

Research on the Influencing Factors of Underground Commercial Development at Beijing Rail Transit Stations: From the Perspectives of Passengers, Policies and Merchants

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Abstract. In contemporary modern cities, transportation tracks not only serve the purpose of transporting passengers but also act as the leader of economic development along the routes. In recent years, Beijing's subway has achieved large-scale networked operation, with an average daily passenger volume exceeding 10 million. The average passenger stay time within the system is approximately 43 minutes, and the average travel journey length is 13 stations. With such a huge passenger flow, the commercial development potential of Beijing's subway is considerable. However, compared with the subway stations of developed cities in Asia such as Tokyo and Hong Kong, the commercial utilization degree of Beijing's subway is relatively low. The variety of goods sold is limited, and the consumption rate of passengers is also relatively low. The development of underground commercial activities is influenced by many factors. From the perspective of policies, the implementation of recent new policies has encouraged the integration of urban and transportation and the introduction of diversified commercial models. From the perspective of merchants, they need to simultaneously face regulatory restrictions and passenger demands. From the perspective of passengers, age, gender, and travel frequency will affect each person's consumption preferences. Therefore, this study conducts research from three angles to understand the relationship between these factors and find solutions that can promote the good development of Beijing's subway commercial activities.

Keywords: Underground Commercial Development, Beijing Rail Transit, Passenger Behaviour, Policy Environment, Merchant Operations

1. Introduction

The development of underground commercial activities is influenced by many factors. From three perspectives, first, from the perspective of policies, such as the "Beijing Deepening Reform and Promoting Consumption Special Action Plan (2025)", the implementation of recent new policies has encouraged the integration of urban and transportation and the introduction of diversified commercial models. From the perspective of merchants, they need to simultaneously face regulatory restrictions and passenger demands. From the perspective of passengers, age, gender, and travel

frequency will affect each person's consumption preferences. The things sold in the stores will also affect people's consumption behavior.

Therefore, this study conducts research from three angles to understand the relationship between these factors and find a solution that can promote the good development of Beijing's subway commercial activities.

2. Literature review

The development of Beijing's subway commercial activities has been constrained by many policy regulations. Initially, the most concerned aspect was safety. The "Beijing Urban Rail Transit Operation Safety Regulations" [1] clearly stipulated that the installation of commercial facilities in areas such as stations and carriages should not affect the identification of safety signs, the use of equipment, and evacuation routes. This regulation set clear regulations for the development of subway commercial activities for a considerable period, resulting in relatively conservative and single business models. However, in recent years, the policy orientation has undergone significant adjustments. The "Beijing Deepening Reform and Promoting Consumption Special Action Plan" [2] clearly proposed to strengthen station-city integration design, expand the commercial functions of rail transit stations, and encourage the introduction of diversified business models such as "sports+", "parent-child+", and "culture+" around the stations. This indicates that the policies have begun to support the development of commercial facilities along the subway. These two policy documents reflect the transformation of Beijing's government's attitude towards underground commercial facilities and the possibility of implementing them.

Several academic papers have conducted research on the actual commercial activities of the Beijing subway system and have revealed its current development status and existing problems. Liao [3] conducted on-site investigations in multiple subway stations in Beijing, pointing out issues such as the scattered layout of commercial facilities, overly monotonous types of commercial activities, and insufficient consumption atmosphere. Zhang et al. [4] also discovered through a survey of users of the "Beijing Subway" official application that the existing convenient services cannot meet the immediate and diverse needs of commuters, and the consumption experience needs to be improved. They further pointed out that the root cause of the problem lies in the failure to effectively combine commercial planning with passenger flow routes and dwell times. From a more micro perspective, Wang [5], in his master's thesis, discussed the selection model of commercial business types from a theoretical perspective, emphasizing that the commercial layout should match the characteristics of the target population, consumption capacity, and travel purposes. Although this research is not specifically targeted at Beijing, these suggestions and information may also be helpful for the construction of the underground commercial space in Beijing. In summary, the existing research unanimously believes that the commercial business types of the Beijing subway have not fully exploited the huge value of its large passenger flow.

The case studies of two subway systems also provided valuable information. In the case study of Tokyo, the focus was on the commercial facilities GRANSTA located on the underground and above-ground floors of the central passage of Tokyo Station [6]. Tokyo Station is the largest transportation hub in Japan with an extremely high passenger flow. GRANSTA precisely met the diverse needs of numerous commuters and tourists. Passengers could purchase gifts, boxed meals, cosmetics, clothing, groceries, etc. [7] without having to exit the station. It also introduced many time-honored stores and well-known restaurants, allowing passengers with different budget constraints to choose. In terms of policies and development, GRANSTA was independently developed and operated by JR East Japan Railway Company and is a typical case of the "railway +

property" integrated model. Additionally, Professor Hiroshi Mishima of Meiji University pointed out that this urban policy planning "echoes the current global urban development trends and can create a pleasant riverbank living environment" [6].

