

# Statistical Analysis and Research on the 15-Minute Convenient Living Circle in Yanta District

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## **Abstract:**

Building a 15-Minute Convenient Living Circle is a vivid practice of implementing a people-centered development philosophy. It holds significant practical importance for meeting residents' daily needs, expanding consumption, driving economic growth, and enhancing urban functionality and quality. To advance the expansion and upgrading of these 15-Minute Convenient Living Circle and create age-friendly, high-quality living environments, this study takes Yanta District as a case. Employing a combination of literature review, field visits, questionnaire surveys, and interviews, it examines the implementation and outcomes of the 15-Minute Convenient Living Circle. Key dimensions explored include commercial format allocation, commercial network layout, community consumption, brand chain rate, digital and intelligent services, planning and management, and resident satisfaction. Quantitative statistical analysis of collected data identifies existing issues and shortcomings in the development of the 15-Minute Convenient Living Circle. Targeted development strategies and recommendations are proposed to promote future planning, optimize layout, and improve business formats within the circles. These measures aim to enhance services for the elderly and children, elevate digital and intelligent levels, strengthen chain rate, and improve collaborative governance capabilities, thereby driving the high-quality development of commerce and trade in Yanta District.

**Keywords:** 15-Minute Convenient Living Circle, community commerce, commercial format allocation, digital and intelligent services

## 1. Research Background

The 15-Minute Convenient Living Circle is a community commercial district designed to serve local residents within a 15-minute walking radius. It aims to meet residents' basic daily consumption needs and quality consumption demands through the clustering of diverse business formats. Building these circles is a crucial measure for safeguarding people's livelihoods, expanding consumption, and facilitating the circulation of the national economy. Accelerating the construction of 15-Minute Convenient Living Circle can enable more residents to enjoy high-quality community life.

The national government places high importance on developing these 15-Minute Convenient Living Circle. Since 2021, the Ministry of Commerce, in collaboration with relevant departments, has successively issued policies such as the Guidelines for Building 15-Minute Convenient Living Circle in Cities and the Three-Year Action Plan for Comprehensively Promoting the Construction of 15-Minute Convenient Living Circle in Cities (2023–2025). These documents outline an implementation path of “piloting first, leading with exemplars, and gradually expanding,” driving continuous progress in establishing these circles. By July 2025, 210 pilot regions nationwide had cumulatively established 6,255 convenient living circles, having 1.503 million commercial outlets and serving approximately 129 million residents. In September 2025, the Ministry of Commerce and eight other departments jointly issued the “Notice on Intensifying Efforts to Expand and Upgrade the Construction of Urban 15-Minute Convenient Living Circles,” proposing to achieve the “100 Cities, 10,000 Circles” goal by 2030. That is, 100 pilot cities will be identified in the whole area. 10,000 15-Minute Convenient Living Circles will be established characterized by rational layout, comprehensive business formats, complete functions, high-quality services, digital and intelligent efficiency, and standardized order.

As a typical area in Xi'an city Shaanxi province characterized by developed commerce, dense population, and solid community foundations, Yanta District is recognized as the first “National Community Commerce Demonstration Zone” in western China as early as 2013. Since 2021, Yanta District has actively responded to national directives, systematically advancing the construction of 15-minute convenient living circles. By strengthening top-level design and coordinating pilot implementation, it has successfully established 18 high-quality 15-Minute Convenient Living Circles, ranking among the top in the city. Two of these circles were selected as national exemplary models. Through continuous development, residents now enjoy greater convenience, richer variety of commercial services, enhanced digital and intelligent level, and increased community economic vitality.

## 2. Research Content and Methods

To gain an in-depth understanding of the current status and existing issues in the development of the 15-Minute Convenient Living Circle in Yanta District, this study employed a combined research methodology of literature review, field visits, questionnaire surveys, and in-depth interviews. The research systematically examined key dimensions including commercial format allocation, commercial network layout, and community consumption, brand chain rate, digital and intelligent services, planning and management, and resident satisfaction within the circles. Quantitative statistical analysis was conducted on the collected data. A total of 200 questionnaires were distributed, with 195 valid responses collected, achieving a 97% valid response rate. Field visits were conducted in 10 convenient living circles, 8 participants was interviewed.

