

# Based on Service-Oriented Government Theory: Research on Consumption Upgrading Responses and Public Service Optimization Throughout the Lifecycle of New Retail Enterprises Empowered by the Digital Economy



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**Abstract:** This study, grounded in service-oriented government theory, examines how the digital economy empowers new retail enterprises to respond to consumption upgrades and optimize public services throughout their lifecycle. It analyzes the historical context of digital economy empowerment for new retail enterprises, exploring how they meet consumer demands through digitalization, intelligentization, and omnichannel integration to address consumption upgrades. It also outlines specific measures for public service optimization, such as establishing government cloud platforms and enhancing big data monitoring systems. The study aims to reveal the transformations brought by the digital economy to new retail enterprises and how service-oriented governments can support business development and drive consumption upgrades through public service optimization, providing theoretical references for practical applications and policy formulation in related fields.

**Keywords:** service-oriented government theory, digital economy, new retail enterprise lifecycle, consumption upgrade response, public service optimization

## Introduction

Against the backdrop of today's sweeping digital revolution, the flourishing development of the digital economy has profoundly reshaped the landscape of various industries. New retail, representing the deep integration of the digital economy with traditional retail, is undergoing an unprecedented transformation. The theory of service-oriented government emphasizes the government's focus on service delivery, providing high-quality public services to businesses and society. Within this theoretical framework, conducting in-depth research on the enabling role of the digital economy in the lifecycle of new retail enterprises and optimizing public services to address consumption upgrades holds significant practical value. On one hand, this helps new retail enterprises seize

opportunities in the digital economy to achieve sustainable development. On the other hand, it encourages governments to better fulfill their service functions and promote high-quality economic and social development.

## 1. Background of the Digital Economy Empowering the New Retail Enterprise Lifecycle

Contemporary times witness the unprecedented rise of the digital economy, profoundly reshaping industrial development models—new retail enterprises are no exception. With the rapid advancement of digital technologies like the internet, big data, and artificial intelligence, the global economy has progressively entered the digital era. Consumer habits and behavior patterns have undergone significant changes, with greater emphasis

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placed on personalized, convenient, and high-quality consumption experiences. Traditional retail models struggle to meet increasingly diverse consumer demands, leading to the emergence of new retail. The digital economy provides substantial technological support and innovative momentum for new retail enterprises (Ma & Sun, 2025). Big data technology helps businesses accurately understand consumer needs and preferences, artificial intelligence enables intelligent marketing and services, and the Internet of Things enhances the efficiency of product circulation and management. Simultaneously, the digital economy has propelled the rise of integrated online-offline business models, breaking through the spatial and temporal constraints of traditional retail to offer consumers expanded consumption scenarios. Against this backdrop, empowering the lifecycle of new retail enterprises through a digital economy-centric approach has become an inevitable trend. This will enable them to stand out in fiercely competitive markets and achieve sustainable development.

## 2. Digital Economy Empowering New Retail Enterprises to Respond to Consumption Upgrades Throughout Their Lifecycle

### 2.1 Digitalization drives precise insights into consumer demand

Digital technologies in the digital economy era provide powerful tools for new retail enterprises to accurately discern consumer demand. By leveraging big data analytics, businesses can collect and integrate consumer behavioral data across multiple channels, including but not limited to online purchase histories, social media interactions, and offline consumption environments (Qi & Yang, 2025). This data contains extensive information reflecting consumer interests, purchasing habits, and spending power. Enterprises apply advanced data analytics algorithms to deeply mine and analyze this data, accurately grasping consumer needs and preferences. For instance, by analyzing customer purchase histories, businesses can understand preferences for different brands, styles, and price points, enabling

personalized product recommendations. Simultaneously, enterprises can develop differentiated marketing strategies based on consumer geographic distribution and age demographics to enhance marketing effectiveness (Jin & Zhao, 2025). Accurate insights into consumer demand driven by digitalization enable new retail enterprises to better meet personalized consumer needs, thereby enhancing customer satisfaction and loyalty.

### 2.2 Intelligent technology elevates the consumer experience to a new level

The application of intelligent technologies represents a key manifestation of how the digital economy empowers the consumer experience in new retail enterprises. With continuous advancements in artificial intelligence and the Internet of Things, new retail businesses are capable of delivering smarter and more convenient shopping experiences. During purchases, intelligent customer service can provide real-time answers to consumer inquiries and offer personalized shopping recommendations (Cui, 2025). Smart shelves automatically track inventory levels and trigger timely restocking, ensuring consumers can purchase desired items at any time. Additionally, some new retail stores have introduced facial recognition technology, enabling quick payment services that eliminate queuing.

### 2.3 Omnichannel integration: reconstructing the consumer experience ecosystem

As a key development trend for new retail enterprises in the digital economy era, omnichannel integration breaks down the boundaries between online and offline channels, reconstructing the consumer experience ecosystem. New retail businesses seamlessly integrate online e-commerce platforms, offline physical stores, and social media channels, delivering a frictionless shopping journey. Consumers can browse product information and place orders online, then choose to pick up their purchases at the nearest physical store or have them delivered to their doorstep. Simultaneously, shoppers visiting physical stores can access online reviews and consumer feedback about products. Additionally,

businesses engage with customers through social media platforms for marketing activities, enhancing brand awareness and influence.