In the case study of Chengdu, the current situation and models of commercial development of Chengdu's subway system were focused on. Regarding passenger flow characteristics, the daily passenger volume of Chengdu's rail transit network has exceeded 10 million people, and the tourist traffic from other places is also considerable. During the New Year holiday, Chengdu received 7.186 million tourists [8]. The "rail transit + tourism" model has achieved remarkable results, but there is a significant imbalance in passenger flow distribution, with a high concentration at transportation hubs, urban core business districts, and key functional area stations. For example, on New Year's Eve at Chunxi Road Station, the passenger flow reached 239,200 people, far exceeding that of ordinary stations [8].

In an academic study conducted on 39 stations of Chengdu Metro Lines 1 and 2, the commercial spaces at the stations were classified into four types [9]. The core urban stations, such as Tianfu Square and Chunxi Road, are characterized by extremely high passenger flow, covering both residents and tourists, with highly diverse demands. The commercial configuration mainly consists of large shopping centers, large dining clusters, and cultural experience spaces [9]. The general-type stations are located at intersections of major roads, residential areas, and office areas, with moderate but stable passenger flow, mainly consisting of commuters and residents, with demands centered around daily commuting and daily life. The community-type stations are in non-core urban areas or large residential communities, with passengers mainly from surrounding communities. The commercial configuration mainly consists of community supermarkets, fresh food markets, and convenience service points. The policies for the commercial development of Chengdu Metro are also supportive. The core of Chengdu's policies is the concept of "building a metro is building a city" [10]. As of 2025, the development area of Chengdu Metro TOD projects has reached 318 square kilometres. It has introduced diverse commercial facility types such as Longfor Town Square, Hema Fresh Market, Sam's Club, and global leading commercial brands.

Beyond the traditional retail model, how to innovate the commercial space of subway stations has become a new research focus. Among them, the "pop-up store" model has attracted much attention. According to information from public media such as China Business News [11], pop-up stores attract approximately 8,000 visitors each day, and their sales are 30% higher than those in fixed retail spaces. This practical case is in line with the research conducted by Chen and Okken on the success factors of global pop-up stores. Chen and Okken pointed out that the core competitiveness of pop-up stores lies in creating "experiences" and "scarcity", which precisely meets the psychological needs of subway passengers for novelty and excitement during their short stops [12].

3. Methodology

3.1. Literature search, evaluation and review

The "CRAAP" method was employed to analyze the data in formulating the data acquisition scheme latter performed through survey questionnaires. This approach enabled a detailed assessment from five aspects of the articles, namely: timeliness, relevance, authority, accuracy, and purpose. In terms of timeliness, literature published within the past 5 to 10 years was mainly searched to determine the validity of the data. In terms of relevance, literature related to subway station operations and those with an Asian background was prioritized. In terms of authority, peer-reviewed journals, works by renowned universities, and official reports from governments or railway companies were given

precedence. In terms of accuracy, articles that clearly indicated all data sources were sought. In terms of purpose, a distinction was made between materials used for academic research, commercial promotion, or policy reports, to understand potential perspective limitations.

China's mainstream modern media, such as Xinhua News Agency and People's Daily, were referred to for relevant reports on subway commercial facilities to understand public opinion and media reporting trends. At the same time, academic papers on subway commercial operations, passenger behavior, and consumer psychology were searched on CNKI and Google Scholar to ensure that the research had theoretical support. Finally, policy and regulatory documents issued by national transportation departments and local governments were also referred to in order to understand the legal and regulatory background of subway commercial facilities.

In the qualitative analysis section, data and information shared by merchants on social media were searched, and the merchants' logic was mainly analysed. As for the quantitative analysis, their popularity and sales volume also provided support.

In addition, research was conducted on some subway stations in Chengdu, China and Tokyo, Japan to understand their overall operation models and existing commercial facilities. By comparing the main commercial measures of these subway stations, the aim was to further illustrate how Beijing subway stations need to better formulate commercial measures, or how they can truly implement some commercial measures that can attract a large number of customers.

