Digital Operational Strategies in The Post-Pandemic Era for Travel Companies: A Case Study of Ctrip

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Abstract. The epidemic's impact has caused the tourism industry to face major challenges and changes in the post-epidemic era, in which the digital operation model has become the key to driving recovery and innovation. Taking Ctrip as an example, this study provides an in-depth analysis of the changes in the digital operation mode of tourism enterprises in the post-epidemic era. Firstly, the context and situation of Ctrip's activities have changed in the digital environment, expanding the online business space and strengthening the interaction between the company and consumers. Second, the digital environment has changed corporate and consumer behavior from competition to cooperative symbiosis while triggering the socialization and personalization of consumer behavior. In addition, Ctrip's travel products have changed in the digital environment, with data analysis to tailor travel products for consumers. Practical applications of Ctrip's digital operations, including user demand forecasting and product design optimization, are further discussed. It is concluded that digital operations are important in improving management efficiency, meeting consumer demand, pricing strategy, and risk control. However, digital operations face legal, protection, and risk issues that require further research and solutions. This study provides useful experiences and insights for developing digital operation modes in tourism enterprises.

Keywords: Post-epidemic era; Tourism enterprises; Digital operation; Ctrip.

1. Introduction

The global outbreak of COVID-19 has changed the pattern of international tourism markets. The long-term tourism market, which originally contributed the most to China's tourism revenues, has suffered from the epidemic, with a large number of small and medium-sized travel agencies and tour guides being forced to transform or withdraw from the market, and the long-term tourism market being hard hit [1]. To realize the rapid recovery of the tourism industry in the post-epidemic era, several tourism-related policies have been introduced, such as the proposal of the Ministry of Culture and Tourism of China and other departments to promote tourism development through "Internet+Tourism". In this context, the traditional "destination" tourism operation mode can no longer adapt to the needs of the times and cannot realize the goal of renewing the tourism industry until its sustainable development.

Therefore, problems related to restoring tourism enterprise operations occur in subsequent tourism development. Among them, analyzing the change in tourism enterprise operation mode in the post-epidemic era has become a key issue that needs to be analyzed. It aims to reconstruct the operation mode of China's domestic tourism enterprises in the post-epidemic era. In response to this question, many scholars in the industry have already put forward new ideas for tourism development in the post-epidemic era. For example, the digital transformation of tourism enterprises should be accelerated to improve the digital and intelligent operation level of tourism enterprise management, service, and marketing and to promote the innovation and formation of digital tourism enterprises so that more and more tourism enterprises have taken the digital operation as the main content of the operation and management [2].

However, due to the differences in enterprises' management level and development objectives, the development level of their digital operation mode varies. At present, the vast majority of tourism enterprises analyze the impact and trend of the epidemic on the tourism industry from a macro perspective and develop different operation modes according to the specific situation. For example, the online tourism operation mode that Ctrip has proposed during the epidemic, as suggested by Di

and Cao [3]. However, individual tourism enterprises must independently develop emerging and unknown operation modes. Against this background, based on literature analysis and data analysis, the most representative and research-value tourism platform in China will be selected as an example of Ctrip (Ctrip) to analyze the changes in the digital operation mode of tourism enterprises in the post-epidemic era and to propose future research trends on this basis to provide a basis for the further development of the digital operation mode of tourism enterprises in the future [4].

Firstly, in the first part of this paper, the enterprises that have carried out digital operations are compared with traditional tourism enterprises, which also provides an analytical framework for the orderly development of the subsequent contents of this paper. In the second part of this paper, the changes faced by Ctrip's digital operation will be specifically described, and in the third part of the Ctrip travel network in the major Internet platform operation mode, summarizing the specific mode of Ctrip's digital operation, followed by the fourth part of the digital operation of the problem is summarized, and finally on the content of the previous section of the development of the proposal and the outlook for the future.

2. Changes Faced by Ctrip's Digital Operation Management

2.1. Changes in the Situation of Ctrip Activities in the Context of Digitalization

Breaking through the spatial limitations, the digital operation has enabled Ctrip to move from traditional offline operation to the virtual online world. As a result, various travel planning routes and products are displayed concretely, no longer subject to spatial limitations, and the digital operation better helps the company cope with the long-tail effect[2].

In addition, the digital operation enables Ctrip to strengthen the interaction between travel companies, travel products and consumers, which helps Ctrip to reach more trading partners and create more business value.

2.2. Behavioral Changes of Crip Activity Subjects in the Digital Environment

Regarding corporate behavior, the digital operation makes Ctrip change its goal from competition to creating consumer value. In the process of digital operation, Ctrip changes its competitive relationship with other companies into a cooperative and symbiotic relationship to maximize its interests.

In terms of consumer behavior, consumer behavior tends to be socialized and personalized. Due to the development of social networks, consumer behavior can be easily influenced by others, such as popular tourist destinations, hot spots, etc. Based on these data, Ctrip analyzes the network effect of customers through digital operation, which provides a new way for tourism enterprises to discover customer needs and obtain business ideas. In addition, consumer behavior has become more and more personalized. In the past, due to the limitations of technology, even if consumers had personalized needs, it took time for enterprises to satisfy them. In the past, due to technological limitations, even if consumers had personalized needs, it took a lot of work for companies to meet them. However, now, digital operations allow companies to help users complete the final travel planning process after acquiring a travel product through a digital interface, thus realizing the greatest degree of personalization in a low-cost way [5].

