

Research on the Characteristics of Virtual and Real Interaction Shopping Space Behavior of Generation Z Women in Xi'an

-- Take Clothing Shopping as an Example

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ABSTRACT

Research on shopping space behavior is a significant direction in behavioral geography, and consumer geography is a key area of focus in human geography. In the mobile internet era, the digital economy has rapidly developed, leading to a digital transformation in residents' daily lives. Geography has also shifted towards digitization, making the interaction between virtual and real spaces a hot topic in human geography. At the same time, consumption exhibits postmodern characteristics, with young groups represented by "Generation Z" blending virtual and physical shopping patterns. This results in new features of shopping behavior, which are complex and multifaceted, interacting with urban spaces. It is necessary to delve into the new characteristics of shopping space behavior in the digital society and the mechanisms behind the interaction between virtual and real spaces, clarifying the logic of changes in residents' shopping behavior in the digital age, thus helping to demystify the "black box" of white-collar shopping decisions.

KEYWORDS

"Generation Z" Women; Virtual-Real Interaction; Shopping Space Behavior; Behavior Characteristics.

1. INTRODUCTION

Before the prosperity of Internet technology and the emergence of online shopping, people could only purchase clothing through physical stores, including initial information gathering, experience comparison, buying, and after-sales service. With the advancement of the Internet and information communication technologies, the rise of e-commerce platforms has enabled people to search for product information online, try on clothes using virtual reality technology, and complete payments via third-party payment platforms. They can also enjoy shopping experiences anytime and anywhere through mobile apps provided by these platforms. The advent and popularity of online shopping have made the shopping process more detailed, with more and fragmented steps, allowing each step to be completed at any time and place, significantly altering people's shopping behavior characteristics.

This paper studies the characteristics of virtual and real interaction shopping patterns and spatial selection characteristics of "Generation Z" women.

2. RESEARCH BACKGROUND

2.1. Practical Background

2.1.1. Shopping Behavior and Commercial Space Interact with Each Other in a Diversified and Complex Way

Consumers are increasingly valuing the quality-to-price ratio and shopping experience. They are becoming more rational and cautious in their purchases, paying more attention to the quality of goods rather than blindly pursuing quantity. At the same time, the immediacy and fluidity of consumption have become more pronounced, with time compression and spatial dissolution. The rise of the digital economy has extended consumer activities from physical spaces to virtual spaces.

2.1.2. In the Era of Mobile Internet, Digital Economy is Developing Rapidly, and Online Shopping and Physical Shopping Consumption are Interwoven

Currently, the complementarity and integration of online and offline shopping have become the core trend in the development of retail. Through technological empowerment, scenario convergence, and reshaping of consumer behavior, they have formed a new retail ecosystem characterized by mutual complementarity and coexistence. Young groups such as Generation Z tend to prefer hybrid shopping models like "online research, in-store try-on, online price comparison" or "in-store experience, online purchase".

2.1.3. Generation Z Has Become the Largest Generation in Population and Grown into the Main Force of the Consumer Market, While its Consumption Behavior Has New Characteristics

According to AppAnnie statistics^[4]. The current Generation Z already accounts for one-third of the world's population, surpassing Generation Y (Millennials) in size to become the largest generation in terms of numbers. Generation Z is rapidly emerging as the main force in the global consumer market. They grew up in an era of rapid internet development and information explosion, often referred to as "digital natives". The consumption behavior of Generation Z is notably digitalized. They are accustomed to integrated online and offline consumption, placing a high emphasis on "quality-to-price ratio"^[4].

3. RESEARCH DESIGN

3.1. Case Selection

Xi'an is the capital of Shaanxi Province, an important central city in western China. It is also a national historical and cultural city, an international comprehensive transportation hub city and an important national scientific research and education center. It has jurisdiction over 11 districts and 2 counties^[2]. According to the White Paper on Digital Transformation of Chinese Cities, xi'an ranks 13th in the top 100 cities for digital transformation^[4]. Therefore, xi'an has a good digital foundation, which is representative for the study of virtual and real interaction shopping behavior. xi'an is selected as the research area.

