



Functions of PESTEL Analysis in the Assessment of Enterprise Environmental Adaptability

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Abstract. In recent years, the business model of live streaming has developed rapidly, showing a popular trend and trend. With the continuous optimization and adjustment of policies, the continuous recovery of the market, the change of values, the continuous progress of science and technology, the increase of media attention, and the gradual standardization of laws, the live broadcasting industry is showing a thriving scene. Taking Kuaishou Technology Company as an example, this paper analyzes its external environmental factors in the six dimensions of politics, economy, society, technology, environment and law. It is found that Kuaishou has demonstrated strong environmental adaptability by actively responding to national policies, optimizing supply chain management, enhancing user interaction, increasing investment in technology research and development, promoting green consumption and abiding by laws and regulations.

Keywords: PESTEL Analysis, Enterprise Environmental Adaptability, Adaptability Assessment

1 Introduction

In today's rapidly changing business environment, enterprises must have a keen sense of the environment in order to adjust their strategies and operations in time to adapt to changes in the external environment. As a macro-environment analysis tool, PESTEL analysis has become an indispensable part of the enterprise strategic planning and decision-making process [1]. PESTEL is the acronym of Political, Economic, Social, Technological, Environmental and Legal. It helps enterprises to identify and evaluate the external macro-environmental factors that may affect their business.

In this article, we will explore the role of PESTEL analysis in assessing the environmental adaptability of enterprises, especially for a live streaming company. As a new e-commerce model, live streaming has risen rapidly in the world in recent years, especially in the Chinese market, it has become an important channel for brands and businesses to promote products [2]. This model combines the interactivity of social media with the convenience of e-commerce, providing consumers with a new shopping experience. However, this model also faces complex external

environmental challenges, including the uncertainty of policy regulation, the impact of economic fluctuations, the change of social culture, the rapid development of technology, the increasing prominence of environmental issues and the continuous updating of laws and regulations. PESTEL analysis provides a comprehensive framework for live streaming companies to assess and respond to the challenges of the external environment. Through this analysis, the company can better understand the changes in the external environment, develop appropriate strategies, and improve its environmental adaptability. This paper will deeply discuss the application of PESTEL analysis in the environmental adaptability assessment of live streaming companies, and how to improve the company's strategic decision-making ability through this analysis.

2 Core Concepts

2.1 Pestel Analysis

The PESTEL framework originates from the PEST analytical model. Initially developed in the 1960s, the PEST framework was a rudimentary tool for environmental factor analysis. Through subsequent enhancements, it has grown to encompass additional environmental aspects. Strategic deployment consultants within a company utilize PEST analysis to thoroughly assess the firm's external environmental conditions, which is essentially a macro-environmental analysis. This method examines four key environmental factors: political, economic, social, and technological—collectively known as PEST analysis.

The PESTEL model represents an extended version of the PEST model, incorporating more dimensions to cater to the unique influencing factors of various industries, sectors, and businesses. This model often integrates additional environmental factors to accommodate specific characteristics. Among these, environmental and legal factors are considered essential components of PESTEL analysis [3]. Political factors generally assess the influence of governmental functions on an industry, such as governmental policies and budget allocations. Economic factors focus on the impact of economic systems and structures, including inflation and market demand. Social factors evaluate the effects of societal values, lifestyles, and income disparities, taking into account education levels, cultural practices, and income distribution. Technical factors examine the influence of infrastructure and related skills, information retrieval, and operational skills. Environmental factors consider the industry's sustainable development potential, including media influence and the impact of other industries. Legal factors assess the impact of laws and regulations, such as contract law, company law, antitrust law, consumer protection law, and local ordinances on the industry.

2.2 Enterprise Environmental Adaptability

Enterprise environmental adaptability refers to the ability of enterprises to maintain competitiveness and sustainable development by adjusting their strategies, structures,

cultures and operations in the changing external environment. This adaptability reflects the sensitivity of enterprises to changes in the external environment, the speed of response and the effectiveness of adjustment strategies [4].