2.3. Changes in Ctrip Travel Products in the Digital Environment

Ctrip travel enterprises analyze the information travelers post on social networks, design corresponding travel products, discover and even create demand, and create new value. Digital operation makes Ctrip travel enterprises increase the efficiency of the product creation process. The ability of the platform to obtain consumer data becomes stronger. The enterprise obtains more consumer data, and through the analysis of the data, it can obtain the characteristics of the consumers' behavior as a whole and more accurately portray consumer behavior at the individual level to design travel products closer to users' needs. Through the data analysis, it is possible to obtain the

characteristics of consumer behavior as a whole group and more accurately portray consumer behavior at the individual level to design tourism products closer to users' needs. Moreover, real-time data analysis enables enterprises to respond to the changing trends of consumers more agilely [6].

3. Practical Application of Ctrip's Digital Operation

3.1. Client

User demand forecasting is the foundation of enterprise operation management. When Ctrip began digital operations, consumer demand compared with the past, the speed of change faster, the demand for personalized features more obvious, more to meet, adapt to and tap the personalized, small groups of demand; at the same time, tourism companies can get the type and amount of data are far richer than in the past [7].

For example, through digital operation, in addition to transaction data, the user browsing, purchase, use, evaluation and other data can be recorded, including the search keywords, the page stay time and so on. These behavioral characteristics are often the direct expression of user preferences, and their personalized needs, coupled with strong data analysis capabilities, can more accurately predict customer demand, laying a good foundation for improving operational management performance [8, 9].

3.2. Product Side

Digital operations enable travel companies to design tourism products that are more responsive to user needs, better performing and more efficient. First of all, a large number of consumer usage data and social media data for tourism enterprises to accurately design tourism products in line with the trend of the tourism market provides a possibility [10].

For example, through the e-commerce platform, Ctrip better understands the tourism hot spots, including consumer travel frequency and other data, and can be launched more in line with user needs of tourism products. Secondly, virtual reality (VR, Virtual Reality), augmented reality (AR, Augmented Reality), and other technological developments promote digital technology as a design tool, accurate simulation and simulation of a variety of physical parameters of the product, and through the visualization of the model to be demonstrated, in particular, can be simulated in different parameters and environments, the performance differences between different product designs, to form the best product design. In particular, it can simulate the performance differences of different product designs under different parameters and environments to form the product design with the best performance. For example, some time ago, the hotter virtual tourism.

3.3. Pricing Strategy

Through digital operations, Ctrip can develop more accurate and optimized pricing strategies for more effective revenue management. First, through in-depth learning from a large amount of data, the company can dynamically optimize its pricing strategy to adapt to changing market demands and maximize revenue. Second, Ctrip can implement differentiated pricing in different sales channels or market segments to better meet the needs of different consumer groups. For example, for certain travel routes, Ctrip often sets prices exclusively for VIP users, and such differentiated pricing can provide a more personalized service experience.

In addition, to avoid price discrimination, Ctrip can use digital technology to launch different types of coupons and push different offers for different market segments to achieve differentiated pricing. This strategy can better meet the needs of different consumers in terms of price and enhance consumer satisfaction and loyalty. This means that Ctrip can accurately provide consumers with various promotions, discounts and rewards based on their purchasing history, preferences and behavioral patterns, thus better guiding their purchasing decisions.

3.4. Risk Management

Regarding risk control, Ctrip's digital operation strategy brings more in-depth and comprehensive risk identification and management tools to providing travel services. This strategy leverages data analysis from multiple sources, including internal, personal, government, social network, third-party, and stakeholder data, to more accurately and comprehensively portray and assess potential internal and external risks.

By analyzing internal corporate data, Ctrip can identify and assess its potential risks in various areas such as operations, finance, and human resources. This data-driven approach to risk management enables companies to identify problems and take appropriate measures early, thereby reducing the likelihood and impact of risks. Personal and social network data analysis can better understand consumer needs, preferences and behavioral patterns, leading to more accurate market trends and risk predictions. Ctrip can use this data to locate potential market opportunities while promptly capturing and responding to possible negative events to reduce risks' spread and impact. Integrating and analyzing government data can help Ctrip companies better understand changes in policies, regulations and the legal environment and make timely adjustments to operational strategies to avoid compliance risks. Meanwhile, the comprehensive utilization of third-party data can broaden the source of information and further improve the risk analysis system. Collecting and analyzing stakeholder data can also reveal the relationship between Ctrip and its suppliers, partners, customers, etc., and help the company better predict potential cooperation risks or conflicts to take appropriate risk prevention measures.

4. Conclusion

Digital operations can help inhibit the motivation and ability of management to implement opportunistic behavior. The relevant regulatory authorities should further promote the development of the big data industry and set up a regulatory defense from within the company to prevent opportunistic behavior of the management before it is too late. A "Digital" background, Ctrip tourism enterprises, through data acquisition, data processing, mobile Internet, artificial intelligence and other applications, can be efficiently achieved in tourism stores. Data acquisition, processing, visualization, and process transparency will greatly improve. The digital process can help the tourism industry control the standardized operation of the supply chain more macroscopically and improve the standardization level of the enterprise itself, its employees and suppliers.

In the context of digitization, Ctrip has changed from operating products to operating customers by focusing on consumers. Because every consumer is different and has a unique personality, digital operation improves product quality while upgrading and adjusting the existing product structure and supply chain to enable consumers to form an awareness of the product and the brand, enhance their sense of experience, and provide faster-customized services and after-sales services, saving consumers' time and improving their experience.

Digital operation can improve the company's ability to tolerate uncertainty and lead the company to find new value breakthroughs in uncertainty. As the domestic legal regulations on product content, confidentiality, network security, encryption technology and branch offices are unclear and there is a lack of corresponding dispute resolution cases and experience, Ctrip may have to face the risks brought by the corresponding issues in its digital operation. In addition, the protection of domain names in China is still under research, and no clear legal regulation exists. In the event of infringement, the value of the company's trademarks and other intangible assets will be greatly reduced. Ctrip needs to pay attention to domain name protection in China to prevent the loss of intangible assets.

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