### **3. Digital Economy Empowering Public Service Optimization Across the New Retail Enterprise Lifecycle**

#### **3.1 Government cloud platforms establish high-speed channels for enterprise services**

Amid the digital economy wave, government cloud platforms have become increasingly vital for new retail enterprises. Functioning like a high-speed channel, they significantly enhance the efficiency and quality of business services. These platforms integrate diverse government resources, consolidating operations previously scattered across multiple departments (Pan, 2025). New retail enterprises face numerous administrative tasks during development, including registration, license processing, and tax filing. Historically, businesses had to navigate multiple departments, consuming considerable time and effort. The government cloud platform eliminates this cumbersome process. Businesses need only input information once through the platform to complete multiple tasks. Through data sharing and process optimization, government departments can rapidly collect, review, and process enterprise-related information. For instance, after a business obtains a business license, the platform can automatically retrieve its industrial and commercial registration details and legal representative information, eliminating the need for repeated document submissions. Additionally, the platform offers real-time progress tracking, allowing businesses to monitor the status of their applications at any stage, significantly enhancing transparency and efficiency. Furthermore, the platform provides policy consultations and online training for new retail enterprises. Businesses can promptly access national and local policies through the platform, along with policy interpretations and guidance. Regular online training courses are conducted to help businesses improve their management capabilities and operational skills. The government cloud platform

acts as a bridge connecting government and enterprises, building a fast-track channel for convenient and efficient services to support the development of new retail businesses.

#### **3.2 Big data monitoring system enhances market early warning mechanisms**

The big data monitoring system plays a pivotal role in providing market early warnings for new retail enterprises. In today's rapidly evolving digital economy, market information changes daily, exposing new retail businesses to numerous uncertainties and risks (Liang, Chen, Cui, & Cai, 2025). This system enables real-time collection and analysis of diverse market data, delivering precise market alerts to enterprises. By monitoring consumer behavior data, sales data, and competitor data, it promptly identifies emerging market trends. For instance, by analyzing consumer purchasing preferences and spending habits, enterprises can forecast market demand across different time periods and proactively manage inventory control and product allocation. If big data monitoring indicates a sudden drop in sales for a particular product category, the enterprise can promptly adjust its marketing strategy to avoid inventory buildup. The system also tracks competitor activities in real time, monitoring new product launches, price adjustments, and promotional campaigns to help enterprises adapt their competitive strategies. Upon detecting competitors launching highly competitive new products, companies can respond swiftly by increasing R&D investment or introducing more appealing offerings. Additionally, big data monitoring systems track shifts in macroeconomic conditions, policy regulations, and other external factors. When significant changes that may impact business development occur, the system promptly issues alerts, granting ample time for preparation and response. The big data monitoring system acts as the enterprise's "all-seeing eyes" and "keen ears," helping new retail businesses refine market early-warning mechanisms, mitigate market risks, and achieve sustainable development.

#### **3.3 Blockchain traceability systems enhance quality oversight efficiency**

Blockchain traceability systems play a vital role in quality oversight for new retail enterprises, effectively boosting regulatory efficiency and safeguarding consumer rights. Within the new retail sector, product quality and safety concerns rank highest among consumer priorities. Leveraging blockchain's immutable and traceable characteristics, the system assigns a unique "identity card" to each item. Information spanning every stage—from raw material procurement and production processing to logistics and final sales—is recorded on the blockchain (Wang & Peng, 2025). Consumers can scan a QR code on the product to view detailed traceability information, including origin, production date, manufacturing process, and inspection reports. This ensures full lifecycle transparency, empowering consumers to shop with confidence. For enterprises, blockchain traceability systems help strengthen internal management and elevate product quality. Through the traceability system, companies can monitor production processes in real time, identifying and resolving issues as they arise. Should a batch of products exhibit quality problems, the system allows businesses to swiftly pinpoint the problematic stage and implement corrective actions. Simultaneously, blockchain traceability systems elevate brand image and enhance market competitiveness. Consumers favor products with strong traceability because it signifies higher quality assurance. By using blockchain traceability systems to transfer product quality responsibility to consumers, companies gain consumer trust and reputation. These systems act as a "guardian" for quality oversight, enhancing the quality supervision efficiency of new retail enterprises and promoting healthy industry development.

