

Motivations and Mechanisms of Government-Led Digital Platforms in China: A Case Study of Staggered Peak Travel in Wenzhou

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Abstract. This study aims to explore how public services at the local level have undergone digital transformation under the guidance of local governments, selecting the "Staggered Peak Travel" system as the core case. By situating this case within the theoretical context of platform governance, the research seeks to elucidate how the tripartite interaction between government, enterprise, and society contributes to the adoption, maintenance, and controlled evolution of such platforms. The primary research question addresses the motivation for local governments to design and lead multi-party platforms. Using a qualitative case study approach, this research analyzes the underlying logic and practical processes of this government-led digital transformation, providing empirical evidence for the "inside-out" perspective of China's digital governance.

Keywords: Staggered Peak Travel, Platform governance, China's digital governance

1. Introduction

Modernisation and management of economic activity through digital platforms have become ubiquitous in public and private sectors [1,2]. In China, this is in line with the institutional nature of local governments, where economic development and digital management often take place over time. As phantomization goes beyond commerce into management, it changes state–market relations with decentralization of value creation and control by data and algorithms. In this paper, it studies how the relationship between digital platforms and Chinese local governments reflects broader organizational, political and economic changes. Simultaneously, the tourism industry has experienced tremendous progress and transformation and has come intermarried to digital technologies. Digital platforms are vital for modern tourism: they enable easy information flow, the consumption of basic services such as ticketing and navigation and further enhance the user experience. The local tourism sectors are facing real-time opportunities to address major development challenges. In holidays and peak seasons, a huge number of tourists increases spatial-temporal mismatch, excessive congestion, misallocation, and drastic deterioration in service quality. In real time, traditional administration is no longer enough to cope with the high demands. Digital platform intervention is particularly important. Based on real- time data and algorithm coordination, digital platforms can minimize resource allocation, ease operational pressure on the places of public

interest, and effectively deal with bottlenecks in local tourism. This paper considers the "Staggered Peak Travel" digital platform of tourism management in Zhejiang Province. With big data management and information guidance, tourism service providers effectively manage the trip time, enhance their trip and visit times, and serve as a new governance method for the local government. The "Staggered Peak Travel" was conceived in an effort to address the five major challenges of tourists and sites, namely traffic congestion, queueing, dining, routing, and overall experience. During holidays, the concentration of tourists often leads to crowded, poor and busy places. Without their proper supervision, the situation is not able to convert traffic into economic gains through efficient conversion of traffic. The platform is operated by Wenzhou Ou Hai District Culture, Radio, Television and Tourism Bureau and is designed by Boyan Technologies. Optimized resource allocation allows tourists to travel at staggered times and locations. This approach can make travel at a low cost and maximize economic impact on the industry. Not only solving immediate governance challenges, but it can also serve as an example of the digital competition among local governments to provide an interesting vision.

2. Literature review

In local governments, they are not only center-of-center officials but also "policy entrepreneurs" for economic planning and social management. Until recently, city councils in China have been centers of administrative innovation [3]. Their flexibility and experimental style make them a major player in development. During digital transformation, local governments participate in a "tournament" of regional competition that determines the competition and crisis of local governments and stimulates the self-motivation of local authorities in all cases where digital performance (e.g., citizen satisfaction, information openness) may be important indicators of governance ability [4]. Such institutional logic motivates local officials to use digital tools to improve public service delivery and optimize resource management (and hence, Wenzhou's government has been actively working on developing the "Staggered Peak Travel"). However, this spontaneity of local government is not completely independent; it is also imposed by the province and central government and requires approval in certain places before proceeding to the next.

A digital platform is defined as a socio-technical system that enables multi-sided interactions through standardized digital interfaces, operating as both an organizational form and a governance mechanism [2,5]. In the global context, platforms like Google or Amazon are often viewed through the lens of market dominance. However, in China, the development of digital platforms is uniquely intertwined with state guidance. Research on China's digital expansion highlights how Chinese firms act as both commercial entities and developmental agents. Gawer identifies platforms as the dominant organizational forms of the digital age, creating ecosystems that decouple ownership from control [1,5]. In China, these ecosystems are often mobilized to serve national strategies, such as the "Digital Silk Road," in which platform companies expand through a hybrid mode of state-firm collaboration [6].

Local governance and platform economics introduce a new notion of platform governance. Chen et al. consider platforms as meta-organizations in which incentive and design mechanisms structure relations between agents [2]. For public administration, this concept provides the sense that, while digital platforms encourage value creation (e.g., decentralized tourist flows), they tend to centralize control via data and algorithms. For government platforms, this gap is managed by a co-production model. The government sets the governance objectives (e., staggered travel), private developers (eg, Boyan Technologies) provide technical infrastructure, and society (tourists/businesses) contribute through use and feedback [7]. This "government-business-society" interaction can be used to

understand how platforms in China function not only as market tools but also as tools of state capacity and social governance [8].

3. Media dependency theory

This paper adopts MEDT as a theoretical lens to explain how "Staggered Peak Travel" users and customers influence their perceived and desired behaviors. Social media dependence is based on psychological and social theory to explain the relationship between media use and its influence on the individual [9]. This suggests that social society members also rely on media to obtain their social needs, in addition to using media in their social relationships.