Among the valid samples, the age distribution of respondents was as follows: 2.05% were under 18 years old, 27.69% were aged 19-30, 56.41% were aged 31-50, 9.74% were aged 51-65, and 4.1% were aged 66 and above. The construction years of the surveyed communities were distributed as follows: 1.54% were built in 1990 or earlier, 1991-2000: 10.77%, 2001-2015: 26.15%, 2016 and later: 61.54%. The sample structure indicates the survey covered communities across different age groups and construction eras, demonstrating reasonable representativeness.

## 3. Development Status of the 15-Minute Convenient Living Circle

According to this survey data, the development of the 15-Minute Convenient Living Circles in Yanta District has achieved significant results in commercial format allocation, commercial network layout, and consumer convenience. However, there is room for further improvement in areas such as branding and service enhancement.

### 3.1 Commercial Format Allocation

Survey data indicates that the coverage rates for basic necessities and quality-improvement formats within the 15-Minute Convenient Living Circle are generally high. The commercial supply structure is relatively well-developed, capable of meeting residents' multi-tiered consumption needs. Essential services form a solid foundation. Breakfast shops (91.28%), supermarkets (89.23%), courier services (88.21%), laundromats/sewing shops (86.15%), convenient stores (85.64%), photo/printing services (85.64%), vegetable markets (84.10%), Vegetable and fresh food store (84.10%), beauty salons (84.62%), restaurants (83.08%), pharmacies/clinics (82.56%), and other formats catering to high-frequency, essential daily consumption all exceed 80% coverage. This indicates that

the core living needs of residents are effectively guaranteed. Repair services (72.82%), housekeeping services (72.82%), recyclable resource collection (70.77%), and hardware/tools (69.23%) showed relatively lower coverage rates, indicating potential areas for future improvement and strengthening. Quality-improvement formats developed rapidly. Coverage rates for childcare centers (85.13%), cake bakeries (83.59%), hotel accommodations (83.08%), and foot massage/wellness services (81.03%) have coverage rates exceeding 80%. Fitness centers

(78.97%), training/education services (78.97%), flower/gift shops (77.95%), tea/coffee/bars (75.90%), and bathhouses (75.38%) have exceeded 75% coverage, indicating a positive shift in community commerce from meeting basic needs to enhancing quality of life. However, there is still considerable room for improvement in the coverage rate of cultural services and care for specific groups, such as bookstores (51.79%), community canteens (67.69%), and elderly care (68.21%).