3.2. Questionnaire survey

This study employed the questionnaire survey method to collect the basic data. The main reason for choosing the questionnaire survey method is its efficiency, quantifiability, and ease of collecting large amounts of data.

Through questionnaires, the passengers' genuine opinions and usage situations regarding the subway facilities were obtained. The independent variables include the passengers' characteristics, such as age, gender and place of residence, as well as the frequency of using the subway. The dependent variables are the passengers' satisfaction with the subway commercial measures, their willingness to use these measures, and their suggestions for improvement measures. Finally, the respondents were asked to describe in detail the commercial facilities they hope to implement on the subway.

Firstly, the questionnaires were randomly distributed to community groups or certain social media platforms, and then some valid questionnaires were collected. The main participants are urban residents, covering various occupational groups such as students and office workers. Secondly, the questionnaires were shared at the school where the researcher studies, but because the consumption situations and commuting times of the students are basically uniform, the quantity was controlled to obtain more useful information. A total of 100 survey questionnaires were expected to be collected.

However, there might be some issues, such as insufficient willingness to fill out the questionnaire and insufficiently in-depth responses. To address these problems, a clear questionnaire structure was formulated and a moral statement was attached at the beginning of the questionnaire, promising that the questionnaire would only be used for research, that the experimental purpose would not be concealed, and that no private information would be disclosed. If the response rate was low, the sample distribution range was expanded by using social networks. If the response results did not meet expectations, more questionnaires were distributed to different age groups or people in different regions to cover a wider passenger population.

3.3. Data analysis

For data analysis, the analysis system provided by the questionnaire survey website was first used for a brief analysis. The passengers' personal information was then presented through simple pie charts and bar charts, and the SPASSAU website was used to create a chi-square test to determine the correlation between the two factors and obtain the results.

4. Results

4.1. User characteristics

The analysis of passenger basic information is as follows. In terms of gender, as shown in Figure 1, the proportion of female users is 60.28%, significantly higher than that of male users (34.04%). As Figure 2 shows, users aged between 26 and 30 account for the highest proportion (21.28%), followed by users aged between 18 and 25 (19.86%). As Figure 3 shows, in terms of travel frequency, approximately 35% of users take the train "multiple times" per month, 30.50% of users take the train "3 to 5 times" per week, and the total proportion of users who frequently take the train (taking the train ≥ 3 times per week) exceeds 65%. Therefore, in the subway traffic, young people are the main group, among which the proportion of females may be slightly larger, and most passengers use the subway for travel at a high frequency.

