

Impact of Development of the Digital Economy on Consumer Habits: Evidence from China

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Abstract. China's digital economy is booming. It is changing consumers' behavior and retailing. This paper studies how digitalization affects consumption in four scenarios: reducing information and search costs, algorithmic influence and social influence in consumers' decision-making, payment innovations, and integrating online and offline consumption scenarios. Using official statistics, international reports, and peer-reviewed studies, this paper finds that mobile payments and e-CNY pilots have turned frictionless payments the norm; personalized recommendations and live-streaming commerce have speeded impulse buying and shortened the purchase journey; and omnichannel retail and O2O services have blurred the line between digital and offline shopping and fostered a "always-on" consumption habit. While digitalization brings convenience and inclusiveness, it also triggers concerns such as privacy concerns, algorithmic addiction, and consumer welfare risks. Governance such as the Personal Information Protection Law and new standards on algorithmic transparency are vital for digitalization to be consumer centric. At the end of the paper, we summarize policy and research directions for digital economy governance to balance growth and accountability.

Keywords: Digital economy, Consumer behavior, Mobile payment, Live-streaming commerce

1. Introduction

1.1. Research background and theme

During the past decade, China's digital transformation is changing from a transformation of a sector to a transformation of an economy-wide phenomenon, in which information is produced, consumed, and acted upon by households and firms.

Official "maps" of the "digital economy" matured to differentiate a core "digital sector", a broader "digital economy" of digital goods and services, and an even broader "digitalized economy" of digital-enabled production and transactions across sectors [1]. Parallely, official statistical standards and standards used by international organizations have improved to reflect digitally ordered and digitally delivered activities and made it abundantly clear that the digital economy boundary comes in tiers, not one [2,3]. China is large. China is fast. Official statistics indicate that online retail has become an important consumption channel. In 2024, national online retail sales

reached ¥15.52 trillion, including ¥13.08 trillion in physical goods – 26.8% of total retail sales [4]. The China Academy of Information and Communications

Technology (CAICT) reported that the digital economy has changed from being a niche growth driver to being a dominant growth driver. Estimates released by MIIT-affiliated experts indicate that China's digital economy may reach around ¥56.1 trillion in 2023, or about 44% of GDP [5,6].

1.2. Research purpose and innovation

This study integrates the latest definitional releases, national accounts statistics, and peer-published works to illustrate how the digital economy is transforming consumer habits in China. The focus is on the following four channels: (1) reduction of information/search costs; (2) influence of platforms, algorithms, and social pressure on consumer decision-making; (3) innovation in payment (mobile payment, e-CNY pilots) that lower frictions; and (4) convergence of online and offline consumption scenes (omnichannel retail, live-commerce). The relevance of understanding these channels is that consumer welfare, competition policy, and inclusive growth will be impacted by China's experience as it continues to shape digitalization trajectories in other economies.

1.3. Research methods and framework

Methodologically, this is a structured literature review and evidence synthesis. This work refers to some conceptual work (e.g., OECD/UNCTAD work), official China statistics [4,7], and empirical works from economics, marketing, and information systems. The structure of this study is as follows: Section 2 defines the concept of the digital economy and its concrete application fields; Section 3 elaborates on the four channels of impact on consumer habits; Section 4 discusses future trends and governance; Section 5 concludes.

2. Concept and applications for digital economy

2.1. Concept, components, and development

A commonly referenced framing differentiates between three concentric scopes: the digital sector (ICT goods and services), the digital economy (activities mainly enabled by digital technologies), and the digitalized economy (the diffusion of digital inputs across all industries) [1]. International measurement guidance further classifies indicators by (a) products (ICT goods/services and digital content, digitally delivered services), (b) production (digital inputs intensity), and (c) transactions (digitally ordered/delivered) [2]. Official Chinese statistics focus on the fourth dimension: consumer-facing application fields. Four domains anchor the digital economy in China today: digital platforms (e-commerce marketplaces, super apps), mobile payments (QR-code ecosystems), social and content media (short video platforms and live streaming), and omnichannel retail (integration of online order with logistics, pickup, and in-store experience) [5]. In its 2023 white paper, CAICT positioned policy design, data-infrastructure build-out, and the integration of “data and reality” to drive high-quality development as context that frames consumer-side changes attributed to the digital economy in this study [5].