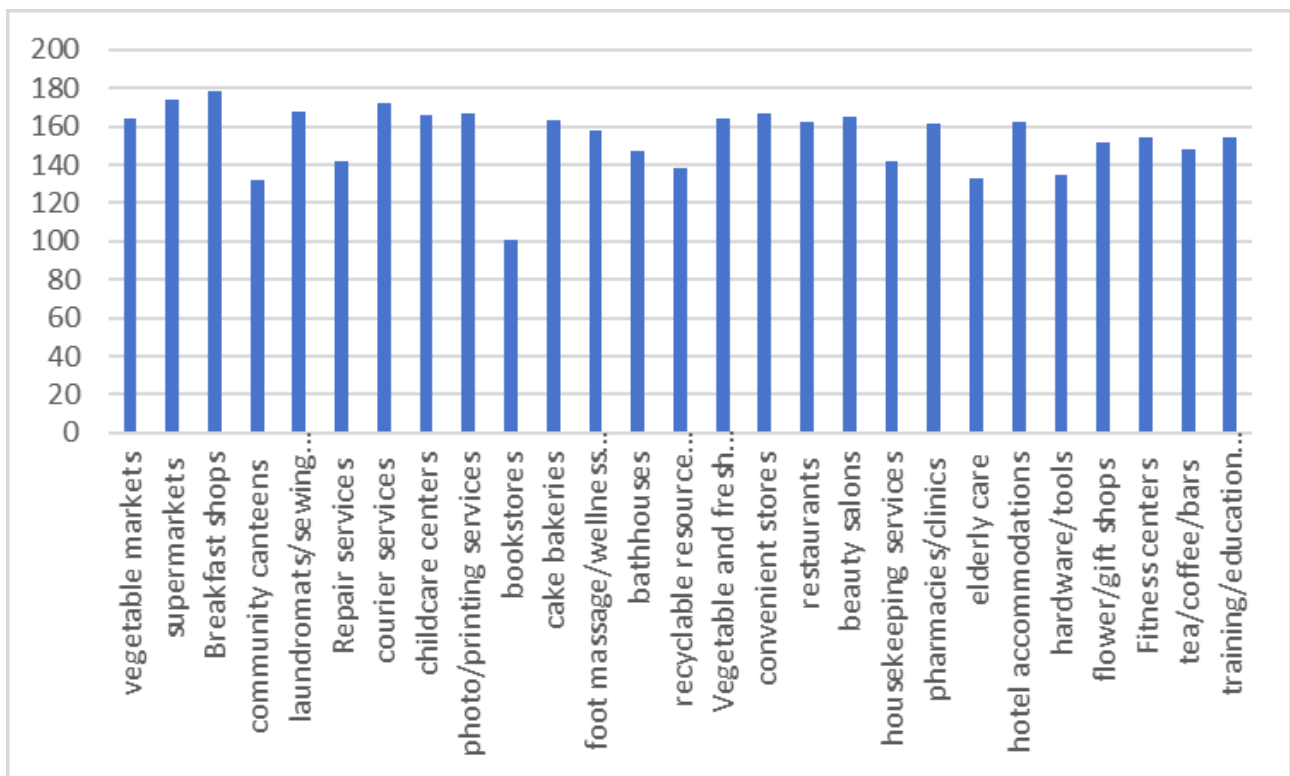


Fig.1 Community Commercial Format Allocation

### 3.2 Commercial Network Layout

Community commerce has seen a marked increase in concentration. Relatively clustered street-front shops (79.49%) and community convenient service centers (73.85%) are the predominant commercial formats, indicating that street-front businesses and community-supporting commercial facilities currently form the core supply. Community shopping centers (55.9%) play a vital role, while dispersed layouts (29.74%) serve as effective supplements, collectively forming a well-structured, accessible commercial network.

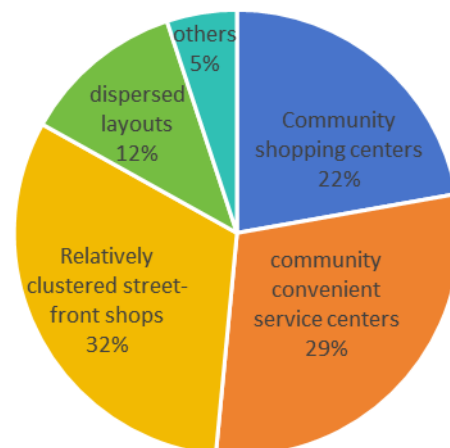


Fig.2 Commercial Network layout

### 3.3 Community Consumption

The community business enjoys a high recognition rate and has distinct characteristics of local consumption. Regarding daily consumer goods expenditure (excluding clothing, furniture, appliances, and other durable goods), 67.18% of residents reported purchasing over 80% of daily necessities within their community, while an additional 22.05% spent between 51% and 80% locally. Combined, these figures reach 89.23%, which fully demonstrates that the 15-Minute Convenient Living Circle has become the core area for residents' daily consumption, effectively carrying and meeting the vast majority's daily life needs.

