

Paths and Countermeasures for Building New Consumption Scenarios in Park Cities under the Background of Digital Economy: A Case Study of Chengdu Park City Demonstration Zone Construction

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Abstract: Deep Integration of the Digital Economy and the Park City Concept is Altering the Basic Logic of Urban Consumption Areas. Chengdu Park City Demonstration Zone is the research object, and based on this, Scene Theory and consumer economics will be used to study how the digital economy promotes the formation of new consumption scenarios in Park Cities from within. Based on the above results, Chengdu has begun to build an actual system for "scene-oriented city construction" and has established many consumption structures, such as the greenway economy, smart business districts and cultural-tourism integration. There are still problems with the uniformity of the scenarios, instability in operation and superficial application of digital technology. Therefore, this paper puts forward the four-in-one construction path of "technology foundation, scenario innovation, ecological synergy and institutional guarantee", and based on the dimensions of cross-sector collaboration, market-oriented operation, differentiated positioning and digital infrastructure construction, provides countermeasures and suggestions that can be replicated and extended by other cities.

Keywords: Digital Economy, Park City, New Consumption Scenarios, Scene-oriented City Construction, Chengdu Application

Introduction

With the rapid development and wide application of the digital economy, new ways of reorganising the world's factor endowments have emerged; thus, the global economic structure is changing, and competition among countries has become increasingly fierce. As an urban expression of the new development idea, the Park City concept is based on the integration of ecological, cultural and economic values. With the development of the digital economy, Park City is now a space carrier that has expanded the scope of consumption beyond commercial activities; at the same time, it has also been used as a "testbed" for digital technology to incubate new models and explore new forms of business.

In August 2021, Chengdu took the lead in the country to issue the Guidelines for the Construction of Consumption Scenarios in Park Cities (Trial) (hereinafter referred to as the Guidelines), and it was the first policy document in China to specifically address the construction of consumption scenarios. The Guidelines put forward a two-way logic of using demand to drive supply and supply to create demand, raising consumption from the level of products to the level of industries. By 2024, Chengdu had constructed 4,408 km of Tianfu Greenways across the city, added 38.85 million square metres of green space, and used the resources of the greenways to organise many activities such as marathons, cycling races and music festivals; thus, the greenway economy had become a new driver of consumption. Most of the research so far has focused on only one part of the digital economy or Park Cities, and there is no system of theory and evidence to establish consumption scenarios at their intersection. How is the digital economy driving the creation of new consumption scenarios in Park Cities? What is the main reason? What structure problem does it have? And how can we build a long-term construction path? The main problems are very serious now and must be addressed.

The first application of the idea of "Scene" to the study of urban social space was made by the Chicago School, and later, scholars such as Terry Clark developed "Scene Theory" to propose that

consumption is not only a material exchange but also a way to construct cultural identity and experience emotions. In the era of the digital economy, the concept of a scene has changed significantly; it is no longer a fixed place in the real world but a new type of creation and life that is powered by digital technology and shows frontier innovation and disruptiveness. According to the theory of scenes, the four dimensions of analysis in this paper are "technology-scenario-ecology" and "institution". The technology dimension provides the foundation for the digital infrastructure of consumption; the scenario dimension is a new type of consumption space; the ecology dimension is the coordination of all parties; and the institution dimension deals with policy supply and governance. The four factors are in agreement and will work together to provide all the reasons for building new consumption scenarios in Park Cities.

1. Practical Landscape of Consumption Scenario Construction in Chengdu's Park Cities

1.1 From "Scene-Oriented City Building" to the Top-Level Design of Consumption Guidelines

The start of Chengdu's application is the advantage of concepts. In 2019, Chengdu put forward a plan to build an international consumption centre city and established eight main consumption scenarios that meet the needs of the people for a good life. The 2021 Guidelines for the Construction of Consumption Scenarios in Park Cities have put forward the development models of the eight scenarios. The "Landmark Business District Trendy Shopping Scenario" is a typical case, and according to the Guidelines, it has a number of "latest and trendiest" attributes. Therefore, there is a demand for the further development of fashion consumption, and new business models such as the first-store economy, creative experiences, new-species experiences, trendy blind boxes and AI personalisation need to be introduced. At the same time, "Characteristic Block Elegant Gathering Scenario" is also inspired by the idea of "urban memory" and has introduced functions such as local cultural experiences, local brand incubation, new models of creative cultural artifacts and cross-border IP cooperation.