3.2. Data Sources

3.2.1. Questionnaire Data

The questionnaire was designed based on field research and pre-research. A survey on the clothing shopping behavior of Generation Z women in xi'an City was conducted from October to December 2024. The study covered 11 districts in xi'an, primarily through online collection via Questionnaire Star (by setting trap questions, verifying IP addresses, and controlling response times). In this study,

over 280 questionnaires were distributed. After screening out invalid responses, 265 valid questionnaires were obtained, achieving an effective recovery rate of 94.6%. The content of the questionnaire included aspects such as the socioeconomic attributes of Generation Z women, their shopping habits and behavior patterns, and choices for shopping spaces.

3.2.2. Shopping Business District Data of Xi'an

The shopping district is a specific area formed by the central main shopping center or mall, radiating outward in a certain direction and distance. By obtaining the main shopping centers and malls POI data of xi'an City through Baidu Maps place api, combined with the Xian Business District Report released by GeoQ Smart Map^[5]. As well as field investigations and preliminary surveys, 15 shopping districts in xi'an City have been delineated: the Administrative Center District, Zhonglou District, Dahanmen District, Xiaozhai District, Huiguan Road District, Dayan Tower District, Gaoxin Road District, Yanan South District, Qujiang CBD District, Daxing District, Sanqiao District, Chang an District, Chanba District, Textile City District, and Gangwudao District.

4. CHARACTERISTICS OF VIRTUAL AND REAL INTERACTAION SHOPPING SPACE BEHAVIORS OF GENERATION Z WOMEN IN XI'AN

4.1. Characteristics of Shopping Mode

4.1.1. Shopping Chain Decomposition

The shopping chain of "Generation Z" women is divided into four links: collecting commodity information, experiencing commodity, buying commodity and evaluating and sharing. The situation of each link in the clothing shopping process of "Generation Z" women is shown in Table 1.

(1) Collect product information

In the survey, it was found that the clothing shopping needs of "Generation Z" women are largely driven by internal stimuli. After being internally motivated, they use online platforms or offline travel, face-to-face conversations, and other channels to search for information about the clothes they want to buy. This process is called "collecting product information". Both this step and the experience of trying on products fall under the intermediate decision-making stages of the purchasing process, playing a guiding and suggestive role in the final purchase.

In this link, 84.17% of the respondents obtain commodity information online, and 15.83% obtain information through physical space. Among them, collecting information through the network occupies a dominant position, and using the network to obtain information has become an important link before people go shopping.

(2) Experience goods

During the process of gathering information, people can experience the quality and appearance of clothing through live broadcasts, text and image information, virtual fitting rooms, or by visiting physical stores to touch and try on clothes in person, based on various information cues. This experience helps promote purchasing decisions, a step known as the "experiential product" stage. Among the respondents, 53.67% of Generation Z women choose to experience products offline, while 46.33% opt to evaluate the quality of clothing online. This indicates that after completing the information gathering phase, Generation Z women tend to experience products in a different way.

(3) Purchase goods

This section refers to consumers making electronic payments for products selected online or immediately paying for items after selecting them in physical stores. In this segment, 35.9% of

respondents chose to purchase in physical stores, while 64.09% opted for online purchases. The data indicates that "Generation Z" women predominantly buy clothing through online platforms.

(4) Evaluation and sharing

Evaluation sharing sessions appear at any stage of the shopping process, with online sharing and evaluation as the main part.

The survey found that 96.91 percent of Gen Z women share shopping information and shopping experiences through instant messaging, virtual communities and other forms during the shopping process, including the experience of each part of shopping and overall evaluation of shopping, in the form of text, pictures, photos or notes and posts.

Table 1. The proportion of shopping methods in each link of clothing shopping

Collect product information		Experience goods		Buy goods		Evaluation and sharing
network	substance	network	substance	network	substance	
84.17%	15.83%	46.33%	53.67%	64.09%	35.9%	96.91%

4.1.2. Characteristics of New Shopping Chain and Shopping Mode

(1) General characteristics

According to the shopping methods chosen by "Generation Z" women at various stages, the shopping process can be reorganized into a new shopping chain, which includes six shopping patterns: "online-real-real", "online-real-online", "real-online-online", "online-online-online", "real-real-online", and "real-real-real". The proportion of each pattern is shown in Table 2. It can be observed that in the shopping process of "Generation Z" women, all stages are largely influenced by cyberspace. The online-online-online model, where the entire shopping process takes place online, has completely replaced traditional shopping behaviors. Shopping information gathering, product comparison, and final purchasing can all be completed in virtual spaces, and mobile phones can be used to share and communicate with virtual companions at any time. This represents new characteristics and trends in shopping behavior in the mobile internet era.