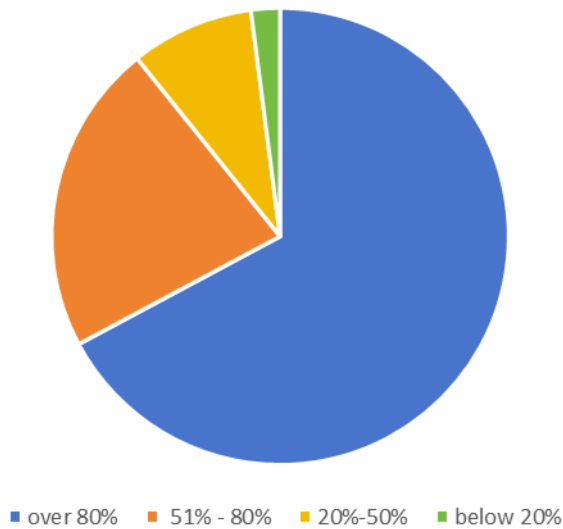


Fig.3 Community Consumption

### 3.4 Brand Chain Development and Digital-Intelligent Services

Brand chain operation needs to be strengthened. Nearly half (49.23%) of the participants believe that the proportion of brand chain stores around the community is less than 50%, indicating that there is still potential for improvement in the branding, standardization and normalization of commercial entities. It is an important means to optimize commercial quality and enhance consumers' trust in the future. Digital and intelligent services are widely applied but can be further enhanced. The degree of intelligence in the payment process is extremely high (scanning code/facial recognition payment reaches 94.36%), and the coverage rate of online consumption (77.95%) and smart express lockers (79.49%) is also relatively high, demonstrating a solid foundation for digital services. Strengthening the construction of community smart service platforms and expanding smart application such as intelligent cold storage cabinets and unmanned retail facilities is the focus in the future.

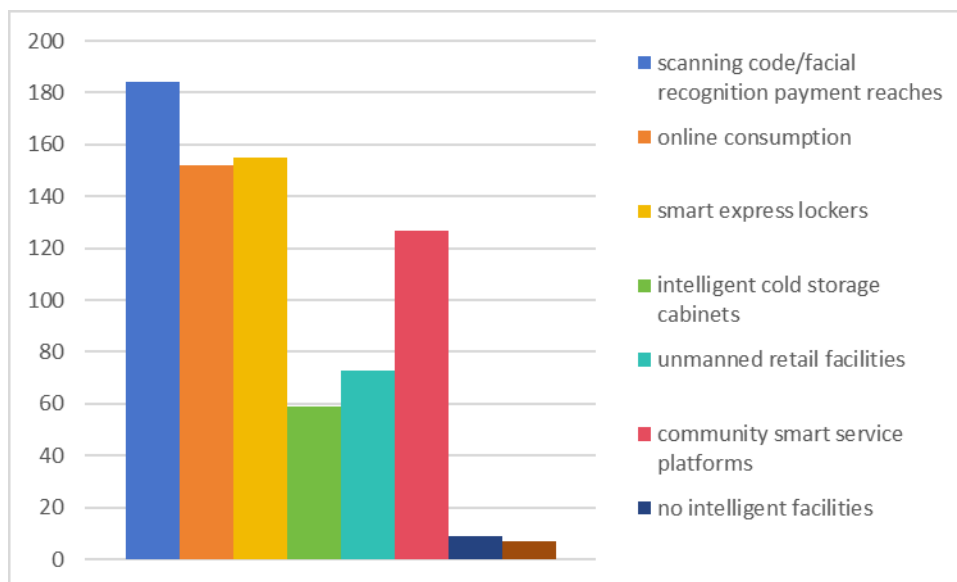


Fig.4 Digital and Intelligent Services

### 3.5 Planning & Management and Service Evaluation

The co-governance mechanism has initially taken shape. Approximately 80% of the communities have unified planning, design and management, and have established community commercial management institutions composed of multiple parties such as the community staffs, property management companies, merchants and resident representatives, providing organizational guarantees for orderly development. Humanistic care has been recognized. As high as 92.82% of the participants recognized the community's allocation of barrier-free facilities or special services, indicating that care measures for groups such as the elderly, children, and the disabled have been implemented relatively well. The overall service satisfaction is improving. The overall satisfaction rate for the community's commercial function and services reached 98%, among which 73% expressed "very satisfied". This indicates that the current construction achievements have been highly recognized by the residents, and at the same time, it points out the direction for continuously optimizing the service experience.

## 4. Existing Issues

Through research and statistical analysis, multiple challenges and areas for improvement were identified in Yanta District's community commerce regarding meeting residents' daily needs. Issues are concentrated in four aspects: consumption experience, commercial format supply, facilities, and service & management.

### 4.1 The core consumption experience needs to be optimized. Residents' sense of gain is not strong.

When purchasing goods or services, residents generally feel that the prices are "high" and the choices are "limited". Research shows that 22.56% of the participants believe that the prices of community goods and services are relatively high, while 18.46% of the participants point out that the service content and product categories of community are relatively few, which cannot meet the increasingly diverse and quality life demands.

