress of science and technology and the continuous changes in consumer demand, the electrical market will usher in more changes. In the future, the electrical market will pay more attention to user experience and personalized needs. Manufacturers will pay more attention to product development and production, and provide more innovative, intelligent and environmentally friendly products. At the same time, consumers will have more choices and opportunities. They can buy their favorite products more conveniently through the online platform and enjoy more high quality services.

SUGGESTIONS FOR FURTHER RESEARCH

In the era of digitalization in the future, electrical studies will play a vital role. The following are some suggestions to help electrical appliances to achieve better development in the digital era:

- **Technology innovation:** With the continuous progress of technology, electrical research needs to continue to innovate and introduce new technologies. For example, emerging technologies such as artificial intelligence, big data and the Internet of Things are used to improve the intelligent level of electrical appliances and enhance their functions and performance.
- **Energy efficiency:** In the era of digitalization, sustainable development has become an important theme. Therefore, electrical studies should be committed to products with high efficiency of energy and small impact on the environment. For example, the launch of more power-saving electronic equipment and energy management systems to reduce waste of energy.
- **Sustainable development:** Electrical studies should focus on sustainable development. This includes the production process of electrical appliances and the entire life cycle of electrical appliances. Researchers can consider using recyclable materials to manufacture electrical appliances, design products that are easy to disassemble and recycle, and provide recycling solutions for materials.
- **Security:** With the popularity of the Internet, electrical appliances are also facing more and more network security threats. Therefore, it is necessary to pay attention to the safety of the product in electrical studies. This includes protecting user data, preventing malicious attacks and providing security user certification mechanisms.

- User experience: In the era of digitalization, user experience becomes more and more important. Electricity research should pay attention to user needs and user behavior, and design products that are more humane and easy to operate. At the same time, user feedback and data analysis can be used to continuously improve the user experience of the product.

The above suggestions can help electrical appliances to achieve better development in the digital era. Of course, this is just some suggestions. The specific research direction also needs to be determined according to the actual situation and market demand.

Electric appliance consumption is undergoing unprecedented changes. The trend of intelligence, green environmental protection, and personalization is leading the new trend of electric appliance consumption. In the future, the integration of high end, the Internet of Things and artificial intelligence, and the sustainable development of green will become an important direction for Electric appliance consumption. As consumers, we should keep up with the trend of the times, choose electric products that are suitable for us, and enjoy the convenience and comfort brought by technology. At the same time, we should also pay attention to the quality and after-sales service of electric appliances, choose brands with good reputation and reputation, and escort our quality of life.

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