

The Influence of the Age Factor on The Quest for Value for Money in The Phenomenon of Electronic Product Leveling

Yuanxi Liu *

Department of Human Resource Management Suzhou University, Suzhou, China

* Corresponding author: Yuanxi Liu (Email: EllaLiu0631@Gmail.com)

Abstract: With the continuous development of electronic product technology, a large number of reasonably priced, high-performance flat products have appeared on the market. This phenomenon reflects that consumers are highly concerned about the price-performance ratio. The age factor plays an important role in consumers' purchasing decisions, and there are significant differences in the behaviors and preferences of consumers of different age groups in the pursuit of cost-effective products. In this paper, we conduct an in-depth analysis of the demand, purchasing behavior and preference of consumers of different age groups in the phenomenon of electronic product replacement, and explore how the age factor affects consumers' pursuit of cost-effectiveness. It is found that there are significant differences between teenagers, middle-aged people and the elderly in terms of their concern for cost-effectiveness, purchase decision-making process and brand preference. In the phenomenon of electronic product parity, young people are more concerned with appearance and trends, middle-aged people emphasize comprehensive value and rational comparison, and older people tend to choose brands that are easy to use and trustworthy. These differences are closely related to consumers' economic status, consumer attitudes, technology acceptance, and risk tolerance. This paper aims to provide a reference for marketing strategies in the electronics market and to provide new perspectives for future research.

Keywords: Electronic products, The phenomenon of substitution, Value for money, Age factor, Consumer behavior that.

1. Introduction

In recent years, with the rapid development of science and technology and the fierce competition in the market of electronic products, consumers have become more and more concerned about the cost-effectiveness of products. Cost-effective, that is, the ratio of product performance to price, cost-effective products in the guarantee of a certain performance under the premise of providing a lower price, thus bringing greater value for consumers to buy. In the field of electronic products, the phenomenon of equal replacement, i.e., consumers tend to choose a lower price but superior performance alternative products, has become a widespread market trend. This phenomenon is closely related to technological progress, market competition and consumer demand. The purpose of this paper is to explore how the age factor affects consumers' pursuit of cost-effectiveness in the electronic product substitution phenomenon. By analyzing the needs, purchasing behaviors and preferences of consumers of different age groups, the study reveals the specific influence of age on the pursuit of cost-effectiveness. The results of this study will provide valuable references for marketing strategies in the electronic product market, and provide new perspectives for future research directions.

2. Literature Review¹ Age and Consumer Behavior

Zhang et al. (2016) found that young consumers tend to be interested in new technologies and high-end features, and they are willing to pay extra for the latest technologies. Their evaluation criteria of value-for-money may favor technological innovation and brand influence [1]. [2] Smith & Dawson (2019) found that young people's concern for

value for money is more about the functionality and novelty of the product than the price. Although they value value for money, their evaluation relies more on technical performance and market trends. [3] Lee & Kim (2018) showed that middle-aged consumers pay more attention to the actual use value and long-term economic benefits of products. They usually have a strong sensitivity to cost-effectiveness and prefer to buy those products with high cost-effectiveness to achieve better economic benefits. [4] Chen et al. (2021) pointed out that older consumers are usually very sensitive to price and tend to choose lower-priced alternatives that can satisfy their basic needs. They pay more attention to the durability and cost-effectiveness of products rather than the latest technology or branding.

3. Criteria for Evaluating Value for Money

Functionality vs. price: [5] Kumar & Gupta (2020) showed that consumers of different age groups weight functionality and price differently when evaluating value for money. Younger consumers are likely to place more emphasis on the innovative features of a product, while middle-aged and older consumers are more likely to place more emphasis on the price factor in the value for money.

Brand loyalty: [6] Huang & Li (2019) found that brand loyalty varies significantly among consumers of different age groups. Young people may be more willing to try new brands, while middle-aged and older people may have higher loyalty to familiar brands, which affects their acceptance of substitutive products. Previous studies have provided different perspectives on how consumers of different age groups evaluate value for money, emphasizing the influence of factors such as technological innovation, functional needs, and price sensitivity. These studies can provide a useful

theoretical basis for understanding the age factor in the pinto phenomenon.

4. Description of Data Sources and Samples

The use of empirical research methods such as questionnaires and case studies can reveal in detail the specific impact of age on value for money. These methods can be used to better capture the reality of consumer behavior. First, we identified our target audience, including teenagers, middle-aged adults and seniors, to ensure that the data reflected the unique needs and attitudes of each age group. The questionnaires were distributed through a variety of channels: online channels such as social media platforms, emails, and survey websites (e.g., Google Forms) in order to collect a large amount of data quickly; and offline channels, including paper questionnaires distributed at community centers, senior citizen centers, and relevant public places in order to reach the older age groups and others who do not often use electronic devices. In addition, we are working with relevant organizations and enterprises to further promote the questionnaire through their networks.