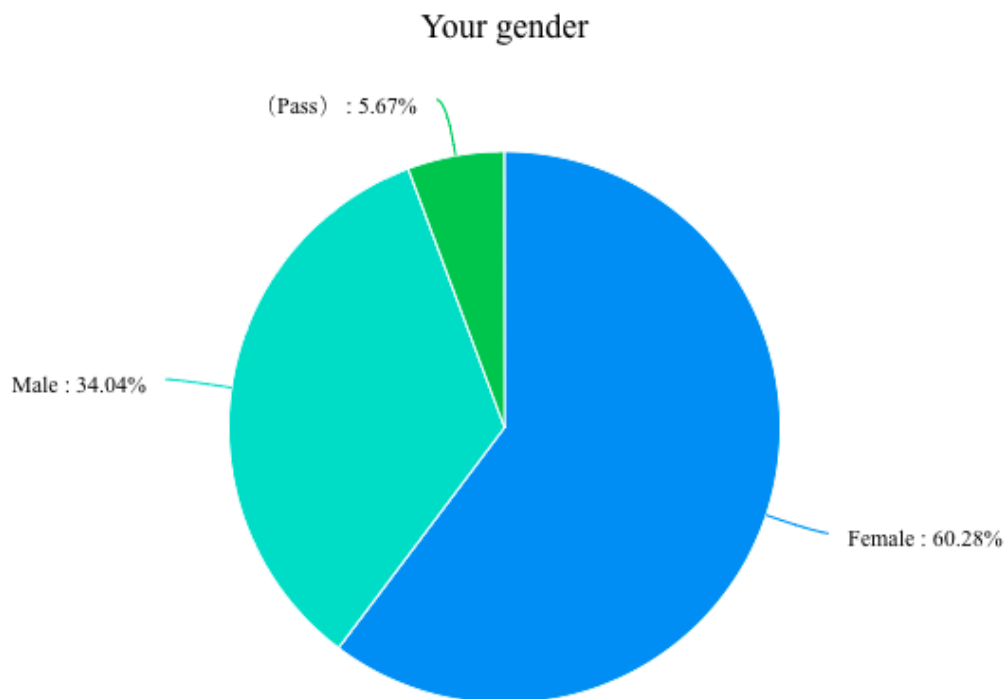


Figure 1. Gender distribution

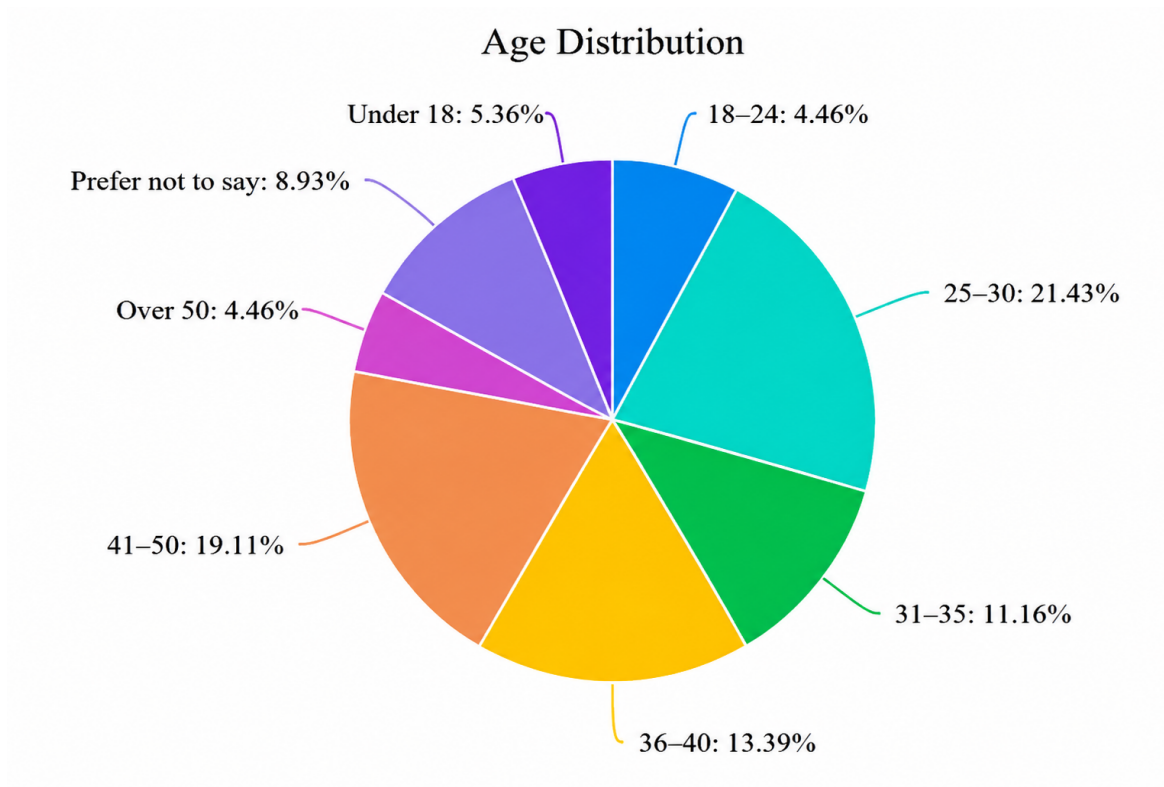


Figure 2. Age distribution

Your frequency of using the subway is approximately

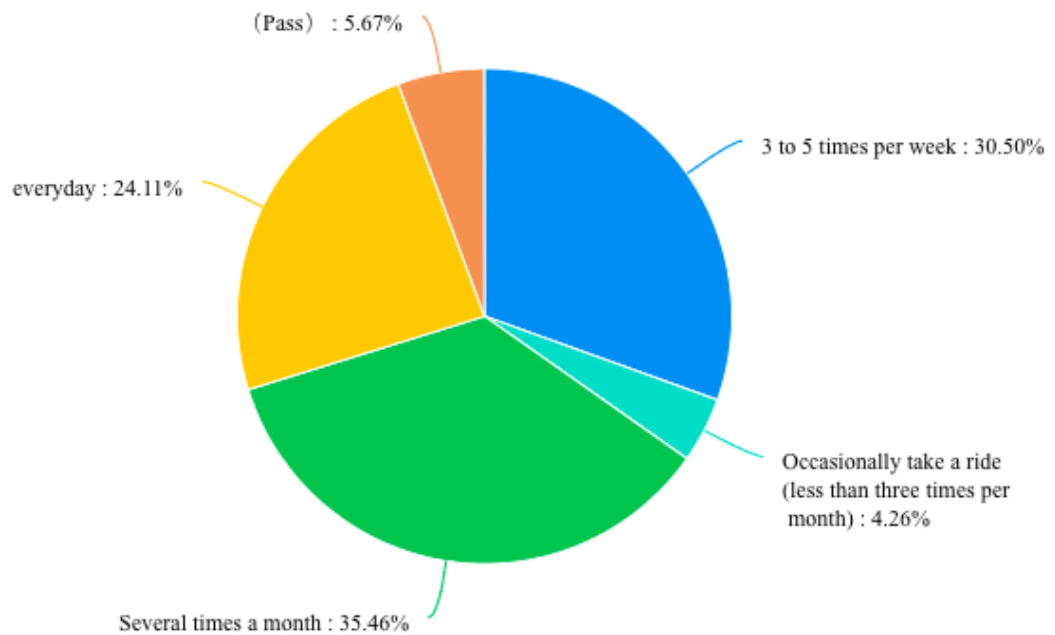


Figure 3. The frequency of using the subway

4.2. Consumption behaviour characteristics

4.2.1. Frequency and amount of consumption

In terms of the frequency of use (Figure 4), 34.04% of the users indicated that they "rarely use" the commercial facilities of the subway. Regarding the monthly consumption amount (Figure 5), 30.50% of the users spent less than 50 yuan. From this, most passengers have low consumption frequency and low consumption amount, with mostly small-scale purchases.