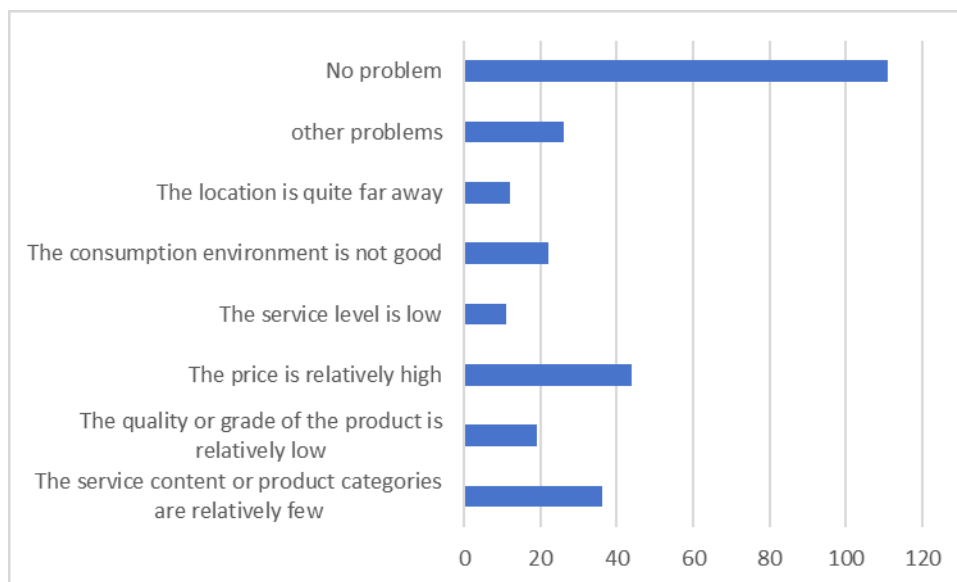
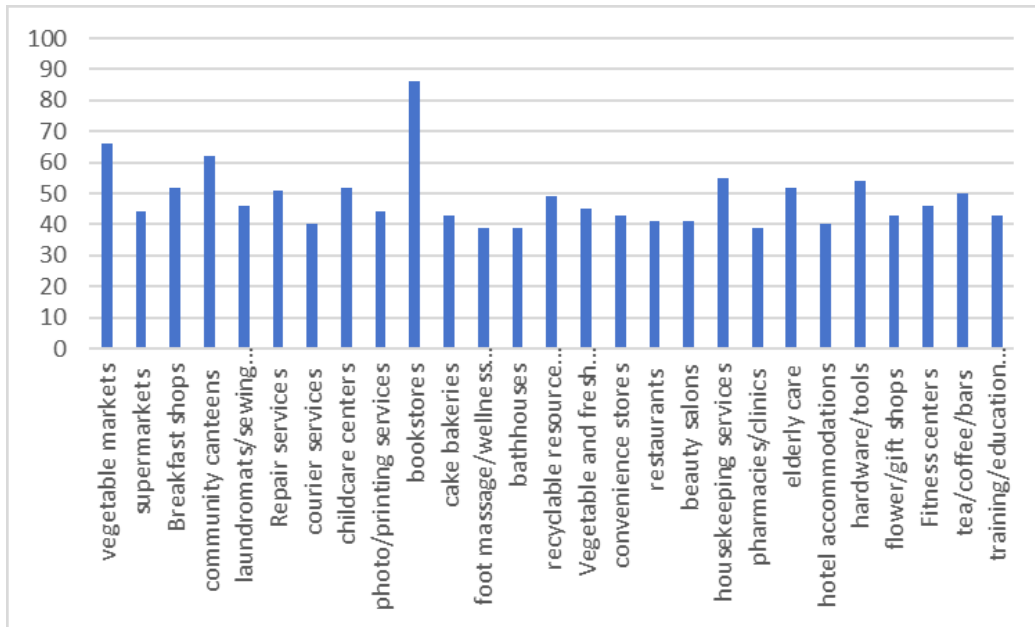


Fig.5 Community Existing Issues

### 4.2 There is a gap in the supply of basic necessities. And the structural shortages are obvious.

The insufficient supply of business formats is a key problem that restricts the development of community commerce. More than 30% of participants explicitly called for completing basic necessities formats while upgrading quality-improvement formats. Specifically, the demand presents a clear hierarchical structure. The top three most urgently needed business formats at present are bookstores (44.1%), vegetable markets (33.85%), and community

canteens (31.79%), reflecting the core people's livelihood demands for spiritual culture, daily fresh products and convenient catering. The key improvement layer: The supplementary demands for business formats such as house-keeping services, elderly care, childcare, breakfast spots, daily repairs, recycling centers, hardware stores, and tea/coffee/bars are highly concentrated.