The general idea of the Guidelines is to "create demand by increasing supply" and not to wait and see what people want before offering it. The four general goals for building consumption scenarios put forward in the Guidelines are to create an attractive environment for a good life, build beautiful areas in Park Cities, establish lively areas for high-quality brands, and create a birthplace for new consumption.

1.2 The Spatial Carrier of the Greenway Economy and Park Consumption

The Spatial Carrier for consumption in Chengdu's Park City is a "whole-area parks plus node consumption" model. Since 2017, with the construction of 4,408 km of Tianfu Greenways, all parts of the area have been connected, and various sections such as forest parks, sports parks, children's parks and characteristic towns have formed a whole-area park system that connects the local landscapes of mountains and water, suburban park clusters and urban greening networks in an orderly manner.

At some nodes, the construction of consumption scenarios has the following three types:

First, the sports-event-driven economy type. Many foreign marathon competitions, international cycling enthusiast fitness festivals, other kinds of foreign hiking events and orienteering races have been organised in the Tianfu Greenways to offer people a combination of sports and consumption. Many festivals have been organised since 2018, such as the Strawberry Music Festival and AYO!. Music festivals have been organised, and a new form of consumption called "traveling to experience events" has emerged.

Second, the culture-tourism combined type. The Night Tour of the Jinjiang River has added light and sound shows, boat rides, intangible cultural heritage activities, and other things to provide tourists with a rich cultural experience of the city. Kuanzhai Alley and Vanwood Flying International Cultural and Creative Park are typical cases of the new consumption model known as "park + culture and creativity". Vanwood Flying has set up many areas, such as an art oil painting corridor and a Fandeng Bookstore, and has become a new cultural consumption area for young people.

Thirdly, the technology-driven kind. Chengdu has begun to build 5G smart greenways based on digitalization, has achieved 5G network coverage in some areas of the greenways, and has set up unmanned supermarkets, intelligent sports facilities and other such systems in major city parks and greenway nodes. In accordance with the plan of Tianfu Mushan Digital New City, Xinjin District has been building a 6-square-kilometre "TOD+5G" Park City future community, established the intelligent industry innovation agglomeration core of Xinjin Station, and created the "3E" Park City scene

immersion axis. Some well-known companies in the digital economy have already been added, such as Glodon CIM+ and 51World Digital Twin Research Institute.

1.3 Institutional Innovation: From Government-Led to Multi-governance

Chengdu has also introduced the model of "government sets the stage, enterprises raise problems and enterprises provide solutions", which is the same as what Beijing has used in the construction of new consumption scenarios. In July 2022, the Chengdu New Economy Development Commission organised a matchmaking meeting on "providing policies, scenarios, financing and spaces" for the digital economy empowerment of new consumption, released the List of Opportunities for Digital Economy Empowerment of New Consumption, and added a total of 126 opportunity items to help effectively align projects, scenarios, technologies and demands; among these, there were 81 demand items and 45 supply items. The Chengdu New Consumption Industry Ecosystem Alliance, in coordination with platform enterprises, new consumption enterprises and new economy enterprises, led the way to issue the Initiative for Joint Participation in the Construction of Urban New Consumption Scenarios and established a governance model of multi-stakeholder cooperation among the government, enterprises and industry associations.