How many times on average do you use or consume in the subway commercial facilities each month?

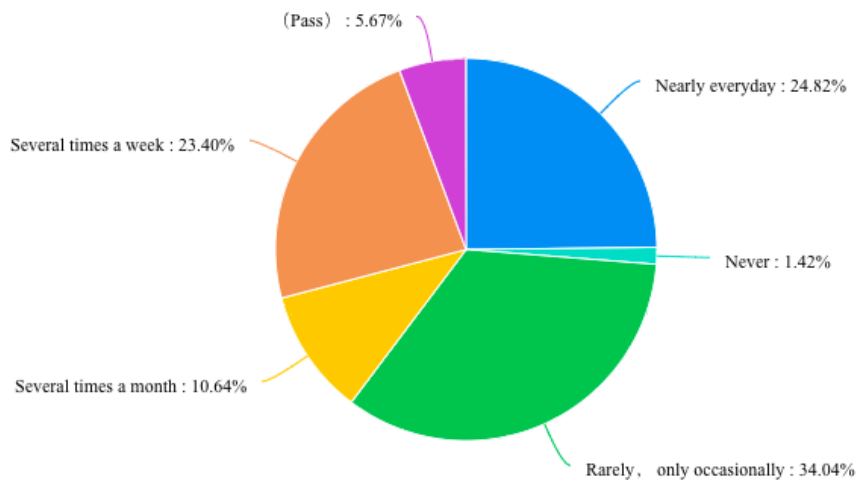


Figure 4. Frequency of using or consuming in the subway commercial facilities each month

What is your approximate monthly spending on the commercial facilities of the subway?

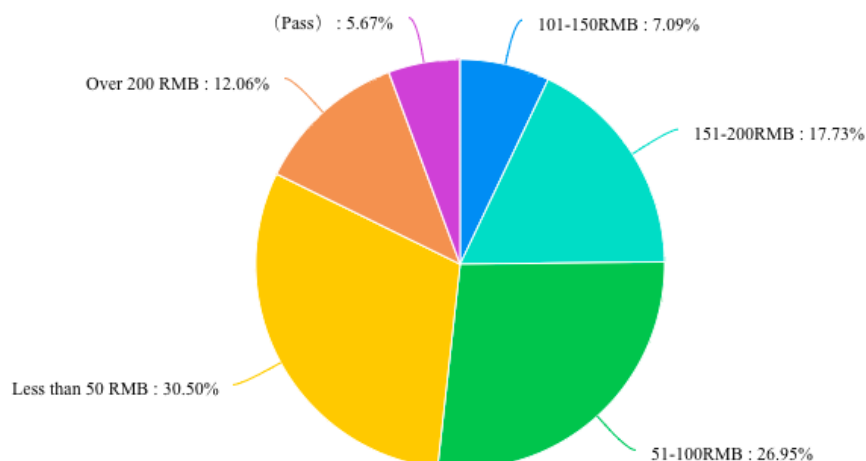


Figure 5. The amount consumed in the subway commercial facilities each month

4.2.2. Preference for consumption categories

Beverages and water constitute the category with the highest purchase frequency, followed by snacks and fast food. Some passengers also mentioned that they would purchase books and cultural products.