As media capabilities are increased, users are increasingly influenced by the demands they need. In particular, the immediacy, interactivity and timely personalized recommendations of social media are able to increase users' trust in digital platforms [10], and affect users' cognitive, emotional and behavioral behaviour. MDT was originally formulated to explain the relationships between audiences, media systems, and society. It has been explained that people use media to satisfy specific needs or achieve certain goals, and more importantly, if audiences do not have other resources or channels to achieve these goals, they rely on the media system more. Therefore, more structural dependency increases the capacity of the platform to influence people's cognitive, mood and behavioral behavior.

The dependency of the "Staggered Peak Travel" platform is made by the local government for achieving the governance objective through two factors, namely, information centralization and experience integration. The first relies upon the monopolization and centralization of important data. Traditionally, tourism-related information, such as crowd density, traffic conditions, and scenic spot capacities, is highly fragmented and highly asymmetric. The government-led platform invents itself by aggregating all of this collected information into a single authoritative website. For those who are looking to plan their trips and avoid congestion, there is no alternative platform capable of providing the same amount of full, real-time and officially verified information. With the introduction of itself as the only source of truth, the platform unifies users for other information-seeking options, resulting in highly informational dependency [2]. This dependency, thus, has the benefits of enabling the platform to guide and influence tourist travel times and spatial trajectories.

The second dimension embeds dependency in a seamless user experience. In addition to sharing the information with others, the platform constructs a holistic service system that unifies traditional single-place travel stages (ticketing, smart routing, dining reservations and navigation) into a single digital operation. By tightly integrating these core functions, the system connects all participating entities (e.g., tourists, merchants, and areas) to a closed-loop system, where the convenience of a one-stop interface dramatically lowers switching costs for unmerged third-party applications. This deep feature builds user behaviors and reliance and automatically integrates the platform's embedded rules (e., staggered peak algorithms) into the actual behavior of the tourists.

4. A case study of Staggered Peak Travel

This paper takes Staggered Peak Travel, a digital platform for tourism management in Zhejiang Province, as a case study, aiming to understand the motivations and mechanisms driving local state actors to lead such initiatives. The selection of Wenzhou as the field site is strategically significant. As an important birthplace of China's private economy, the "Wenzhou model" has long been regarded as a typical sample of interaction between market forces and local governments [11]. At the same time, Wenzhou is a prefecture-level city under the jurisdiction of Zhejiang Province with local

legislative power, and, geostrategically, it is a cross-provincial core hub radiating to southern Zhejiang, northern Fujian, and eastern Jiangxi.

In recent years, as Zhejiang Province has comprehensively promoted its digital reform strategy, Wenzhou has committed to transforming its traditional institutional innovation advantages into digital governance efficiency, explicitly aiming to build a "pilot city for digital government construction". Unlike traditional top-down administrative orders, Wenzhou's digital transformation exhibits distinct characteristics of "government-enterprise-social interaction." On the one hand, the government seeks to address governance pain points that are not amenable to traditional means, such as resource allocation problems during peak tourism periods, by building platform-based infrastructure. On the other hand, Wenzhou's active private economy and social forces compel the government to provide more accurate public services through digital interfaces. In the cultural tourism industry, Wenzhou is actively exploring a "Smart brain + multi-cross-scenario" governance model, using algorithms and data flows to reshape the relationship between the government, market, and society.

5. Motivations and operational logic

The main motivation of local government to start, develop, and lead this digital platform comes from three interconnected administrative issues. First, leading such initiatives greatly increases the regional competitiveness of the local government. In China's digital transformation tournament, the smart tourism platform has better management, more capital and more people. Second, it can be used to improve internal management of the management system. With shifting from reactive management to proactive data-driven management, the government can optimize internal resource allocation and eliminate the administrative friction. Third, the successful delivery of transparent and efficient public services by the platform greatly promotes public trust, promotes the government's social reputation, and improves the institutional confidence of citizens.

From an operational logic and interactive point of view of the platform, the operation logic of this government digital platform relies on a highly integrated multi-actor interaction model. Rather than acting unilaterally, the ecosystem is conducted by the continuous interaction of four key players: the government, the resource requester, the enterprise (app developer), the technology provider, local merchants, and tourists, who play a role as active participants and data generators.

Local government at the large level. It implements its own rules, data security and governance. With the platform, it issues authoritative public announcements, traffic recommendations and policies. It has administrative control of delivering offline public services (e.g., traffic police, emergency services) according to online data. Tech companies like Boyan Technologies interpret government goals in an algorithm, maintain stability and maintain smooth data flows so that the public can read in real-time. Tourists (dining, accommodation, stores) are closely embedded in the platform's traffic distribution system. They are very dependent on platform exposure to collect customer flows. In such an algorithm-driven environment, merchants not participating risk serious marginalization or removal from the local economy. Tourists are not only passive consumers, but also co-owners. By providing feedback, evaluation and location check-ins online, they generate massive data sets to train and fine-tune the platform algorithms. The platform is convenient, and it encourages deep habits of behavior which are long-term.