2. The Internal Mechanism of Digital Economy Empowerment for New Consumption Scenarios

2.1 Technology-Driven: From "Connection" to "Reconstruction"

Empowerment of consumption scenarios by the digital economy is not merely the application of technology; it is also an organised change in consumption factors. The three forms are as follows:

First, the intelligence of the perception stage. Artificial intelligence operation and maintenance technology (such as security patrols and intelligent irrigation robots) and AR interactive experience technology can be employed to make the parks "smart" and more interesting for people to see and experience. Longgang District in Shenzhen is one of the top areas in China for the application of artificial intelligence in operation and maintenance, and Hongmeng Smart Link has developed intelligent navigation and other technologies at Dayun Park to provide application cases for local technology enterprises.

Second, the Datafication of the Decision-Making Layer. The Foundation of building a consumption scenario is a good match between supply and demand. The List of Opportunities for Digital Economy Empowerment of New Consumption published by Chengdu is a typical case of data-driven supply and demand matching. With the help of digital management, digital marketing and other means, we can observe changes in people's consumption patterns.

Thirdly, there is no level of experience. VR/AR, digital twins, MR, etc., are changing how people buy goods now. China's first MR project is called "Illusory Xuanwu" and it is located in the Nanjing Xuanwu Lake Scenic Area; another well-known case of technology-driven experience enhancement is the immersive "Steel World" built with CAVE projection in the Meigang Industrial Cultural Tourism Zone.

2.2 Demand-driven: From "Meeting Demand" to "Creating Demand"

The first is the traditional consumption theory; that is to say, it starts with demand, but another necessary attribute of building consumption scenarios in Park Cities is "creating demand through the use of supply". The Guidelines will promote the development of new opportunities in the digital, networked and intelligent development of the consumption chain to strengthen the innovative foundation for consumption scenarios and thus build a new consumption landscape.

The actual implementation of this idea can be seen in Sunac Water and Snow World; this project is no longer bound by the old model of cultural tourism and does not have the problem of poor experience. It has been able to attract ski fans from the top cities of Beijing and Shanghai, as well as the national snowboard team for training, thus creating a new kind of consumption demand known as "off-season and professionalisation".

2.3 Ecological Construction: From "Single-point Breakthroughs" to "System Integration"

To promote the continuous development of the new consumption model, we need to build an ecosystem. Based on the cases in Chengdu, the construction of an effective ecological system should meet the following three conditions. First, there should be good cooperation among leading enterprises and enterprises in the ecosystem. Xinjin Digital Technology Group has set up the three main functions of innovation incubation, venture capital services and technical support, and is working closely with leading enterprises. Second, we should build cross-sector integrated business models, such as industrial clusters of "agriculture + technology", "agriculture + culture and tourism", and "agriculture + food fashion". Third, there should be an organised supply of policies, funds and space; Chengdu's policy packages include the "30 Measures for Healthy Enterprise Development" and the "40 Measures for Stable Growth".

3. Practical Dilemmas of Structural Contradictions

Chengdu has made some good achievements in building the consumption scenario of Park City so far, but the following four structural contradictions still need to be addressed.

3.1 Scenario Homogenisation and Insufficient Distinction

Most of the parks are still in their original state and have only one function. According to the survey in Longgang District, Shenzhen, these problems are quite serious across the country: "a thousand parks with the same appearance" and uniform functions without charm. Chengdu has set a high standard for the Night Tour of the Jinjiang River and Kuanzhai Alley, but at many greenway nodes, the form of consumption is still dominated by catering and retail, and there is a lack of theme differentiation.

3.2 Structural Flaw in Operating Stability

The main source of funds for operating the park is government subsidies, and it does not have a market fundraising channel or strong independent fundraising power. According to the survey results in Longgang District, most of the parks have the problem of "high fiscal dependence and an emphasis on construction rather than operation". Chengdu has introduced the PPP model and a "revenue back-feeding" mechanism, but it has not yet established a full and stable operating system.

3.3 Superficial Application of Digital Technology

Although there are some applications of technology, such as 5G coverage and unmanned supermarkets, many more can still be realised in parks. Most applications are still in the "demonstration" stage and have not reached the "integration" stage; therefore, the technology has not yet become a driving force. Only a small number have been realised so far, such as AI operation and maintenance and digital twins and immersive interaction.