4.2.3. Analysis of purchase intention for product types

For the open-ended answer to question 14, "Which types of goods in the subway station would prompt me to make a purchase?", a total of 84 valid responses were collected. Through topic classification and frequency statistics of these responses, the results are as follows. The food category, including breakfast, fast food, snacks, lunch, bread, fast food products, snacks, etc., was mentioned the most, 38 times, accounting for 45.2%. The beverage category, such as water, mineral water, beverages, coffee, milk tea, etc., was mentioned 20 times, accounting for 23.8%. The cultural product category, such as blind boxes, books, cultural products, special cultural products, etc., was mentioned 10 times, accounting for 11.9%. The daily necessities category, such as emergency supplies, small items, food and groceries, etc., was mentioned 6 times, accounting for 7.1%. The "special products and floral gift products" category was mentioned 7 times, accounting for 8.3%. Other categories such as subway cards and decorations were mentioned 2 times, accounting for 2.4%. Special needs such as "all of these", "convenient products", and "discounted products" were mentioned 6 times, accounting for 7.1%.

The most desired goods for passengers at the subway station are food, beverages, and cultural creative products. At the same time, there is a stable demand for special products, floral gifts, and daily necessities. The overall demand shows a situation of "mainly catering needs, supplemented by experiential consumption".

4.3. Satisfaction evaluation

As is shown in the result of the survey, 60.99% of the users consider the vending machines "very convenient" or "extremely convenient", achieving the highest satisfaction rate. 65.25% of the users are satisfied with the convenience stores, but nearly 20% of the users still believe they are not convenient enough. The satisfaction rate for restaurants is the lowest, with only 54.61% of people considering them convenient. Additionally, a large proportion of people think the pop-up stores are unattractive or not as attractive as expected, with 46.1% holding this view. These data reflect the passengers' high recognition of immediate convenience commercial facilities, but the acceptance of the new type of experiential stores like pop-up stores is still not very high.

4.4. Cross-analysis

4.4.1. Age and riding frequency

From the data, the group with the highest frequency of taking the subway is those under 18 years old and those aged between 18 and 25. According to the result, among people aged 18–25, 58.33% rode the subway 3–5 times per week, which was much higher than the average (30.50%). Among those under 18, 43.75% rode 3–5 times per week, also higher than the average. The group with a relatively high frequency of taking the subway was those over 51 years old. For those aged 51–60, 66.67% "took the subway several times per month", which was higher than the average (35.46%). Among those over 60, 57.14% "took the subway several times per month", also higher than the average. The

groups that take the subway almost every day are those under 18 years old and those aged 31–40. Among those under 18, 50% "take the subway every day", which is higher than the average (24.11%). Among those aged 31–40, 37.50% "take the subway every day", which is also higher than the average.

4.4.2. Age and consumption frequency

Inferring from the acquired data, the middle-aged group aged 41 to 60 has the strongest purchasing power among the passengers. Among them, 36.00% of the passengers aged 41 to 50 have a monthly consumption ranging from 151 to 200 yuan, 25.93% of the passengers aged 51 to 60 have a monthly consumption of 151 to 200 yuan, and another 25.93% have a monthly consumption exceeding 200 yuan, which is significantly higher than the average level of each age group. The elderly over 60 and students under 18 have a medium level of consumption. Among the people aged 60 and above, 85.71% have a monthly consumption ranging from 51 to 100 yuan, and among the people under 18, 50.00% also fall within this range. In contrast, the monthly consumption of young people aged 18 to 30 is generally low. Among those aged 18 to 25, 41.67% have a monthly consumption below 50 yuan, and among those aged 26 to 30, 43.33% have a monthly consumption below 50 yuan.

5. Discussion

5.1. What do passengers want

In the primary research, the conclusion was reached that the core demands of passengers for subway commercial services are concentrated on immediacy, convenience and diversity, just as Zhang et al. pointed out that "passengers need commercial services that can meet the requirements of 'immediacy' and 'diversity', and the existing facilities fail to fully meet these needs" [4]. Chen and Okken proposed that modern passengers not only pursue convenience, but also desire "experience" and "scarcity" [12], which is in line with the passengers' demands for cultural products in the questionnaire. Shi et al. confirmed through quantitative analysis that the richness of commercial types is positively correlated with passenger attractiveness, further supporting the importance of diverse demands [13].