In the dynamic business environment, enterprises need to face political, economic, social, technological, environmental and legal challenges. Enterprise environmental adaptability requires enterprises to be able to identify the changes of these external factors in time and predict their potential impact on enterprise operations and strategies. This involves not only the analysis of the current environment, but also the prediction and preparation of future trends. Adaptable enterprises usually have flexible organizational structure and culture, which can quickly respond to market changes and adjust products and services to meet customer needs. They also tend to have strong internal communication mechanisms to ensure that information flows within the organization, thus enabling departments to work together to address external challenges. Environmental adaptability involves the ability of enterprises to manage and allocate resources. Businesses need to allocate resources efficiently to support innovation and change while maintaining stability in day-to-day operations [5]. This requires enterprises to have both foresight and flexibility in resource allocation to adapt to changing market demand and competitive environment. The environmental adaptability of enterprises is also closely related to the learning ability of enterprises. Enterprises must constantly learn new knowledge and skills to adapt to technological progress and market changes. This kind of learning is not only at the individual level, but also at the organizational level, involving the renewal of the whole corporate culture and values.

3 Pestel Analysis of Kuaishou Technology Company

Kuaishou Technology is a leading content community and social platform in China, providing users with a platform to show themselves and record their lives in the form of short videos and live broadcasts. Since its establishment in 2011, Kuaishou has rapidly grown into an important force in China's Internet industry with its strong technical strength and deep understanding of user needs. Kuaishou's live broadcasting business is a major feature and highlight of the company. This paper will focus on the environmental adaptability of Kuaishou Company based on PESTEL model.

3.1 Political Factors

In recent years, with its high-efficiency and low-cost way of bringing goods, live broadcasting has become a new driving force to stimulate consumption and drive the local economy. It has also become a new way for platforms, enterprises, anchors, MCN companies and other groups to keep warm. Breaking the head, we should also get a share in the field of live broadcasting and seize a wave of market. This has also led to fierce competition in the market, and many businesses have left the market painfully [6]. Several cities in China, such as Hangzhou, Guangzhou, Chengdu, Chongqing, Shanghai and Beijing, have introduced policies to support the live

streaming industry to boost local economic development and employment. These policies usually include tax incentives, financial support, personnel training, industrial agglomeration area construction and so on. The specific number of cities will change over time, and different regions will introduce different support measures according to their own industrial characteristics and development plans. The company also gives awards and honorary awards to high-quality talents from other platforms at the platform level. With the help of all parts of the country and all kinds of help, the market scale of live broadcasting with goods has shown a wave of rising momentum, which will directly promote the demand for high-quality anchors.

3.2 Economic Factors

As depicted in Figure 1, the volume of live commerce transactions for the year 2023 stood at 4916.8 billion yuan, marking a 40.48% rise compared to the corresponding period in the previous year. Over the years from 2017 to 2022, the transaction volume of the domestic live streaming commerce market escalated to 19.64 billion yuan, 135.41 billion yuan, 443.75 billion yuan, 1285 billion yuan, 23615 1.01 billion yuan, and 3.5 trillion yuan, respectively. With the swift growth of the live commerce sector, an increasing number of merchants and hosts are entering this domain, intensifying the competition. This surge results in the market's progressive saturation, consequently impacting the transaction volume's growth rate. Figure 2 indicates that the penetration rate of live commerce (calculated as live commerce transaction volume divided by online retail transaction volume) was 31.9% in 2023, growing at a rate of 26.08%, with a persistent decline in the growth rate. From 2020 to 2023, the investment and financing activity of live e-commerce industry is good, and the investment and financing rounds are mainly concentrated in the B round and the previous strategic financing. Enterprise investment and financing live e-commerce segments are rich, including rural live e-commerce, MCN institutions, medical and aesthetic live e-commerce, etc. In 2023, many projects such as Hot Star Selection, Ten Thousand Meters Culture, Flowers, White Rabbit Video and so on have successfully obtained tens of millions of financings. In addition, in the first half of 2023, two live e-commerce "unicorns" of tremolo and American wrist were valued at 1.4 trillion yuan, up from last year.