6. How does a government-led digital platform work

To deeply understand the effectiveness of this government-led digital transformation, it is essential to evaluate the operational mechanisms through a structured lens. The success of this model relies on three core dimensions of modern platform governance, which are data-driven proactive governance, multi-stakeholder co-production of public value, and algorithmic nudging and media dependency.

Data-driven control involves large data analytics and real-time information systems that are combined in order to inform public policy and resources. In the general sense, this shifts traditional public management from a reactive, real-world-based approach to a proactive, precise, and dynamic management model which facilitates more effective information-altered interaction between the administrators and the public. In Wenzhou's staggered Peak Travel mini-program, such a scenario is achieved by the online collection of traffic, crowd densities, and scenic spots in real time. Instead of passively reacting to holiday crowding, Wenzhou's local government uses the mini-program to predict peak flows and automatically share this information with the public through online distribution. Thus, the mini program acts as a digital radar, resolving the local spatial-temporal imbalance and solving the five major problems of local tourism.

Co-production is a public service delivery system in which the government, private sector and citizens cooperate to provide and preserve public quality and share the technical agility of private companies and public knowledge, without the limited resources and efficiency bottlenecks of unilateral government actions. For the Staggered Peak Travel mini-program, such a combination is achieved. Wenzhou does not code the software itself, but rather, it presents the governance goals and encourages Boyan Technologies to build the technology. Local merchants also share their services, and tourists offer real-time feedback and location information through the mini-program. The "Staggered peak Travel" mini-Program is not just a top-down administrative mandate, but is a continuously evolving co-produced digital ecosystem produced by the cooperation of all four parties.

Algorithmic nudging means platform-based interface design and data-driven recommendations can be used to "nudge" users without automatically limiting their freedom of choice. On the one hand, this mechanism naturally encourages users' dependence by providing indispensable convenience, and thus is consistent with macro-level social or governmental objectives. For example, for Wenzhou's Peak Travel mini-program, the local government successfully monopolizes authoritative tourism information by transforming it into one source of truth. By incorporating ticketing, routing, dining reservations, and real-time alerts, the mini-map leads to extremely high switching costs for the users. When a tourist becomes dependent on the general convenience of the mini-map, it is natural to nudge them as part of the embedded algorithms, picking off-peak times and congested paths, as is the case with the local government's ultimate goal.

7. Theoretical and practical implications

This paper presents two main theoretical contributions to the literature on digital governance. Firstly, to shift MDT from media effects to digital platform governance; secondly, by showing that information centralization and experience integration can result in structural dependency, this paper provides a new theoretical perspective on platform-user interactions in public agencies; thirdly, to the research on platform meta-organizations [2]. This research shifts focus from purely commercial ecosystems and focuses on state-led digital governance, showing how local government is a macro-orchestrator in a multi-party co-production model; and fourthly, how Digital China initiatives are

implemented at the local level, drawing a theoretical connection between local digital infrastructure building and broader governance modernization [12].

These findings suggest practical solutions for other local governments faced with spatial-temporal resource bottlenecks. First, the success of the Staggered Peak Travel platform can bring about the transition of top-down administrative requirements to algorithm-enabled proactive management by leveraging algorithmic nudging in public services [13]. Local governments can subtly guide citizens to good public results, such as diverging flows, without coercive administrative enablers. The platform also indicates the need to integrate multiple stakeholders into a single digital ecosystem. To practitioners and policymakers, this shows that digital governance can not be created by building technology systems, but by nurturing a sustainable value-generating environment that is convenient to get customers' long-term user needs and policies at work.

8. Conclusion

In conclusion, this study explores the digital transformation of local public services through the lens of platform governance, using Wenzhou's Staggered Peak Travel system as the core case study. The research reveals that the local government's motivation to design and lead this platform is fundamentally driven by the imperatives of regional competitiveness, internal administrative optimization, and the enhancement of public trust. Operationally, the platform functions not as a unilateral government tool, but through a highly synergistic, four-party interactive mechanism: the government establishes the rules and dispatches resources, tech enterprises provide the algorithmic architecture, local merchants integrate their services, and tourists actively participate through continuous usage and feedback. Driven by data centralization and algorithmic nudging, the platform structurally cultivates user dependency, effectively mitigating holiday tourism congestion and converting surging traffic into sustainable economic benefits for the region.

Despite its contribution, there are several limitations that the work has to address in the future. On the one hand, as a qualitative single-case study, this paper can also point out the socio-economic context of Wenzhou's active private economy. The future work should consider quantitative surveys, like large-scale user surveys or system log analysis, to quantify the user dependency and the exact economic influence of the staggered peak algorithms. On the other hand, several municipalities or different public services (e.g., health care, urban transport) can be compared to further improve the outside validity of this government-led platform governance. On the other hand, increasing data reliance on algorithm nudging and centralized gathering of data in public service raises important questions about data privacy, algorithmic transparency and digital fairness that need to be addressed in further critical platform studies.

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