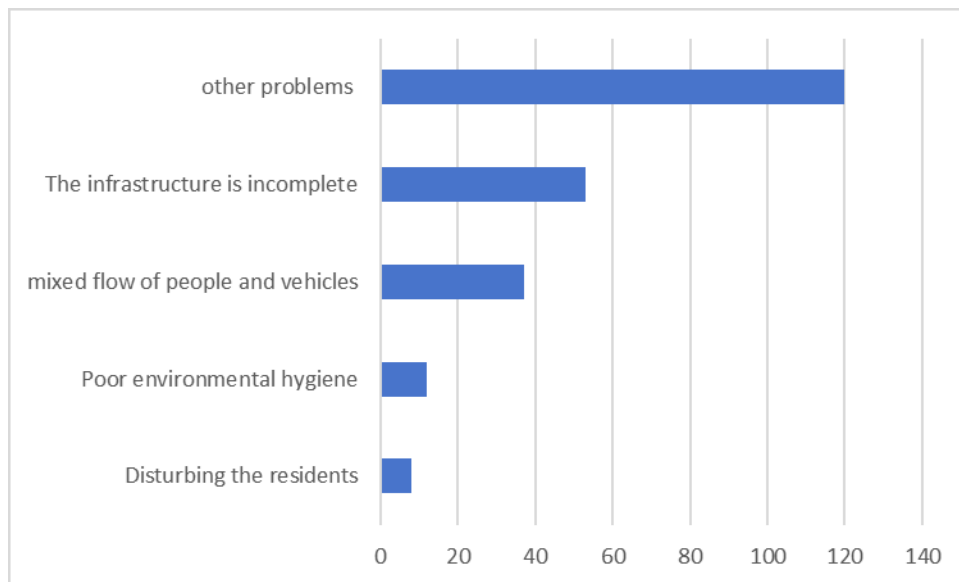


**Fig.6 the Commercial Formats Need to Be Supplemented**

**4.3 The infrastructure of community facilities is weak. The livable and business-friendly environment needs to be improved.**

The hardware and environmental issues around the community directly affect the development of commercial activities and the residents’ experience. The most prominent

issue reflected is the incomplete infrastructure, accounting for as high as 27.18%. Meanwhile, 18.97% of the participants pointed out that the mixed flow of people and vehicles and the chaotic traffic order not only pose safety hazards but also affect the comfort and appeal of the community commercial street.



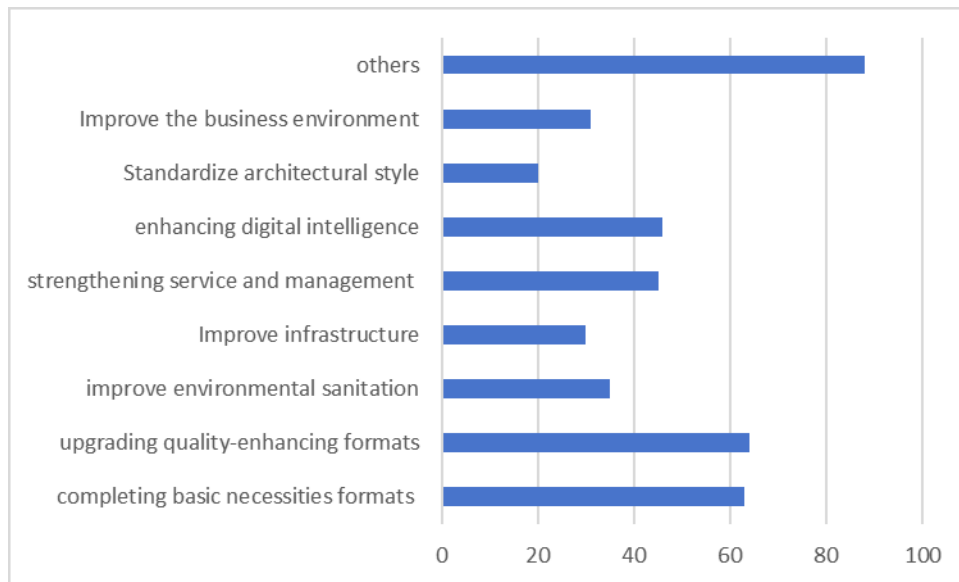
**Fig.7 the Community Hardware and Environmental Issues**