### 3.4 AI customer service matrix enables zero-delay government-enterprise interaction

The AI customer service matrix possesses unique capabilities for achieving zero-delay government-enterprise interaction. In the development of new retail enterprises, communication with government departments is crucial. Traditional communication models between

government and businesses often suffer from inefficiency and delays. However, the emergence of the AI customer service matrix has revolutionized this situation. This matrix consists of multiple intelligent customer service teams that can effectively communicate with enterprises through various channels, such as websites, apps, and WeChat official accounts. When enterprises have questions, they can consult AI customer service at any time, receiving swift and precise answers (Huang, 2025). Whether inquiries concern policy interpretation, business processing procedures, or other government-related matters, AI customer service provides detailed responses. The AI customer service matrix also possesses intelligent learning and analytical capabilities. It continuously optimizes its operations based on enterprise consultation records and feedback. By analyzing vast amounts of enterprise consultation data, AI customer service identifies common concerns and pain points among businesses. This information is fed back to government departments to inform policy formulation and adjustments. Simultaneously, the AI customer service matrix provides round-the-clock support, ensuring timely responses whenever enterprises encounter issues. This significantly reduces communication time between government and businesses, achieving near-instant interaction. Businesses gain more effective access to government support and services, while governments gain deeper insights into corporate needs and perspectives. This fosters positive government-business interaction and collaboration. The AI customer service matrix acts as a communication bridge, making government-business communication smoother and more efficient.

### 3.5 IoT infrastructure supports smart supply chain upgrades

IoT infrastructure plays a crucial supporting role in enhancing the smart supply chains of new retail enterprises. Within the new retail model, the effective operation of the supply chain is one of the key determinants of business success. IoT technology enables intelligent supply chain management by

connecting various devices and items. In warehousing, IoT sensors provide real-time monitoring of warehouse temperature, humidity, and inventory levels. Businesses can use this data to optimize inventory arrangements, improving warehouse space utilization. The system automatically triggers replenishment alerts when inventory levels fall below set thresholds, ensuring timely product availability. In logistics transportation, IoT technology enables real-time tracking and monitoring of transport vehicles. Businesses can track shipment status and location while predicting arrival times. Simultaneously, vehicle data analysis optimizes routes to reduce transportation costs. For instance, during traffic congestion, the system automatically adjusts routes to ensure on-time deliveries. In sales operations, IoT devices collect consumer shopping behavior data, enabling businesses to understand customer needs and preferences for targeted marketing. For instance, smart shelves can monitor product sales in real time, enabling timely restocking and display adjustments when certain items sell well. IoT infrastructure acts as the “nervous system” of smart supply chains, tightly connecting all links to enable real-time information sharing and coordinated operations. This supports the advancement of smart supply chains for new retail enterprises, enhancing supply chain efficiency and flexibility while providing robust assurance for business development.

### **3.6 Metaverse exhibition halls expand virtual government service spaces**

In today's thriving digital economy, metaverse exhibition halls offer new opportunities for new retail enterprises to expand virtual government service spaces, significantly enriching the forms and content of interactions between governments and businesses. Leveraging cutting-edge virtual reality (VR) and augmented reality (AR) technologies, these halls successfully create highly realistic virtual government service environments. New retail enterprises are no longer constrained by time or space. Equipped with relevant devices, they can enter the metaverse exhibition hall and experience a virtual

government service center akin to the real world. Within this space, businesses gain comprehensive access to various government policies and related service information. A dedicated policy interpretation zone presents policy content through engaging, interactive formats, using animated demonstrations and virtual guides to simplify understanding of complex regulations. Additionally, the exhibition hall offers intelligent navigation, allowing enterprises to select different tour routes based on their needs and quickly locate government service projects of interest. Furthermore, the metaverse exhibition hall supports real-time interaction between enterprises and government officials. During their visit, enterprises can pose questions to online government staff at any time. Government officials communicate face-to-face with enterprises through virtual avatars, providing answers, guidance, and assistance—much like warm, efficient interactions in real-world scenarios. The metaverse exhibition hall also has the capability to organize online government events. Relevant government departments may organize policy briefings, project promotions, and other activities within the exhibition hall. Businesses can participate in these events within the virtual environment, facilitating in-depth exchanges and collaborations with other companies. The metaverse exhibition hall expands the scope of virtual government services, delivering more convenient, efficient, and enriched experiences for new retail enterprises. This effectively promotes business development while accumulating diverse experiences, laying a foundation for subsequent marketing initiatives.

### **Conclusion**

In summary, grounded in the theory of service-oriented government, the digital economy plays a pivotal role in empowering the lifecycle of new retail enterprises. It not only effectively responds to consumption upgrades but also promotes the optimization of public services. Regarding the response to consumption upgrades, digitalization, intelligentization, and omnichannel integration deliver novel consumption experiences to consumers.

Meanwhile, various measures within public service optimization—such as the construction of government cloud platforms and the enhancement of big data monitoring systems—create a favorable development environment for new retail enterprises. Moving forward, the service-oriented government must continue monitoring the development trajectory of the digital economy and persistently innovate public service delivery methods. This will further assist new retail enterprises in thriving amid the digital economy's momentum, achieving sustained prosperity in the consumer market and steady socioeconomic development.

### Conflict of Interest

The authors declare that they have no conflicts of interest to this work.

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**How to Cite:** Jia, J., Song, H., & Wang, X. (2025). Based on Service-Oriented Government Theory: Research on Consumption Upgrading Responses and Public Service Optimization Throughout the Lifecycle of New Retail Enterprises Empowered by the Digital Economy. *Journal of Global Humanities and Social Sciences*, 6(7), 380-385  
<https://doi.org/10.61360/BoniGHSS252019140706>