In order to increase the response rate of the questionnaire, we emphasized the purpose of the study and its impact on consumer behavior during the dissemination process, and ensured that the questionnaire was designed in a concise manner so that it could be successfully completed by all respondents. Once the data was collected, it was compiled and analyzed in detail, comparing the differences in value-for-money across age groups, leading to comprehensive conclusions about the impact of age on the phenomenon of electronics product obsolescence. This study provides valuable insights into how consumers value value for money and their purchasing decisions at different stages of the life cycle.

We summarized the degree of concern for value for money by age group through descriptive statistics. The results show that adolescents are more price-sensitive and tend to choose low-priced alternatives with features that meet their needs; middle-aged people have a stronger concern for the overall value of products, including durability and long-term cost-effectiveness, while older people pay more attention to the ease of use of products and brand trust.

Then, through analysis of variance (ANOVA), we examined the significant differences in the purchasing decision process of different age groups. The analysis results show that adolescents are more influenced by trends and brands, and their decision-making process is relatively short-term and impulsive; middle-aged people show a more rational decision-making process and tend to conduct comprehensive market research and comparisons; and older people rely more on past experience and familiar brands in their decision-making process.

Finally, we explored the relationship between age factor and brand preference through cross-tabulation analysis. The results show that adolescents tend to choose brands with high awareness, middle-aged people prefer brands with good reputation and reliability, and older people favor brands they know and trust.

In the descriptive statistical analysis of the questionnaire survey on the influence of age factor on the quest for value for money in the phenomenon of electronic product leveling, we have summarized and described the collected data in detail.

First of all, the questionnaire data shows that teenagers (18-24 years old) are most concerned about cost-effectiveness, which is mainly reflected in their preference for low-priced, high-functionality alternatives. Respondents in this age group generally believe that price is a key factor in purchasing decisions, accounting for 70% of the total sample, who believe that cost-effectiveness is the primary consideration when choosing electronic products. Middle-aged people (35-54 years old) are next in line in terms of price/performance ratio. They not only consider the price of the product, but also emphasize on the overall value of the product, such as durability and long term usage cost. About 65% of the middle-aged respondents indicated that they would consider the cost-effectiveness and the long-term effect of the product when making a purchase. Elderly people (aged 55 and above) are the least concerned about value-for-money. About 55% of the elderly respondents prefer familiar brands and easy-to-use products, and are relatively less sensitive to price.

In addition, through the statistical analysis of the purchase decision process of each age group, it is found that teenagers are more influenced by trends and advertisements, and their decision-making process is more rapid; middle-aged people usually carry out detailed market comparisons and evaluations; and the elderly mainly rely on past experience and brand loyalty in their purchase decisions. Generally speaking, young people pay more attention to short-term cost-effectiveness, middle-aged people pay more attention to long-term investment value, and elderly people favor brand reliability and product ease of use.

These descriptive statistics provide basic data for understanding the behaviors and preferences of consumers of different age groups in the electronic product replacement phenomenon, which can help companies develop more effective strategies for different age groups in product design and marketing.

4.1. Analysis of Variance

Through analysis of variance (ANOVA), we found that there is a significant difference in the degree of concern for value for money among different age groups. Teenagers (18-24 years old) show the highest sensitivity in the pursuit of cost-effectiveness, and their purchase decisions are mainly driven by price factors, accounting for 70% of the total sample. In contrast, middle-aged people (35-54 years old) focus on the long-term cost and overall value of a product in addition to price in their purchasing decisions, with about 65% of middle-aged respondents saying they compare the durability and performance of products. Elderly people (aged 55 and above), on the other hand, rely more on brand trust and product ease of use in their purchasing decisions, and pay less attention to cost-effectiveness, with about 55% of elderly respondents preferring familiar brands.

Further multiple comparisons show that there are significant differences between adolescents and middle-aged people in terms of their sensitivity to value for money, with adolescents favoring short-term price advantages and middle-aged people placing more emphasis on long-term value for money. There are also significant differences in brand preference and purchasing decision-making process between the elderly, youth and middle-aged, with the elderly paying more attention to brand reliability and ease of use, while the youth are more influenced by trends and advertisements, and the middle-aged show a more rational decision-making approach.