In summary, the "Generation Z" women exhibit a "gradual decrease" trend in their clothing shopping patterns. The "online-online-online" model is predominant, followed by the "online-real-real" model, the "online-real-online" model, and the "real-real-real" model. Relatively speaking, the "real-online-online" model and the "real-real-online" model occur least frequently, with little difference in proportion among the samples. This indicates that mobile information and communication technology has had an extremely profound impact on peoples daily shopping activities. Additionally, the shopping patterns of "Generation Z" women are not static; most exhibit a mix of multiple models.

Table 2. Proportion of shopping modes

Net-real-real	Net-real-net	Real-world networks	Net-net-net	Real-real network	Real-real-real
22.78%	16.99%	1.93%	44.4%	1.54%	12.36%

(2) Characteristics of shopping patterns of Gen Z women in different residential areas

Among the "Generation Z" women living in Weiyang District, more of them choose the "web-web-web" shopping mode, accounting for 55.93%, the "real-real-real" mode accounts for 16.95%, the

"web-real-real" mode accounts for 13.56%, the "web-real-web" mode accounts for 11.86%, and the "real-web-web" mode accounts for the least, with only one person using it.

Among the "Generation Z" women living in Beilin District, half of them chose the "Internet-Internet-Internet" mode, 30.77% chose the "Internet-real-Internet" mode, 15.38% chose the "Internet-real-real" mode, and only one person chose the "real-real-real" mode, while no one adopted other modes.

Among the "Generation Z" women living in Lianhu District, the most popular modes were "web-real-real" and "web-web-web", with 31.25% and 34.38%, followed by "web-real-web" and "real-real-real", with 15.63% each, and only one person chose "real-web-web".

Women of Generation Z residing in Yanta District have only one person in the "real-web-web" and "real-real-web" models; other models are relatively even. The proportions of the "web-real-web", "web-real-real", "real-real-real", and "web-web-web" models are 29.41%, 23.53%, 20.59%, and 17.65%, respectively. Women of Generation Z living in Xincheng District generally choose the "web-web-web" model, with 28.59% opting for the "web-real-web" model and 14.29% choosing the "real-real-real" model. No one adopts the other models.

The "Generation Z" women living in the high-tech zone used the "web-real-real" mode and the "web-web-web" mode the most, accounting for 43.48% and 39.13% respectively. There were two people in the "real-web-web" mode, one person in the "web-real-real" mode and the "real-real-web" mode, and no one chose the "real-real-real" mode.

More than half of the "Generation Z" women living in Baqiao district choose the "web-web-web" shopping mode, followed by the "web-real-real" mode and the "web-real-web" mode. No one uses the other shopping modes.

Among the "Generation Z" women living in Chanba International Port, they basically complete the process from searching for information to final purchase on the Internet. Due to the lack of clothing facilities in this area and their uneven distribution, the whole shopping process is completed on the Internet.

The "Generation Z" women living in Qujiang New District use the "web-real-real" mode and the "web-web-web" mode most, accounting for 30% each. The other modes account for 10% respectively.

Most of the "Generation Z" women living in suburban areas such as Huyi District (Lintong District, Gaoling District or Yanliang District) adopt the "Internet-Internet-Internet" mode, accounting for 58.82%, while the "Internet-real-real" mode accounts for 29.41%. Other modes are adopted by one person each.

Among the "Generation Z" women living in Chang an District, except for the "real-network-network" and "real-real-network" modes which were not adopted, the "network-network-network" mode was the most popular, accounting for 37.93%. Other shopping modes were relatively even, with the "network-real-real" mode, "network-real-network" mode and "real-real-real" mode accounting for 24.14%, 20.69% and 17.24% respectively.