**4.4 . The operation and service capabilities are not strong. The modern governance level of the community lags behind.**

Community commerce suffers from lax management

and low digital intelligence. Over 20% of participants recommended strengthening service & management and enhancing digital intelligence. Additionally, more than 15% suggested improvements to environmental sanitation,

infrastructure maintenance, and the overall business environment. All of this reflects shortcomings of community commercial governance.



**Fig.8 Suggestions for Improvement of Community Commerce**

## 5. Next Steps for Development and Recommendations

5.1 Strengthening planning and coordination, and promoting functional integration. We should put the development of 15-Minute Convenient Living Circles into Yanta District's overall commercial and community development plan and steadily expand the coverage of the circles and services through scientific layout and classified implementation. Promoting the integrated development of 15-Minute Convenient Living Circles with functional circles for elderly care and childcare, shopping services, sports and fitness, cultural leisure, and healthcare and establishing a coordinated advancement mechanism led by the Commerce Department with participation from other departments including Civil Affairs, Housing and Urban-Rural Development, and Health. A full-process coordinated supervision from planning, construction, acceptance to operation and adjustment should be strengthened.

5.2 Optimizing Spatial Layout and Improving Business Format Allocation. Basic necessities and quality-improvement formats should be upgraded. Based on Yanta District's 15-Minute Convenient Living Circles development, we should put more efforts on improving formats such as bookstores, vegetable markets, community canteens, Housekeeping Services, elderly care, childcare, breakfast spots, daily repair shops, hardware stores, and tea/coffee/bars. Additionally, more recycling collection points and car wash services need to be set to meet residents' daily needs. To meet the diverse consumption demands of

residents, brand chain enterprises should be invited and new business forms and models, such as the self-service storage warehouses, consignment stores, and pet services, should be added.

5.3 Focusing on the Elderly and Children to Enhance Quality Services. We should give priority to the elderly and children and promote the interactive development of domestic services and elderly care services. Relying on community commercial centers and streets, a number of "silver-haired golden streets" will be created. Relying on the public space of the community, a socialized room for the elderly will be created. What is more, bookstores, community cinemas, micro-hyperbaric oxygen chambers, physical therapy, rehabilitation centers and other business formats will need to be set up in accordance with local conditions. To promote scientific pricing and market-oriented operation of community canteens. To guide community shopping malls and supermarkets to carry out child-friendly renovations and build facilities for mothers and babies. A number of "children's fun parks" relying on community commercial centers and streets need to build. And children's bookstores, IP parks, childcare and after-school care services, parent-child restaurants, youth sports centers need to be added.

5.4 Enhancing digital intelligence to build smart communities. We should develop smart stores, AI canteens, self-service vending machines, parcel lockers, and unmanned digital terminals through the application of advanced technologies like big data, artificial intelligence. 15-Minute Convenient Living Circles smart service plat-

form needs to be built to connect local merchant resources and enhance the interaction between online and offline. We also need to expand intelligent application scenarios such as smart refrigerated cabinets and unmanned retail facilities. Using big data to accurately supplement community commercial outlets, promote convenient life circle guide map, network dynamic monitoring map, and “small repair” convenience map, so that residents’ lives will be more convenient and intelligent.

5.5 Improving co-governance mechanisms to create harmonious living environments. Diverse community governance mechanisms should be established, and content such as infrastructure maintenance and environmental order should be included in community conventions. “People-car diversion” measures should be promoted. We should encourage merchants to establish community business associations for integrating merchant resources, standardizing business and service behaviors in order to create a harmonious environment. At the same time, professional operators should be introduced to carry out unified planning, investment promotion, operation and management of community commerce. In addition, we should make full use of various news media to guide more communities and enterprises to participate in the construction of the 15-Minute Convenient Living Circles actively, and turn the 15-Minute Convenient Living Circles into a “happiness circle at the doorstep” for all community residents.

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