3.4 Institutional Barriers to Cross-Departmental Coordination

The planning, construction and operation of parks involve many departments, such as landscaping, commerce, cultural tourism and transportation, and problems of overlapping responsibilities and poor coordination are quite common. A new organisation has been established in Longgang District to address the problems and promote the construction of "park plus" scenarios. Although the Chengdu New Economy Development Commission has established general coordination, there are still bottlenecks in the approval process for some projects at all times, such as planning, land use, construction and commercial development.

4. Four-in-One Construction Path and Countermeasures

Based on the above analysis, this paper puts forward the four-in-one construction path of "technology foundation, scenario innovation, ecological synergy and institutional guarantee".

4.1 Construction of the Technology Foundation Based on the Two-Tier Architecture of "Digital Foundation + Intelligent Applications"

The first stage: Digital Foundation. The construction of the digital foundation for Park Cities should be done in cooperation with the construction of the CIM (City Information Model), IoT sensing, 5G communication, etc., to build a digital twin of the park area. The construction of the "Smart Xinjin" digital foundation and the integration of the five networks in Xinjin District are typical cases of the demand for a digital foundation to achieve the intelligentisation of consumption scenarios.

Second Tier: Smart Applications. Organize the presentation of new technology products, such as AI operation and maintenance, AR interaction, VR immersion, intelligent navigation, etc., in an orderly manner, but be careful not to be led to believe that it is "technology for technology's sake". The Goal of applying technology should be to solve actual problems in daily life; for example, in the comprehensive traffic management project of the Beijing Chaoyang Central Business District, high-altitude video surveillance, electronic fences and other technologies have been employed to tackle issues such as pedestrian-vehicle collisions and disordered parking of electric vehicles, thus enhancing the convenience of travel for all people.

The scale of the technological investment should be limited to a single stage; it is recommended that it be implemented in batches according to the chapters, and each batch should not exceed the system limit of 2,000 words to avoid semantic dilution and logical fragmentation caused by algorithmic processing.

4.2 Implementation of a Differentiated Scenario Innovation Strategy for "One Park, One IP"

Based on the "one park, one IP" development model of Longgang District, various parks with different functions will be built according to their own resource advantages. Specifically:

For cultural parks such as Kuanzhai Alley and Jinli, we need to strengthen the system of "local cultural experience, intangible cultural heritage revitalisation workshop and intellectual property cross-border cooperation", learn from the model of "Old Book Lane" at Nanjing Confucius Temple, and build the country's first all-weather cultural consumption destination that can operate normally 365 days a year.

Ecological Parks, such as Beihu Ecological Park and Qinglong Lake, aim to offer "nature education, outdoor sports and ecological study tours", and have begun introducing new business models such as unmanned delivery and intelligent sports facilities.

Science and Technology Parks (such as Tianfu Mushan Digital New City) should focus on the "digital economy and smart consumption", aim to build a new technology validation site and a new product launch base.

The four attributes in the Guidelines are high distinctiveness, high innovativeness, high experiential quality, and high diversification; they will be used to judge the innovation of a scenario.

4.3 Building a Tripartite Co-governance Model of "Government-Enterprise-Citizen"

The government should take the initiative to build a cross-departmental "one-stop" service and approval system and create a good policy environment. According to the "park + scenario" special task force model in Longgang District, the district government should take the lead in coordinating the functional positioning, scenario planning, policy formulation and project approval for all parks in the district, and scientifically determine the scope and red lines for commercialised operation.

At the company level, a PPP model should be used to hire professional operation companies and implement the combined approach of "design-renovation-operation". A "revenue back-feeding" mechanism should be established to ensure that a certain proportion of the operating party's operating income is allocated to park maintenance and quality improvement; thus, a virtuous cycle of "investment-operation-revenue-reinvestment" will be formed. Chengdu can take the organisation model of Beijing for general contracting management and unified bidding, use separate signings to increase the number of technical requirements at different links, and achieve fair participation for small and medium-sized enterprises.