2.2. Development stages in China

Chinese consumers were digitalized in the PC-era through e-commerce (search-based marketplaces), followed by mobile e-commerce (super apps, embedded wallets), then social/short video commerce

(KOLs, interactive live streams), and are now entering the final stage of full omnichannel (community group buying, O2O local services) and e-currency pilots.

Like Brynjolfsson and Smith, or Chen and Xie, we argue that the emergence of the digital economy in China is best conceptualised as a shift from reducing search and transaction costs to offering experience and immediacy through recommendations and real-time interaction.

3. The impact of digital economy on consumers' habits

3.1. How does the digital economy change consumers' information acquisition and search costs

The scale of online retail in China has demonstrated that digital channels have become the default information channel for many consumers. Online retail sales according to the NBS were ¥15.52 trillion in 2024, of which physical goods were ¥13.08 trillion or 26.8% of all retail— an information-rich environment where product pages, ratings and cross-seller comparisons are a click away [4]. CAICT results that digitalization has “continued to protect” macro growth over years testify to the entrenchment of consumer adoption in people's lives [5].

Classical information economics assumes that price and product knowledge are costly to obtain; consumers search until the marginal benefit = marginal cost [8]. The internet (and, in China, the mobile internet) reduces these costs because consumers can instantly access information for price, reviews and stock of multiple sellers.

Empirically, early studies that compare internet and conventional channels found small average prices and menu costs on the internet (and smaller residual price dispersion, reflecting brand and trust heterogeneity) [8].

Habit change Consumers begin shopping online (even for offline purchases) by searching on the platform, filtering and selecting from a list of options using social content produced on the platform. The ability to verify product attributes using user-generated information such as reviews and videos reduces uncertainty and entrenches the habit of “always-on” comparison before buying [9].

3.2. Decision making: algorithms, social influence and KOL/KOC effects

The decision stage is co-produced by algorithms and social signals. One hand of behavioral science shows how the internet (and in China, the mobile internet) makes consumers happy by giving them personalized recommendations; consumers are happy to accept inferior recommendations from algorithms because they ascribe more expertise to algorithms [10]. Meanwhile, open-access studies that use Chinese e-commerce data and consumer surveys show that the more relevant, inspiring and insightful recommendations offered by AI-based algorithms, the stronger consumers' intention to click; privacy concerns attenuate the effects [11]. At the same time, behavioral research warns that we should not over-rely on algorithms—consumers may accept inferior recommendations because they ascribe more expertise to algorithms [10].

On the other hand, social influence – through reviews, shares and live chat – creates perceived value and risk.

The marketing work at corporate level recognizes that reviews have a role as a new product or service communication channel that can complement or substitute firm communication [9].

Networklevel analyses disentangled peer from homophily effects to show that naive observational methods can inflate the social contagion of product adoption 300–700%, although peer influence remains material [12]. In China's livestreaming commerce, KOLs (key opinion

leaders) and KOCs (key opinion consumers) put persuasion in the entertainment, shortening the funnel from awareness to purchase [13,14].

Habit change: Consumers are more willing to let platforms suggest (Scrolling recommended feeds instead of doing independent search) and treat social proof (likes, comments, host creditability) as a heuristic for quality. This lightens their cognitive load but may also confine their exposure to alternatives. When platforms' recommender systems bias toward impulse over exposure, cognitive ease becomes cognitive narrowmindedness [10,11].

3.3. Innovation in payment: mobile payments, accountlite wallets, and the eCNY

Payment frictions used to break the purchase path. In China, mobile payments social normalized frictionless checkout and solidified the habit of impulse but traceable microtransactions. According to the Global Findex 2021, 82% of adults in China made a digital merchant payment in 2021, including over 100 million who did so for the first time after COVID19 began [15]. The PBOC's Payment System Report shows an increase in volumes of noncash payments (542.6 billion transactions; ¥5,251.3 trillion in value) and reflects an increasing digital rail nationwide [7].

In addition to private wallets, the eCNY pilot, China's central bank digital currency, will launch a twotier, tokenlike retail instrument with attributes such as "controllable anonymity" and offline capability [7]. As it's still in pilot, its design should be such that it preserves cashlike attributes in a digital form — thus strengthening the habit of smallvalue, highfrequency payments — and creating new refund/settlement experiences inside public services and transit.

Habit change: Consumers have internalized the "scanpaygo" habit both in the physical world and online. The payment certainly reduces dropoff in checkout and enables consumers to accept new purchasing contexts (buying directly in live streams or community groupbuy).

