

The Impact on the Digital Economy under the Innovative and Incentive-managing Policy

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Abstract. This paper mainly discusses the different managing policies' impacts on the development of the digital economy, specifically the incentive and innovative policies. First, the study defines the definition of the digital economy based on previous studies, which are fundamentally based on artificial intelligence and digital technology. It also identifies some essential characteristics of the digital economy. In addition, it explores both the advantages and disadvantages of different management policies based on a real-life example of Hangzhou in past years. Furthermore, the paper compares and contrasts the traditional and incentive-based policies, which emphasize the importance and necessity of the latter. The research also suggests a possible balance in order to increase and motivate the developments. The findings suggest that government policies play a critical role in shaping the digital economy, such as foresting global trade, communication, and local economic development. Finally, the paper concludes with policies aiming to enhance the positive impacts on the digital economy, which can help support local merchants, markets, and entrepreneurs.

Keywords: Digital economy, Managing policies, Markets.

1. Introduction

1.1. Digital Economy

As awareness of online resources grows, the importance of the digital economy becomes increasingly evident. However, for many, the term "digital economy" remains unfamiliar, and the role of government policies in managing it is often abstract and difficult to grasp. The paper aims to find out the impact of specific types of the managing digital economy and to state its characteristics and suggestions based on prediction and analysis based on a real-life example.

1.2. Definition and Scope of the Digital Economy

The definition and fundamental concept of the digital economy have been argued and refined by various researchers in past decades. Generally, the digital economy can be understood and simplified as "an economy based on digital technologies" [1]. While digital technology develops and advances, such as artificial intelligence (AI), it is more often to be considered an essential component of the market economy. As a result, the strategies and policies of not only managing local markets but also dealing with external factors become increasingly crucial and noticeable [2].

Nevertheless, while trying to manage and develop the digital economy efficiently, it is undeniable that the digital economy itself also carries certain risks, including the uncertainty of its future development [3]. In addition, the digital economy is deeply interconnected with society. For instance, it can heavily affect the digital reputation, culture, literacy, and other social elements of one country or region. Therefore, it is crucial and necessary to manage the digital economy properly in order to avoid these risks and enhance its positive impact on society [4].

1.3. Analysis and Innovation in Digital Economy Management

Based on various analyses of digital technology and the economy, the digital economy can be briefly broken down into several steps, while innovative changes can be made individually. These analyses also suggest that management strategies can be specialized into numerous components, with more innovative or experimental changes being made [5]. Experts have mentioned that traditional

management practices often hinder innovations, thus, potentially impeding social and economic developments [6].

The study about innovative entrepreneurs in the modern economy which published the new strategies shows that innovation on new services gives more animation to its economy and attracts more new customs, therefore, contributing to the local economy [7]. In order to effectively and efficiently manage the digital economy, it is essential to first understand the fundamental components of the digital economy, which can be categorized into four areas: macroeconomic, structural, management, and technological approaches, according to the previous study [8].

1.4. Global Influence and Government Role

The digital economy also plays a crucial role in global trade and communication, which, in turn, impacts local economies. It is reasonable to provide free entry to companies and entrepreneurs for negotiating trades and other economic activities can be beneficial to both sides and can be considered as a strategy for managing the activities [9].

In addition, managing the digital economy requires sustainable support not only from companies but also from governments. Government policies and official announcements can significantly influence entrepreneurs as they develop their digital economy, ultimately benefiting the local economy. Consequently, governments can foster economic growth by implementing innovative management strategies that stimulate local businesses and individuals [10].

2. Case Study

2.1. Case Description

In order to discuss the impacts on the digital economy by managing policy, it is necessary to go through a specific example. In addition, there are some restrictions on the selection. First, the local economy of the example cannot fluctuate intensively by other factors besides managing policies or their consequent causes, such as unemployment caused by global issues. Based on standards, this study will study the case of Hangzhou before 2019. Hangzhou can be seen as the pioneer of digitalized city in China. The case is briefly studied during relatively stable years, meaning that there is no significant impact on the local digital economy by external or global causes.

2.2. Background Information

As an experimental place to create and develop any local digital economy, Hangzhou has an average annual growth rate of increasing digital economy, from 2014 to 2018, about 22%, which contributes more than 50% to the city's economic growth [11]. In 2018, the revenue made by its core digital economy industry exceeded one trillion yuan, specifically, reaching 1,082.4 billion yuan, which was an essential achievement of becoming the first-placed city from the digital economy aspect.

During development, governments claimed to implement the “No.1 Project”, which mainly focuses on promoting the integration of digital industrialization, industrial digitalization, and urban digitalization. Moreover, its turn to the so-called digital city can be attributed to creations. While developing creations have symbolized the city, the governments focused on deepening the revolutions to related industries and markets. Thus, it is plausible to conclude that the case is not only intervened and supported by government policy but also motivated to bring innovations.