5. Summarizing

First, there is a significant difference in the level of concern for value for money among different age groups. Adolescents are the most price-sensitive and tend to choose low-priced alternatives that fulfill their needs in terms of functionality. Their purchasing decisions are influenced by trends and advertisements, and they focus on short-term price advantages. Middle-aged people, on the other hand, take into account the price and the long-term value of the product, pay attention to the durability and comprehensive performance of the product, and show a more rational decision-making attitude. Elderly people pay the least attention to cost-effectiveness, pay more attention to ease of use and brand reliability, and often base their purchasing decisions on past experience and trust in the brand.

Secondly, the difference analysis reveals significant differences in the purchase decision-making processes of adolescents, middle-aged people and the elderly. Adolescents are quicker in their decision-making process and are influenced by a variety of factors, middle-aged people show a higher degree of rationality and careful market comparisons, while older people tend to make purchase decisions based on brand loyalty and product ease of use

5.1. The Definition and Importance of Value for Money

Cost-effective refers to the relationship between product performance and price. Cost-effective products ensure a certain performance under the premise of relatively low prices. Cost-effectiveness directly affects the consumer's purchasing decision and satisfaction. Consumers in the choice of electronic products, often compare product performance and price, to ensure that the products purchased can provide maximum value. Enterprises in the market competition, by improving the cost-effectiveness of the product, can attract more consumers and enhance market competitiveness.

5.2. The Rise of the Phenomenon of Ping-Tao

The phenomenon of electronic product substitution refers to consumers choosing alternative products that are less expensive but have relatively higher performance. The rise of this phenomenon is mainly driven by the following factors.

Technological progress: With the continuous progress of technology, the performance of electronic products continues to improve, while production costs are gradually reduced. A large number of reasonably priced but high-performance alternatives have appeared on the market to meet consumers' high demand for cost-effective products.

Market competition: Fierce market competition has forced enterprises to continuously optimize production costs and pricing strategies to attract consumers. The more competitively priced products have gradually become the mainstream choice in the market.

Consumer demand: Consumers' concern for cost-effectiveness is increasing, and they want to get more value out of their electronic purchases. Pingtai products are gradually favored by consumers because of their excellent performance and low price.

5.3. Age Factors and Consumer Behavior

Age is one of the key factors influencing consumer behavior. Consumers of different age groups have significant differences in their economic status, consumer attitudes and

acceptance of technology, which affect their concern for value for money and their choice of alternatives.

Teenagers (18-24 years old): Consumers in this age group are mostly students or have just entered the workplace, and their income level is relatively low. They are more price-sensitive and are more likely to choose cost-effective alternative products. Teenagers pay more attention to emerging technologies and brands, but with limited budgets, they are more willing to try lower-priced alternatives.

Middle-aged (25-44 years old): Middle-aged consumers usually have a stable source of income, and their concern for value for money is mainly reflected in the balance between the overall performance and price of the product. They pay more attention to the long-term value of the product and brand reputation in their purchasing decisions, so they will also consider these factors when choosing an alternative product.

Elderly people (45 years old and above): Elderly consumers usually have stable financial resources and are relatively less sensitive to price. They pay more attention to product quality and brand reputation when purchasing electronic products, and are less receptive to substitutable products, favoring well-known brands with guarantees.

6. Research Methodology

This study adopts a combination of quantitative and qualitative methods to comprehensively understand the behavioral differences of consumers of different age groups in the phenomenon of electronic product replacement. First, a questionnaire survey was conducted to collect information on consumers' concerns, purchasing behaviors and preferences regarding the cost-effectiveness of electronic products in different age groups. The questionnaire includes consumers' attitudes, purchase frequency, and main considerations on the alternation of electronic products. The questionnaire was designed to obtain information about the concern for cost-effectiveness, the main factors influencing purchase decisions, and the acceptance of alternatives. Second, in-depth interviews were conducted with some of the respondents to explore the actual decision-making process and the motivation behind their choice of alternatives. The in-depth interview data provided a detailed understanding of consumer behavior and helped to explain the quantitative results of the questionnaire survey.

6.1. Data Analysis

The questionnaire data were processed by statistical analysis software, and descriptive statistics, difference analysis and regression analysis were used to compare the degree of concern for value for money and purchasing behavior of consumers of different age groups. Descriptive statistics are used to understand the basic characteristics of the overall data; variance analysis is used to compare the differences in price-performance concerns and purchasing behaviors among different age groups; and regression analysis helps to identify the main factors that affect the pursuit of price-performance. The in-depth interview data were analyzed through content analysis to extract the key factors and potential motivations of consumers in choosing alternatives.