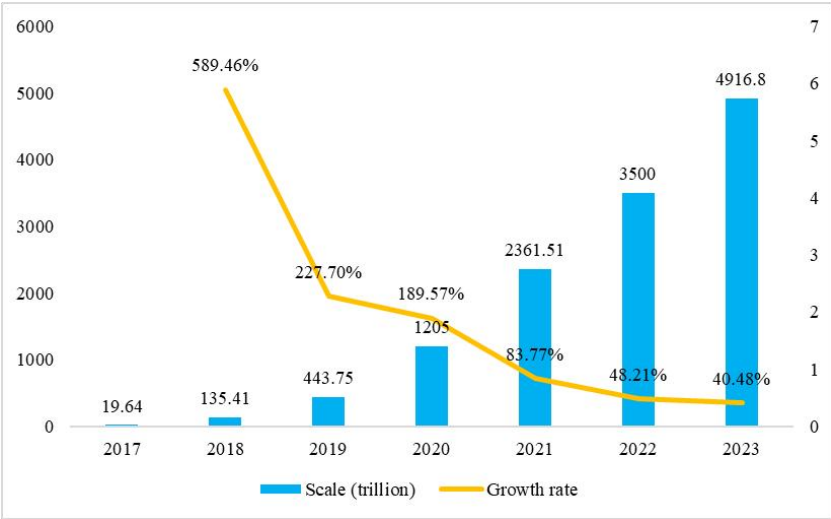


Fig. 1. Scale of live e-commerce market in China (figure credit: original)

3.3 Social Factors

For live streaming companies, social factors are particularly important because they directly affect consumer behaviour and market demand. The change of consumer preferences is one of the social factors that live streaming companies must pay attention to [7]. With the improvement of living standards, consumers are increasingly pursuing personalized and high-quality products, and at the same time have higher requirements for shopping experience. Through the interactive form of live broadcasting, live broadcasting can better meet the needs of consumers and provide more intuitive product display and instant feedback communication. The change of population structure also has an impact on live broadcasting. For example, as Millennials and Generation Z become the main consumers, they are more dependent on online shopping and social media, and more inclined to shop through live broadcasting and other means. Live streaming companies need to understand the needs and behaviour patterns of these young consumers in order to better position the market and design marketing strategies. The popularity of social media platforms provides a broad channel of communication and rich user resources for live broadcasting [8]. Live streaming companies can use these platforms for brand promotion, product marketing and user interaction, thereby improving brand awareness and sales performance. In the context of globalization, consumers in different regions have different cultural backgrounds and consumption habits. Live streaming companies need to respect and adapt to this diversity and provide products and services that meet the habits of consumers in different regions in order to achieve global market expansion.

3.4 Technical Factors

As shown in Figure 2, in the early stage of the development of live e-commerce industry, digital technology deeply enables the penetration of investment promotion and product selection. With the acceleration of digital transformation in the industry, digital technology has been integrated into all aspects of the whole process of live e-commerce to solve the problems of high difficulty in business process management and low synergy efficiency in all aspects. Live e-commerce service providers are constantly improving the digitalization of business links. With the help of digital platform, they can improve the sales efficiency of brands based on broadcasting, the operational efficiency based on store broadcasting to effectively improve the service efficiency on both sides of supply and demand. The application of big data and cloud computing technology enables live broadcasting companies to analyse consumer behaviour more accurately and achieve personalized recommendation [9]. By collecting and analysing the user's browsing, searching, purchasing and other behavioural data on the platform, the live streaming platform can recommend goods that are more in line with the user's interests and needs, and improve the conversion rate. The artificial intelligence technology can be used for intelligent customer service to provide 24-hour uninterrupted customer consultation service, and can be used for an intelligent recommendation system to recommend related commodities according to the historical behaviours and preferences of users. It can also be used for content auditing to ensure the compliance of live content.