2.3. Specific policies

In this case, the governments planned grand targets and implemented the “No.1 Project”. Specifically, Hangzhou was planned to be a pioneer and leader among digital economy cities globally. However, there were relatively few strict restrictions on the digital economy markets. Instead, governments welcomed innovations of various strategies for the digital economy. More new and advanced products or services appeared frequently during the development of Hangzhou, partly

because the government was willing to provide funds for independent research and support cooperation [12].

3. Problems and Challenges

To find better managing policies, it is essential to compare and contrast decision-making by various policies. Both advantages and disadvantages can bring totally different results to the market.

3.1. Policy A: Government Intervening versus Free Market

The impact laid on digital economy by government intervening can be positive due to its security. Unlike a free market, there will be fewer situations with over-competitions, such as the inflation of specific products or services, which might cause implausible pricing strategies, which bring unhealthy developments on the markets. In the meantime, most of the market failures can be avoided since governments can post respective policies, such as taxes on producers or consumers, to keep the market in an equilibrium position with an acceptable fluctuation range. These actions can be considered as the protections made by the government to keep markets secure and avoid sudden significant unemployment in specific fields. However, under management like this, markets might not develop with sudden and robust growth.

On the other hand, free markets comparatively provide benefits to the digital economy as well. Even though the digital economy has been recognized and focused by more and more regions and countries, as an unsaturated market, the digital economy market may develop more rapidly if more freedoms were allowed. In other words, without restrictions, industries and individuals have to face competition among the others. Thus, they have to pay more attention to various strategies in order to survive in the market, such as making themselves more outstanding and unique compared with others and attracting customers to consume. Nevertheless, the drawbacks include the instability of the market, while monopolies and intensive unemployment can occur in a short period, which symbolizes an unhealthy environment of development.

Combining the advantages and balancing both two strategies can be effective in not only restricting market failures but also providing better developments to the markets. It is noticeable how to balance them since they have almost contradictory characteristics.

3.2. Policy B: Concealing or Opening Access to Data

Due to the privacy protection of companies' information, it is common to conceal some data of industries or individuals from others. These data might involve confidential information about any companies, which may keep them competitive. Moreover, compared to the traditional economy focusing on offline trades, there may be more data can be collected in the digital economy. These data may use to measure the trends and then predict the future situation, also change pricing strategies and other essential decisions for making more revenue and profits. Consequently, the limitation of the data might cause not well-rounded considerations of rivals' impacts on the company itself. Also, there will be less cooperation if most of the data are only available to the company.

On the other hand, sharing data can provide a wider overview of the whole market. Thus, the shortage of any products can be measured obviously. Thus, strategies can be adjusted through deep analysis of the market. In addition, the prosperity of a company can be shown with the data provided to the public, indirectly showing the popularity of products and services respectively. Despite the fluctuation of employment, the shortage of any products or services can be supplied by new-coming companies, which brings chances to those that are not comparatively competitive at first.

Thus, both the company and the market can develop a balance of data protection and sharing. It is significant for companies to distinguish the data considered secret and public. To avoid any profit from other people's toil, it is plausible to restrict the access to others of any company not sharing information. Learning and advancing from previous experience shown by data, companies can find a suitable way of surviving and prospering, as well as the market.

As shown by the previous study, privacy data is restricted not only by producers after making trades but also by consumers, forming an interdisciplinary nature of data protection issues. As a result, from a private protection perspective, dealing with the protection of private information of consumers becomes a new challenge. Thus, the data that companies publicize has to undergo strict selection, or they might involve with relative laws [13].

3.3. Policy C: Innovative Incentive and Restricted Rules

Innovative incentives are more likely to become a necessity for the development of the digital economy. For instance, in the case, of Hangzhou government planned to give millions of yuan(s) to those companies that made intensive contributions, such as innovating new products, techniques, and services. After the policy was published, more and more companies threw themselves into digital fields. The subsidy was awarded to not only innovations but also cooperation. Cooperation can involve both short and long distances, which means further, even diplomatic, relationships may be built based on this, just as the previous text mentioned [9]. Based on the annual report, the return of this policy shows its effectiveness. Policies about innovative incentives can be displayed in multiple forms, including subsidies and less tax.

While motivating the digital economy to develop, it is necessary to clarify the usages and directions of itself and its relative products. As the previous paper mentioned [6], the digital economy can be generalized into several steps. Thus, supervision can be fundamentally separated based on various stages of the digital economy, avoiding not paying enough attention to any process. The restrictions brought by rules and laws are essential as well. They must be published to restrict uncertain or illegal actions, avoiding using loopholes. They emphasize and clarify the red line of development and research, ensuring the security of the digital economy.

To sum up, both motivations and restrictions have to be involved with digital economy development. How to find a way to balance these two factors is the key to providing external stimuli to companies.