5.2. Can the current subway commercial services in Beijing meet passengers' needs

The current subway commercial facilities in Beijing are mainly vending machines and convenience stores, with a relatively simple business model [3]. The data in the questionnaire also confirms this: 34.04% of passengers "rarely use" commercial facilities, 30.50% have monthly consumption below 50 yuan, and the overall consumption rate is relatively low. Although the satisfaction with vending machines is relatively high, reaching 60.99%, the satisfaction with subway restaurants is only 54.61%, and nearly 20% of users consider convenience stores inconvenient. These pieces of information all indicate that the existing facilities cannot fully meet passengers' expectations for quality, speed and diversity.

The survey in the literature found that the existing services failed to meet the immediate needs of commuters and the consumption experience urgently needed improvement [4]. Liao pointed out that the commercial layout is scattered and the business types are highly homogeneous [3]. It can be seen from both the questionnaire data and the existing research that the current subway commercial

services in Beijing have not fully released the consumption potential of passengers and there is a significant gap between them and the real needs of passengers.

5.3. How can the development of subway commercial services in Beijing be improved

Among all types of goods, passengers have the highest demand for food and beverages, and more breakfast, coffee, light food and other instant consumption points should be added, especially in the morning and evening rush hours. The "new retail" model proposed by Zhang et al., such as online ordering and on-site self-pickup, can further improve efficiency [4].

For the interest of the 18–30 age group in cultural and creative products, fast fashion stores, theme cultural product counters or IP joint activities can be added. Jiang's research shows that fast fashion stores can effectively attract young passengers, with an average daily passenger flow of 8,000 people in Beijing on Harry Potter Day, and sales are 30% higher than fixed stores [11]. This is consistent with the "experience" and "scarcity" strategy emphasised by Chen and Okken [12].

For the high-consumption group of 51 and above, specialty products or healthy food zones can be set up in the stations; for the potential customer group of 26–30 years old, membership points and package discounts can be used to increase the average order value.

Reference can also be made to the model of Shibuya Station in Tokyo, integrating commercial space with passenger flow lines to form an underground commercial network. Zhang et al. also pointed out that Beijing can draw on Japanese experience and, through policy guidance, achieve "railway + property" comprehensive development to enhance commercial vitality [4]. The "time segmentation" model is suitable for transfer hubs in Beijing (such as Guomao, Xizhimen, and Songjiazhuang) — these stations, located near large commercial and office areas, have significant differences in passenger stay times. There are commuters who prefer to "buy and go immediately" and consumers who are willing to make a short stop. The idea of having both check-in and check-out counters in the same location within Tokyo subway stations is also worth learning from, as it can serve both incoming and outgoing passenger flows simultaneously.

The subway stations in Chengdu can also provide some assistance to the development of Beijing's subway system. Both have similarities. Beijing's station types include rich hub stations like Guomao and Xizhimen, while Chengdu's "urban core stations" are similar; residential area stations like Tiantongyuan and Huilongguan are similar to Chengdu's "community-type stations"; and a large number of general stations fall between the two. Therefore, the classification method in Chengdu can be directly applied to Beijing, providing different commercial plans for different types of stations, and better meeting the needs of passengers.

5.4. Are the above improvement measures feasible

Firstly, the 2025 "Reform and Boost Consumption Action Plan" of the Beijing Municipal Government clearly proposed to strengthen the integrated design of stations and cities, and encourage the introduction of diversified business models such as "sports+", "parent-child+", and "culture+" [2]. This provides policy support for the above measures. The shift from "control" to "guidance" in attitude has reduced the institutional resistance to commercial innovation.

Pop-up stores have been piloted in subway stations in Chaoyang District, attracting an average of 8,000 people per day, with sales higher by 30% compared to fixed stores, proving the actual effectiveness of experiential business models. Chengdu's subway station adopts the "new retail" concept, introducing online reservations and on-site pick-up services, effectively improving the consumption conversion during commuting hours [14]. Tokyo's Shibuya station, through the TOD

model, achieves an average daily passenger flow of 3 million people, with annual underground commercial sales exceeding 200 billion yen [15], demonstrating the great potential of station-city integration.

In conclusion, the improvement measures are supported by policies and are also backed by successful cases from both domestic and international sources, making them highly feasible and having significant reference value for the commercial development of Beijing's subway.