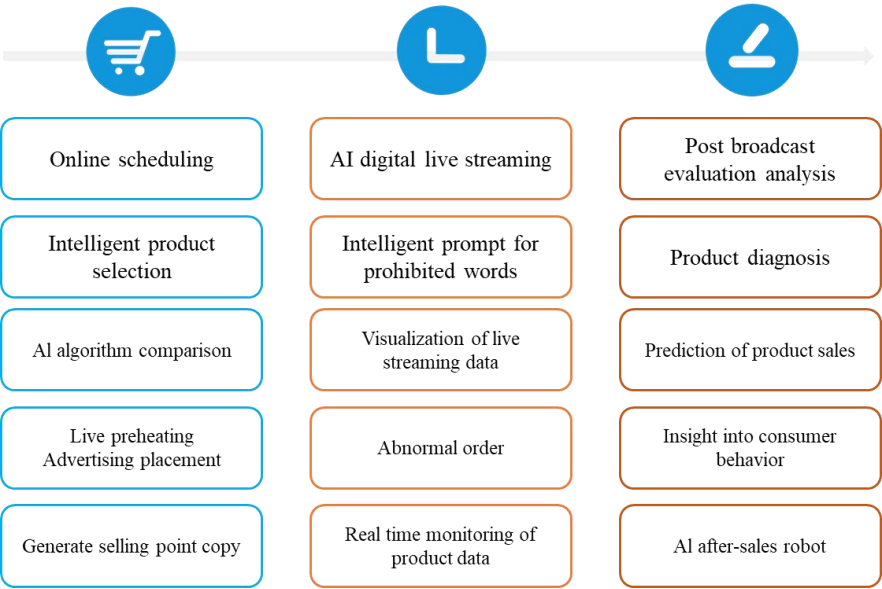


Fig. 2. Digital technology enabling live e-commerce industry (figure credit: original)

3.5 Environmental Factors

At present, our country is still continuing to reform to the supply side, the material level of the broad masses of the people is constantly improving, the purchase of goods will be more in pursuit of a spiritual utility, consumption is not to survive, but to better enjoy life, to achieve their own interests, values, cultural attributes, social interaction activities. It is precisely based on the transformation characteristics of the consumption structure that live broadcasting has been so popular in recent years. For example, some makeup live broadcasting directly teaches users to make up in the live broadcasting room, which is to depict good expectations for users, so that users feel that as long as they follow the anchor's method, they can also become beautiful, so that consumers fall into the desire of human nature. In the process of live broadcasting with goods, due to human nature, in the virtual network world, they often show their true selves, and some vulgar and vulgar topics and forms of performance are popular with users, distorting or even reshaping the whole consumer aesthetics [10]. Through various strategies such as hunger marketing, we can guide consumers to follow the trend and influence consumer's choices.

3.6 Legal Factors

In strict accordance with the relevant laws and regulations and the principle of "real name in the background and voluntary in the front desk", the network live broadcasting platform shall carry out certification and registration of the network live broadcasting publishers based on identity card information and unified social credit code, and carry out dynamic inspection and verification to ensure the authenticity and credibility of the certification information. The network live broadcasting platform shall strictly comply with the requirements of relevant laws and regulations, and establish and strictly implement the classification management system of network live broadcasting accounts. The network live broadcasting platform shall clearly indicate the rights and obligations of the network live broadcasting publisher in the aspects of market subject registration and taxation in the service agreement, but shall not force the network live broadcasting publisher to set up a studio or an individual business. The network live broadcasting platform shall cooperate with the supervision and inspection carried out by the departments of network communication, market supervision and taxation according to law, provide necessary documents, materials and data, and provide technical support and assistance for the investigation and inspection activities according to law. Network live broadcasting publishers, network live broadcasting service agencies and network live broadcasting platforms should disclose commodity or service information comprehensively, truthfully and accurately, protect consumer's right to know and choose, and give necessary and clear prompts to important consumer information directly related to consumers' life safety.

4 Analysis of Environmental Adaptability of Kuaishou Technology Company

Firstly, in terms of political environment, Kuaishou actively responds to the state's support policies for the live broadcasting industry, and strengthens cooperation with local governments by taking advantage of tax incentives and financial support to jointly promote the development of the live broadcasting industry. Kuaishou also enhances its industry influence by participating in the formulation of industry standards, while ensuring the compliance of platform operation and avoiding policy risks. In terms of economic environment, facing the rapid growth and fierce competition in the live e-commerce market, Kuaishou has maintained a steady growth in its performance by optimizing supply chain management, reducing operating costs and improving conversion rate. In addition, Kuaishou also expands its business scope and enhances its market competitiveness through investment and mergers and acquisitions to adapt to market changes. In terms of social and cultural factors, Kuaishou deeply understands the needs and behaviors of young consumers, and enhances user stickiness by organizing various interactive and content-rich live broadcasting activities. At the same time, Kuaishou also pays attention to training and introducing high-quality anchors to improve the quality of live content to meet consumer's demand for high-quality live content. In terms of technology environment, Kuaishou has continuously increased its R & D investment in advanced technologies such as big data, cloud computing and artificial intelligence to improve the technical level of the platform. By using these technologies, Kuaishou can analyze user behavior more accurately, provide personalized recommendations, optimize user experience and improve operational efficiency. In terms of environmental factors, Kuaishou actively responds to the call of the state for green development and sustainable development, and reduces the impact on the environment by optimizing logistics distribution and reducing packaging waste. At the same time, Kuaishou also promotes environmental protection products through live broadcasting, raising consumer's awareness of environmental protection and promoting green consumption. In terms of legal environment, Kuaishou strictly abides by national laws and regulations, strengthens content auditing and copyright protection, and ensures the legal compliance of platform content.