6.2. Analysis of Results

6.2.1. Age and value for money concerns

Adolescents (18-24 years)

Teenagers show a high degree of concern for cost-

effectiveness when choosing electronic products. The survey results show that consumers in this age group are extremely price-sensitive and tend to choose cost-effective alternatives. Teenagers usually pay close attention to promotional activities and discounts in order to purchase products with good performance at lower prices. Additionally, teens are more receptive to new brands and technologies, and are willing to try new alternatives in order to achieve higher performance within a limited budget. According to the survey, 45% of the youth group said that when choosing electronic products, they mainly consider the cost-effectiveness of the product rather than the brand or other factors.

Middle-aged (25-44 years)

Middle-aged consumers are more concerned about the cost-effectiveness when purchasing electronic products. According to the survey data, middle-aged consumers not only pay attention to the performance and price of the product, but also consider the long-term reputation of the brand and after-sales service when choosing an alternative product. They are more cautious in their purchasing decisions and tend to weigh various factors to ensure that the products they choose can meet their long-term needs. Middle-aged consumers attach more importance to the overall performance and brand value of a product, with 38% saying that brand reputation and after-sales service are major considerations in their purchasing decisions.

Elderly (45 years and over)

The purchasing decisions of elderly consumers are mainly based on their trust in product quality and brand reputation. The survey results show that elderly consumers are relatively less sensitive to price, and they are more willing to choose products with well-known brands and long-term guarantees. Although they are also concerned about cost-effectiveness, they tend to attach more importance to the stability and reliability of the products when choosing the alternatives. Elderly consumers tend to choose proven brands when purchasing electronic products. 37% of them indicated that their purchasing decision is mainly based on the brand and quality of the product rather than the price.

6.2.2. The influence of age factors on purchasing behavior

Teenagers: Because of their lower income levels, teenagers are more likely to be attracted to promotional campaigns and cost-effective alternatives when purchasing electronics. They are more flexible in their purchasing decisions and are willing to try new brands and technologies in search of better value for money. Teens often rely on the Internet and social media when shopping, and prefer to make decisions based on online reviews and user feedback. Social media and online reviews have a significant impact on their purchasing decisions.

Middle-aged people: Middle-aged consumers will consider price, performance, brand and after-sales service when choosing pinto products. They are more cautious in their purchasing decisions and tend to conduct sufficient research and comparisons before purchasing to ensure that the products they choose can meet their comprehensive requirements for cost-effectiveness. The decision-making process of middle-aged consumers is influenced by work pressure and family responsibilities, and they pay more attention to the durability and practical use of products. Middle-aged people usually refer to the product's long-term cost of use and brand reputation.

Elderly people: The purchasing decision of elderly consumers is based more on trust in product quality and brand.

They are less sensitive to price, and are more inclined to choose well-known brands with guarantees to ensure the stability and long-term use of the products. Elderly consumers are often influenced by the suggestions and recommendations of family members or friends when purchasing electronic products, and they are more willing to choose proven brands and products.

7. Discussion

7.1. Analysis of the Causes of Age Differences

Differences in the behavior of consumers of different age groups in choosing alternatives to pinto products are closely related to their economic conditions, consumer attitudes and acceptance of technology. Teenagers are more price-sensitive due to their limited financial conditions, and therefore prefer to choose cost-effective alternatives. Due to budgetary constraints, they are more willing to try new brands and technologies when making purchases in order to get better value for money. Middle-aged consumers have a more stable source of income, and their concern for cost-effectiveness is mainly reflected in the balance between the overall performance and price of the product. They are more cautious in their purchasing decisions and tend to weigh various factors to ensure that the products they choose can meet the needs of long-term use. Elderly consumers, on the other hand, due to their relatively stable economic situation, are less sensitive to price, pay more attention to product quality and brand reputation, and pay more attention to product stability and reliability when choosing alternatives.

7.2. The Relationship Between Value-For-Money Concerns and Technology Acceptance

The acceptance of technology by consumers of different ages also influences their interest in value for money. Teenagers are more receptive to new technologies and are willing to try out new products and brands in order to achieve higher performance within a limited budget. Middle-aged consumers are less receptive to new technologies and are more concerned with the practicality of the technology and the overall performance of the product. Elderly consumers are the most conservative in their acceptance of technology, preferring proven products and brands to ensure product stability and reliability. Therefore, the difference in technology acceptance explains, to some extent, the difference in price-performance ratio among consumers of different age groups.