3.4. Generalization of previous discussion

Generally, all policies relate to the better development of the digital economy, but the last policy involves necessary restrictions to limit the development from being illegal. There is no absolute right or wrong to any policymaking; instead, experimental areas may be needed to testify to the effectiveness of various combinations. One more thing to consider, companies and policies can have an interdependent relationship. Thus, companies, as well as markets, should be considered and placed in the first place. Policies are made for better development and directly change the environment of the markets.

Among different combinations of these policies, each stage may need a specific managing policy. For instance, allowing more freedom to the market and providing many funds may be a good choice to develop the digital economy at first, just as in the case presented before. In an unsaturated situation, this field needs more opportunities to innovate and attempt. After being matured, digital economy markets can be ruled with well-rounded, matured rules and laws to suppress negative impacts, while unsuitable subsidies or incentives might be substituted.

During the policy implementation, there may be some difficulties to overcome in reality. For example, the measurements of standards have to be unified, and the supervision has to keep examining. To make the system well-rounded, establishing multiple committees or parties might be an ideal choice.

4. Suggestions

4.1. Suggestion 1: Optimizing the balance between government intervention and freedom of the markets

Balancing factors limiting the freedom of the markets, it is significant to measure both impacts from the governments and markets themselves. For the government, the efficiency and effectiveness of the supervision are both critical to measure the impacts affecting the markets. In order to increase such things, governments have to put more sights on the markets, rather than publishing general goals. It is essential to improve from each version, while progress can be made from both policies' adjustments and actual supervision. For example, paying more attention to consumers' comments on any weakness of the markets may contribute to the next policymaking, while collecting comments will be more convenient online in digital economy markets.

In addition, keeping competitiveness in the markets, despite any monopolies, is crucial as well. Otherwise, there will be no incentives to make trades and bargains in the markets, while the digital economy is in an unsaturated state, showing an increasing trend to be a momentous portion of the total economy. Setting taxes or providing subsidies on imports or exports may be decisive to motivate competition in the markets.

4.2. Suggestion 2: Strengthening data protection and dealing with access to the data

As the paper mentioned before, companies have the responsibility to protect any private information that customs provide. Projecting relevant laws can ensure the security of information from illegal usage. Nowadays, more laws are established; furthermore, they can be more well-rounded in the future if any loopholes appear.

Some data also has to be available in order to push the progress of the digital economy's development. Heavily based on data analysis, the digital economy can better fit people's favor through views and comments. Then, more people might be willing to participate in the digital economy. As a result, data like people's interests, derived from their clicks into various portions of the applications, can significantly develop a digital economy, while self-adaption models may function like that.

4.3. Suggestion 3: Motivating innovation incentives with restrictions from rules and laws

In the case of Hangzhou's development, creating thorough innovations' incentives already shows its necessity as a role of digital economy progress. In the long term, desirable profit or benefits may attract more firms and create more revenue in the markets. On the other hand, the reason why rules and laws should be optimized is fitting for various stages of development. For instance, not only the penalty but also taxes can be suppressed due to the exponential growth of the economy, by increasing the incentives of the economy. The rules are made, while following the trends of the markets, for restricting unnatural progress of the markets and avoiding illegal transactions.

4.4. Generalized Suggestions

In general, the digital economy can be strengthened by establishing multi-facets and multi-parties cooperation. Last but not least, win-win situations can happen when managing policies are made together by both or multiple sides. Due to different biases in production, the advantages of different countries and regions can be different. Complementing each other can create more revenues than one's own can be. Thus, international and diplomatic associations of signing contracts and experience sharing are beneficial to both the global digital economy and local ones. They can also take the benefit of any online implements, relying on the digital economy.

5. Conclusion

To sum up, various management policies are mainly affecting the speed of the digital economy's developments. As digital technology developed, such as artificial intelligence, proper freedom, and errors could be tolerated, and policies should be adjusted due to the economy's growth. That being said, meaningless restrictions and overemphasized rules are harmful to quick development in response to technology's improvement. The research studied the case of Hangzhou and theoretically proved that incentives and motivations are needed for the primary development of the digital economy. Also, with huge goals settled, markets should be managed under certain governments' limitations to achieve the targets. Data, furthermore, with proper protections, can be shared to interest people based on the models, like self-adaptions. Thus, with more consumers and producers, markets can grow as the plans supposed.

This research is limited by the restriction of data analysis into the digital markets, and it also misses any detailed solutions to solve the questions in reality. Also, the reality will be more complicated than the theoretical assumption, while several details and errors haven't been counted. In the future, more papers can be done based on plausible key ideas mentioned in this paper, and find realistic and practicable policies or adjustments to solve the market failures caused by managing policies. With the stages of development progressing, research may change its core to maintaining the stability of the digital economy.

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