To sum up, Kuaishou Company has shown strong environmental adaptability in the face of complex and changeable external environment. Through active policy response, market adjustment, technological innovation, social and cultural adaptation, environmental protection and legal compliance, Kuaishou Company can effectively cope with the challenges of the external environment and maintain the stable development of the enterprise. In the future, with the changing external environment, Kuaishou Company needs to continue to pay attention to the trend of the macro environment and flexibly adjust its strategy in order to maintain its leading position in the live broadcasting industry.

5 Conclusions

PESTEL analysis not only provides a comprehensive external environment analysis framework for enterprises, but also provides a scientific basis for strategic decision-making. Through in-depth analysis of the six dimensions of politics, economy, society, technology, environment and law, Kuaishou Company can better grasp the market dynamics and make effective strategic decisions to meet the changing external challenges. Through this analysis, enterprises can more clearly understand their position in the macro environment, so as to make more wise decisions and achieve the improvement of environmental adaptability. With the acceleration of globalization and the rapid development of science and technology, the importance of PESTEL analysis will be further highlighted and become an indispensable part of enterprise strategic planning.

References

1. Matović I M. PESTEL analysis of external environment as a success factor of startup business[C]//ConScienS conference proceedings. Scientia Moralitas Research Institute, 2020: 96-102.
2. de Sousa G C, Castañeda-Ayarza J A. PESTEL analysis and the macro-environmental factors that influence the development of the electric and hybrid vehicles industry in Brazil[J]. Case Studies on Transport Policy, 2022, 10(1): 686-699.
3. Vojinović N, Stević Ž, Tanackov I. A novel IMF SWARA-FDWGA-PESTEL analysis for assessment of healthcare system[J]. Operational Research in Engineering Sciences: Theory and Applications, 2022, 5(1): 139-151.
4. Thakur V. Framework for PESTEL dimensions of sustainable healthcare waste management: Learnings from COVID-19 outbreak[J]. Journal of cleaner production, 2021, 287: 125562.
5. Zhou Y, Soh Y S, Loh H S, et al. The key challenges and critical success factors of blockchain implementation: Policy implications for Singapore's maritime industry[J]. Marine policy, 2020, 122: 104265.
6. Abdeen F N, Gunatilaka R N, Sepasgozar S M E, et al. The usability of a novel mobile augmented reality application for excavation process considering safety and productivity in construction[J]. Construction Innovation, 2024, 24(4): 892-911.
7. lvarez GÃ³mez G A Ã, EstupiÃ±Ã J Ã. Application of Neutrosophy to the Analysis of Open Government, its Implementation and Contribution to the Ecuadorian Judicial System[J]. Neutrosophic Sets and Systems, 2022, 52: 215-224.
8. Almutairi A, Naeem M A, Weber G. Understanding enterprise systems adaptability: An exploratory survey[J]. Procedia Computer Science, 2022, 197: 743-750.
9. Garrido-Vega P, Sacristán-Díaz M, Moyano-Fuentes J, et al. The role of competitive environment and strategy in the supply chain's agility, adaptability and alignment capabilities[J]. European Journal of Management and Business Economics, 2023, 32(2): 133-148.
10. Coghlan C, Labrecque J A, Ma Y, et al. A biological adaptability approach to innovation for small and medium enterprises (SMEs): Strategic insights from and for health-promoting agri-food innovation[J]. Sustainability, 2020, 12(10): 4227.

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