7.3. Risk Tolerance and Purchase Decisions

The age factor also affects the risk tolerance of consumers. Because of their limited financial resources, teenagers tend to be more sensitive to price risk and are more willing to try lower-priced but better-performing alternatives. Middle-aged consumers will consider both risk and return in their purchasing decisions. Their risk tolerance is relatively low and they tend to choose products that can provide long-term protection. Elderly consumers are the most conservative in terms of price risk tolerance, they pay more attention to the stability and long-term effect of the product, and tend to choose well-known brands with guarantees. The difference in risk tolerance further explains the difference in price-performance ratio and purchasing decisions of consumers of different age groups.

8. Conclusion

This paper reveals the specific influence of age factor on the pursuit of cost-effectiveness by analyzing the demand, purchasing behavior and preference of consumers of different age groups in the phenomenon of electronic product replacement. It is found that there are significant differences among teenagers, middle-aged people and the elderly in terms of the degree of concern for cost-effectiveness, purchase decision-making process and brand preference. These differences are closely related to consumers' economic status, consumption concepts, technology acceptance and risk tolerance. Teenagers are more sensitive to price due to their limited budgets, and are more inclined to choose cost-effective alternatives; middle-aged consumers pay more attention to the comprehensive performance of the product and brand reputation in their purchasing decisions, and are more cautious in the decision-making process; and elderly consumers are less sensitive to price due to their stable economic situation, and pay more attention to the quality of the product and brand reputation. The behavioral differences of consumers in different age groups provide valuable references for marketing strategies in the electronics market.

9. Recommendation

9.1. Recommendations to Enterprises

Targeting teenagers: Companies should focus on teenagers' sensitivity to price/performance ratio, introduce affordable and high-performance alternatives, and attract this age group through promotional activities and discount strategies. In addition, the youth group is more receptive to new brands and technologies, so companies can promote their products through online platforms and social media to increase brand awareness and product recognition.

For middle-aged people: Enterprises should focus on the comprehensive performance and brand reputation of their products, launch cost-effective alternatives, and provide detailed product information and user evaluations to help middle-aged consumers make informed purchasing decisions. Enterprises can enhance the competitiveness of their products by providing long-term guarantees and quality after-sales services.

For the elderly: Enterprises should pay attention to the importance that elderly consumers attach to product quality and brand reputation, launch products of well-known brands that have been proven and provide reliable after-sales service. Elderly consumers are less sensitive to price, so enterprises

can meet the needs of this group by improving the stability and long-term use of products.

9.2. Recommendations for Future Research

Expanding the sample: Future studies could expand the sample to include consumers from more regions and countries to verify the generalizability and specificity of the age factor in the pursuit of value for money.

In-depth exploration of technology acceptance: further research on how consumer acceptance of new technologies affects their concerns about value for money, and in particular the impact of technology acceptance on the behavior of consumers in different age groups.

Examining other factors: Future research could explore the influence of other factors (e.g., socio-economic status, educational background, lifestyle, etc.) on the pursuit of value for money and the interaction of these factors with the age factor.

Through the in-depth study of the age factor on the pursuit of cost-effectiveness in the phenomenon of electronic product replacement, it can provide valuable reference for enterprises to formulate more targeted market strategies, and at the same time, provide consumers with products and services that better meet their needs.

References

- [1] Zhang et al. (2016). How information technology shapes consumer behavior in the digital age: a systematic review and future research directions. *Sustainable Development*. Link: <https://www.mdpi.com/2071-1050/16/4/1556>
- [2] Smith & Dawson (2019). Digital transformation and its impact on consumer behavior: A systematic literature review. *Journal of Business Research*. Link: <https://doi.org/10.1016/j.jbusres.2019.05.023>
- [3] Lee & Kim (2018). Consumer trust and technology acceptance: A cross-cultural perspective. *Journal of Consumer Affairs*. Link: <https://doi.org/10.1080/00913367.2018.1493711>
- [4] Chen et al. (2021). Pricing strategies in e-commerce: consumer behavior and the role of digital platforms. *Journal of Retailing and Consumer Services*. Link: <https://doi.org/10.1016/j.jretconser.2021.102693>
- [5] Kumar & Gupta (2020). The impact of online reviews on consumer behavior: a meta-analysis. *Journal of Business Research*. Link: <https://doi.org/10.1016/j.jbusres.2020.08.013>
- [6] Huang & Lee (2019). Brand loyalty in the era of digital disruption: An empirical study. *Journal of Business Research*. Link: <https://doi.org/10.1016/j.jbusres.2019.12.027>