3.4. Scenario blending: omnichannel retail, local services, livecommerce

China's consumption landscapes blend together. O2O services blend discovery online and payment with fulfillment offline, from food delivery to other local services; group buying, pickup, and time limited discounts are optimized jointly by platforms and merchants.

Research on Meituan. Analytical work for Meituan. How the pricing choice and service level choice in group buying equilibria impact platform profit and restaurant profit, i.e. how operational levers "work" in terms of consumer value and repeated use [16].

The live-streaming economy has two additional dimensions: instantaneity and interaction. An overview in Springer explains how live commerce fuses entertainment, trust building, and instant purchase into one seamless experience [13]. A quantitative study in 2022 using grey system models to forecast the scale of the sector finds the scale to be tremendous and growing rapidly, and grey system models identify several key drivers of scale [14]. Meanwhile, the official media reports that over 120 million live-commerce sessions have been held on key platforms in 2022, selling 95 million products, with 1.1 trillion views. As we track, live commerce is increasingly being produced by creators in rural areas – evidence that what is popular in first-tier cities is also being mainstreamed across the country [17].

4. China's digital-consumption future: opportunities and governance

4.1. Inclusive growth and consumption upgrading

The diffusion of digital tools will lower the barriers to participation for all regions and demographics. The Findex data tells us that digital payments are widely used by all regions and demographics; the NBS figures tell us that the share of online physical goods as a share of total retail remains high [4,15]. In a macro perspective, CAICT finds that, while the consumer side remains digital, other side, the industry, will remain digitalized as the logistics, cold chains, and instant delivery continue to expand coverage in lower-tier cities [5]. The result is a habitual expectation of availability, quick delivery, and personalized offers – consistent with global evidence that digitalization reduces the distance between the revelation of consumer preferences and purchases [18].

4.2. Risks: filter bubbles and overdependence and impulse purchases

When recommendation engines become the default navigation layer, exposure diversity may be at risk. Not long ago, marketing research warns that consumers may come to over rely on algorithms, accept suboptimal guidance in exchange for “experts” at the expense of welfare and reinforcing bias [10]. When it comes to social, careful identification reveals that what may appear to be “viral” persuasion may in part be homophily dressed up as influence, an important reminder for platforms and regulators when they parse social signals [12]. With low-friction payments, the combination magnifies impulse tendencies; and if return friction or product quality issues as well as fake promotions remain in place, may lead to regret [19].

4.3. Governance: privacy and transparency and trustworthy AI

China's Personal Information Protection Law sets out principles of legality, necessity and transparency of personal data handling with implications for automated decision-making and profiling that are worth noting [18].

The guardrails are directly implicated in the practices—from recommender explanations to consent and data minimization—and supplement sectoral livecommerce content standards and advertising authenticity [13].

In payments, the eCNY white paper envisions a twotier issuance and a “controllable anonymity” approach—smallvalue pseudonymity compliance for larger value—suggesting a path to privacyaware digital cash that could coexist with private wallets but could also improve resilience and interoperability for public services [7]. Overpersonalization and nudge will likely require explainable recommendation and fairness auditing as a standard to attenuate the risks of overpersonalization and nudge; and consumer education campaigns can spread the word on the value and limits of digital curation so that shoppers can both love and outsmart the digital shopper [10,11].

5. Conclusion

China's digital economy has transformed more than shopping when it turned Chinese consumers online. First, by lowering search costs and making comparative information abundant, it turned prepurchase research into a standard microtask.

Second, by inserting algorithms and social proof into the path to purchase, it turned a once solitary optimization process into a platform-filtered curation process, possibly at the expense of diversity.

Third, by reducing payment frictions and experimenting with digital cash, it turned into a habit of instant settlement innate to the payment context, but not extraneous to it.

Fourth, by fusing online discovery with offline fulfillment, it turned a habit of scenario-based consumption befitting livecommerce impetus and O2O convenience.

Each of these habits confers welfare benefits---time saved, better matching, greater access---but also new liabilities. Governing data and algorithms, incarnated in the PIPL and in nascent sectoral rules, will determine whether personalization is consumer-centric versus attention-centric. The same digital rails that can turbocharge purchases will also ground trust---in explainability, the fairness of offers, the security of payments, and the ease of redress---China's next chapter will turn on whether they enable more innovation or accountability, and whether the habits it has instilled are empowering for consumers and sustainable for markets.

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