At the side of the people, the principle of "shared by residents and visitors" should be applied, and the consumption scenarios should meet the daily needs of the people. Nanjing Hongshan Forest Zoo is

a typical case; it takes the idea of "animal welfare" as an emotional foundation and builds consumption chains for cultural and creative products, education and camping through interactive design, such as adoption and volunteer programs, with the ultimate goal of improving the quality of life of the people.

4.4 Strengthen the Institutional Guarantee of Policy Supply and the Talent Training System

At the policy level, we should continue to promote the "one scenario, one demonstration" initiative, accelerate the development of consumption scenarios that are both high-quality and popular with the masses, integrate innovation and heritage, and meet the different needs of various lifestyles at different speeds. Scenario Innovation Projects should be given more weight in terms of land, tax and finance. Chengdu can introduce the support policies in the "40 Measures for Stable Growth" to reduce rent and ease the pressure on social security, increase financing loans for projects in the consumption sector, and so on.

We need to foster good management and industrial talents in the digital economy at the level of talent. Chengdu has already put forward plans to coordinate local resources, such as arts and vocational colleges in Chengdu, to link up with provincial universities, such as Sichuan University and the University of Electronic Science and Technology of China, and connect with high-quality universities across the country and abroad to accelerate the cultivation and recruitment of professionals with digital economy skills. A special talent program will be set up to promote the all-round development and good digital literacy and consumption awareness of all residents in the "Park City consumption scenario".

5. Conclusion and Prospect

Chengdu Park City Demonstration Zone will be taken as an example to present the theoretical basis and practical path of digital economy empowerment for the construction of new consumption scenarios in this paper. According to research,

First of all, the integration of the digital economy and Park Cities is indeed bidirectional; technological momentum can provide intelligent tools in all kinds of situations, and at the same time, these situations are also areas for verification and commercialisation of technology.

Second, many typical cases of implementing "scene-oriented city construction" have been created in Chengdu; the top-level design meets the Guidelines, the spatial arrangement is done via greenways, supply and demand coordination is carried out digitally, and ecological construction is supported from all sides.

Thirdly, there are still four structural contradictions in the current construction: homogeneity, lack of sustainability, superficial application of technology and poor coordination; all four need to be solved by the four-in-one path of "technology foundation, scenario innovation, ecological synergy and institutional guarantee".

It should be pointed out that only one city has been selected as the case study in this paper, and the external validity of the results has not been verified. In the future, more research will be carried out to compare the cities of Nanjing, Shenzhen and Beijing, and quantitative indicators will be used to empirically study their economic development under different consumption scenarios.

The creation of new consumption scenarios in Park Cities is an economic problem and also a feature of urban civilisation. When digital technology can make all the parks a "living room of the city" that is legible, experiential and enjoyable, then Park City will have achieved its goal of turning an ecological ideal into a lived reality.

Fund Projects

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References

[1] Zhou X. L. & Yang Y. (2025). *Research on the Impact of Park City Construction Based on the New Development Philosophy on Residents' Consumption*. *Business Observation*, 11(16), 109-113.

- [2] Zhang R. (2024). *Research on Urban Residents' Sports Consumption Behavior in the Context of Digital Economy*. MA thesis, Wuhan Sports University.
- [3] Shi C. L. & Han N. (2024). *Dilemmas and Countermeasures of Consumption Growth in the Context of Digital Economy*. *Theoretical Exploration*, (02), 161-166.
- [4] Shao Y. W. (2023). *The Impact of Digital Economy Development on Residents' Consumption Resilience under the Background of Expanding Domestic Demand—An Analysis Based on Sample Data of New First-Tier Cities*. *Commercial Economic Research*, (18), 56-60.
- [5] Ren B. P., Du Y. X. & Pei A. (2022). *New Changes in China's Consumption under the Digital Economy: Trends, Characteristics, and Pathways*. *Consumer Economics*, 38(01), 3-10.
- [6] Liu Q. (2019). *Research on Consumption Scenarios in Park Cities*. *Urban and Rural Planning*, (01), 65-72.