6. Conclusion

This study aims to comprehensively analyse the influencing factors of underground commercial development at Beijing's rail transit stations from the perspectives of passengers, policies, and merchants. Through literature review, policy analysis, international case comparison, and questionnaire survey, the study reveals a significant gap between passengers' expectations and the existing commercial supply. The key findings are as follows: passengers have strong demands for immediate, convenient and diverse services, which is also the main issue that future subway commercial facilities need to address. Policy analysis indicates that Beijing's "Deep Reform to Promote Consumption" action plan in 2025 clearly encourages diversified business models and station-city integration, providing a favourable policy environment for commercial innovation. Based on this, the research has proposed several improvement suggestions to build an underground commercial network by drawing on the models of Tokyo and Chengdu. These suggestions have both empirical basis, policy support and successful case verification, and have high feasibility.

Future research should expand the geographical and age diversity of the sample, incorporate first-hand interviews with merchants and policymakers, and conduct longitudinal studies to track the evolution of commercial spaces and the impact of new technologies. This will provide more profound insights for the construction of a more dynamic, passenger-centred and sustainable metro commercial system.

References

- [1] Beijing Municipal Government. (2015). *Beijing urban rail transit operation safety regulations*. Bjrd.gov.cn. https://www.bjrd.gov.cn/rdzt/dfxfzgk/dfxfzg/202101/t20210106_2200193.html
- [2] Beijing Municipal Government. (2025). *Notice of the Beijing Municipal People's Government on issuing the 'Action Plan for Deepening Reform and Boosting Consumption in Beijing'*. Beijing.gov.cn. https://www.beijing.gov.cn/zhengce/zfwj/zfwj2016/szfwj/202507/t20250710_4145972.html
- [3] Liao, Y. (2019). *Research and planning on the current commercial situation of Beijing metro stations* (Master's thesis). <https://doi.org/10.27266/d.cnki.gqhau.2019.000722>
- [4] Zhang, Y., Wu, Y., Deng, J., & Hao, B. (2023). Research on Beijing subway's convenience services and new retail development model. *Quality and Service, 2023 China Urban Transportation Planning Annual Conference*, 1130–1138.
- [5] Wang, D. (2021). *Research on the selection of commercial business models in urban rail transit stations* (Master's thesis). <https://doi.org/10.26944/d.cnki.gbfju.2020.002758>
- [6] Anbo, Y. (2025). The redevelopment of 'wide Tokyo station', which has expanded its scope to include Nihonbashi, has entered its third phase. *sinyijapan.com*. <https://www.sinyijapan.com/hk/news/express/newa003267>
- [7] Bureau, V. (2025). Tokyo GRANSTA. *GO TOKYO*. <https://www.gotokyo.org/cn/spot/834/index.html?PageSpeed=noscript>
- [8] Chengdu Rail Group. (2016). First office project of Chengdu Rail TOD officially launched! New scenarios added to the '15-minute rail life circle'. <https://www.chengdurail.com/info/1151/121104.htm>
- [9] Chinatod.com.cn. (2025). The four-level planning of Chengdu rail transit stations: City-level, district-level, cluster-level, and general stations. https://www.chinatod.com.cn/2019/hyNews_0217/164.html
- [10] Scol.com.cn. (2026). Chengdu Metro TOD development overview. <https://www.scol.com.cn>

- [11] Jiang, Y. (2025). The trendy pop-up event is amazing: The commercial innovation and upgrade of Beijing subway. doi:10.38304/n.cnki.nzgsb.2025.000996.
- [12] Chen, C., & Okken, G. (2020). The rise of pop-up retail: Investigating the success of experiential design within pop-up stores. *UF Journal of Undergraduate Research*, 22(1). doi: <https://doi.org/10.32473/ufjur.v22i0.121827>.
- [13] Shi, N., Li, Y., Hu, L., Zhu, Q., Dong, P., Wen, B., Zhang, S., & Xie, J. (2019). Research on the relationship between the quantity and type of commercial facilities around metro stations and passenger flow: A case study of Beijing Metro Line 4 – Daxing Line. In *2019 China Urban Planning Annual Conference Proceedings (06 Urban Traffic Planning)*. School of Geography Sciences, Beijing Normal University. doi: 10.26914/c.cnkihy.2019.003365.
- [14] Pei, J., Bai, S., & Yang, L. (2025). Beijing subway passenger flow data released, Line 10 has the highest throughput rate. *Baidu.com*. <https://baijiahao.baidu.com/s?id=1830106016188731953>.
- [15] Ye, Y., Yang, Y., & Huang, Q. (2023). Identifying and examining the role of pop-up store design: A mixed-methods study. *Journal of Retailing and Consumer Services*, 75, p.103503. doi: <https://doi.org/10.1016/j.jretconser.2023.103503>.