Overall, residents in urban areas farther from the main city center tend to use the "web-web-web" shopping model more frequently. The closer to the main city center, the larger the population, and the wider the shopping areas reach, serving more residents and making physical travel more convenient for them. Conversely, the convenience of shopping decreases, leading to more residents opting for online shopping, which aligns with the efficiency hypothesis[6]. That is, suburban residents have less access to transportation and shopping than inner cities, so they will use online shopping instead of physical shopping.

4.2. Spatial Selection Characteristics of "Generation Z" Women Shopping

"Generation Z" women still have physical travel in the process of shopping. This section explores the characteristics of shopping space selection of "Generation Z" women in different residential areas.

4.2.1. Characteristics of "Generation Z" Womens Shopping Business District Selection

When it comes to choosing shopping areas, the majority of Generation Z women shop in the Administrative Center and Xiaozhai districts, both at 20.85%. The Zhonglou and Kangfu Road districts follow closely behind with 14.67% and 10%, respectively. Other districts have smaller proportions, all below 10%. According to the survey, the Administrative Center is the core district in the northern part of the city, covering a large area with extensive influence. It is a traditional and mature shopping district that has seen rapid development due to the impetus from major projects like Dafeng City and Xidi Port. Additionally, many respondents are residents of Weiyang District, who tend to shop nearby for convenience. The Xiaozhai district boasts diverse commercial forms and the highest concentration of commercial projects, making it a hub for fashion trends in xi'an. With its broad coverage and numerous universities nearby, as well as convenient transportation, it attracts young urban women to shop. Moreover, the Zhonglou and Kangfu Road districts are also time-honored areas in xi'an, with a long history. The Zhonglou district is currently undergoing a commercial transformation, featuring a variety of trendy cultural tourism projects. The Kangfu Road district is the largest clothing wholesale market in Northwest China, known for its cost-effectiveness, thus these two districts are also highly favored by young women.

4.2.2. Characteristics of "Generation Z" Womens Clothing Store Locations

When it comes to choosing locations for clothing stores, the majority of "Generation Z" women opt for new malls, accounting for 55.60%. This is followed by old malls and commercial districts, at 15.44% and 14.29%, respectively. Lastly, street-front shops and office buildings each account for 7.34%. New malls are trendy and diverse in business formats, making them more attractive to young women shoppers. In contrast, old malls have a long history and good reputation, attracting a large number of visitors. Some old malls have also adjusted their operating strategies to offer distinctive features, drawing many young customers, such as Kaiyuan Mall and Xiaozhai Yintai City. In recent years, the "office economy" has flourished, with advancements in computer information and communication technology allowing many "hidden shops" to stand out. Street-front shops are often located near communities, boasting a loyal customer base and proximity to potential customers, which enhances their purchasing power.

4.2.3. Characteristics of "Generation Z" Womens Clothing Store Business Type Selection

When it comes to choosing clothing store formats, the majority of Generation Z women opt for brand specialty stores, accounting for 32.81%. Fast fashion stores, department stores, and privately-owned niche stores follow, with proportions of 22.39%,16.22%, and 17.37%, respectively. The least preferred options are fashion boutiques and factory stores. This indicates that Generation Z women have higher requirements for quality-to-price ratio, authenticity, and compliance when purchasing clothing.

5. SUMMARY

This paper mainly studies the characteristics of virtual and real interaction shopping behavior of "Generation Z" women, including shopping pattern characteristics and space selection characteristics.

First, in the section on shopping pattern characteristics, the study initially breaks down the shopping chain into four stages that represent the shopping behavior of this group: gathering product information, experiencing products, purchasing products, and evaluating and sharing. It explores the relationships between these stages to form a new interactive virtual-reality shopping chain, which

includes six shopping patterns: "online-real-real", "online-real-online", "real-online-online", "online-online-online", "real-real-online", and "real-real-real". The study finds that women from Generation Z have multiple mixed shopping chains during the same period.

Secondly, in terms of the spatial selection characteristics of shopping behavior, "Generation Z" women mainly shop in administrative center business districts and Xiaozhai business districts. More women choose new shopping malls, pay attention to quality and price ratio, personality and compliance. At the same time, it is found that many womens clothing stores begin to lean towards office buildings, and "office economy" is flourishing.

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