Research of Mobile Phone Recycling Mode under the Background of E-commerce

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Abstract

This paper analyzes the mobile phone recycling environment, compares traditional mobile phone recycling models with successful foreign models, and studies the current status of waste mobile phone network recycling, analyzes the influencing factors of mobile phone recycling in the context of e-commerce, and proposes waste mobile phones under e-commerce. The proposal of recycling development provides a reference for the development of the platform. This article mainly conducts research through literature research method, case research method and qualitative analysis method.

Keywords

Mobile phone recycling, Internet plus, E-Commerce.

1. Introduction

With the advent of the 5G era, mobile phones are being updated more quickly, and our country is now facing social and environmental problems brought about by a large number of waste mobile phones. For a long time, the standard and effective treatment of used mobile phones has been haunting the development of our country, until the popularization of e-commerce brought new opportunities for mobile phone recycling. The rapid progress of the mobile phone industry and the acceleration of the update speed of mobile phones have given rise to a considerable accumulation of waste mobile phones. In China, only 1% of the mobile phones are recycled [1], and only a small part of the recycled mobile phones are through formal A large number of used mobile phones are recycled through small workshops, or directly buried or discarded, resulting in a waste of resources. Based on the huge waste mobile phone market, it is extremely important and necessary to effectively recycle waste mobile phones. The network recycling model of "Internet plus recycling" has been tried very early in our country, but it has only gained real advance in recent years. At present, there are relatively few researches on mobile phone network recycling, mainly qualitative description and analysis. Lu summarized and analyzed the development history of the earliest established Shanghai Xin researched online waste collection model over the past few years, and submit a development plan for the recycling model [2]. Xue summarized and analyzed the whole process of Shanghai Xinjinhua's advance from the founding road. He believes that online waste collection will be the future development trend, and he also put forward the development difficulties and related policies [3-5]. Chen analyzed the economic benefits brought by the online waste collection model and the way of marketing and promotion [6]. Zhang Cheng analyzed the development tendency of the "Internet plus recycling" model and the drawbacks that have to be overcome. At the same time, the popularization of online recycling also requires the cooperation of society and the government [7]. Ge and Kong respectively constructed waste mobile phone recycling logistics network planning models, and through the simulation, studied the waste mobile phone recycling logistics network planning under different constraints [8, 9]. In terms of domestic policy, the State Environmental Protection Administration has also proposed a series of measures to regulate the responsibilities of electronic product recycling in the market, and proposed that

the recycling of electronic waste should follow the Extended Producer Responsibility (EPR) system. In the "Disposal Catalogue of Waste Electrical and Electronic Products (2014 Edition)" published in February 2015. Mobile phones are also contained in waste electrical products, that is, mobile phone recycling can also enjoy government subsidies. On the one hand, the system regulates the responsibilities of mobile phone manufacturers, and on the other hand, it also actively provides financial subsidies to mobile phone recycling agencies. However, in terms of the current mobile phone recycling form, the effect is not obvious. Although my country has established a unique treatment method, it still faces a serious shortage of mobile phone recycling, which makes it impossible to form a scale effect during processing and it is therefore difficult to make a profit. The recycling of used mobile phones based on e-commerce in my country has developed rapidly in recent years. This model of mobile phone recycling breaks the limitations of time and space. However, since it is in its infancy stage, it is not mature enough in terms of operation and profitability and needs to be explored and improved. How to effectively recycle waste mobile phones, make full use of resources, and achieve profitability is the key to ongoing research.

Mobile phone recycling in the context of e-commerce mainly refers to the Internet-based function, which realizes the exchange of information and transaction of mobile phone recycling on the Internet, that is, "Internet plus mobile phone recycling". Many mobile phone manufacturers, mobile phone processors and various third parties have established C2B or C2C network recycling platforms. According to the standard of the platform, the user describes the condition of the mobile phone that needs to be recycled, and then after the evaluation of the recycling company, the user can reach a consensus on the recycling price, and then the transaction can be started. Through the combination with e-commerce, a lot of complicated processes are eliminated, information exchange is rapid, and manpower and material resources are saved. After reaching a recycling agreement with the user, the specific courier company or self-operated recycling team will transport and recycle the mobile phone, which shortens the intermediate link from the merchant to the user and saves time and costs.

2. The main Problems of Mobile Phone Recycling

2.1. Recycling methods are nefficient and costly

When enterprises carry out mobile phone recycling under e-commerce, after reaching a transaction with customers, there are many ways to recycle mobile phones offline. The main way is to cooperate with expressing companies. However, due to the scattered distribution of used mobile phones, reverse logistics is equivalent Time-consuming and cost-consuming, it is not conducive to platform management logistics and statistical data; if the mobile phone recycling platform builds its own logistics channel, the recycling cost is too high and the coverage is limited. During the period, different locations and different times need to be considered for mobile phone recycling vehicles and train times , The different arrangements of routes greatly increase the cost of logistics transportation management, and the packaging, handling, storage and other logistics activities of used mobile phones will also be involved in the transportation process, which will occupy warehouse, manpower and material resources, and carry out its own Normal production will also have a certain impact.

2.2. Waste mobile phone processing technology is not mature enough and recycling rate is low

Take waste mobile phone battery as an example. The traditional pyrometallurgical and hydro metallurgical recycling methods are still used in China. This method has the characteristics of a simple process and quick operation, and can quickly separate the metal, but its shortcomings are also very thoughtful. Obviously, there are sundry metal impurities and low recovery rate.

During the refining process, a large amount of fuel is used, and carbon dioxide, smoke, solid particles, and toxic and harmful gas are also produced. The lack of technology makes us unable to make full use of the resources of using mobile phones when disposing of used mobile phones, and further increases the disposal cost of the remaining residues.

2.3.   The recycling platform has serious homogeneity and a single profit model

At present, the network recycling mode of used mobile phones is still in the development stage, and a unified industry standard has not been formulated. At present, many mobile phone manufacturers, platforms and individuals have begun to enter the mobile phone recycling industry, but due to the lack of corresponding regulations and systems, there is no mature and reasonable industry The mobile phone recycling industry has a very low entry barrier. The business homogeneity among various recycling companies is intense, and the service level is uneven. When companies compete for market resources, they often do not have long-term considerations and neglect to build their own core competitiveness. Make a big fuss on the price and use more concessions and subsidies to attract users. Regardless of the fact that this method can create more palpable benefits in a short period of time, from a long-term perspective, other companies will also be pressured on prices. Changes have resulted in vicious competition; this kind of improper way of competition that only cares about immediate interests and competes for customers can easily cause chaos in the industry and hinder industrial progress.

2.4.   Incomplete laws and regulations related to mobile phone recycling

In the past, the recycling of mobile phones was done by community organizations, and different types of garbage were processed through garbage classification and recycling. The proposal of EPR extends the responsibility of the product producer to the entire life cycle of the product, especially the post-consumer recycling process and regeneration phase, which advance the improvement of the environmental impact of the product life cycle. Nevertheless, as a normative measure, the principle does not possess compulsory normative measures. It does not stipulate that mobile phone manufacturers and sales companies must recycle and dispose of their personal mobile phones, or impose monetary penalties on companies that do not recycle mobile phones. At the same time, due to the large number of mobile phone manufacturers in China, the confusion of mobile phone processing methods, the difficulty of recycling, and the risks, many companies are unwilling to spend money on mobile phone recycling. Therefore, the current implementation effect of the EPR system is not ideal, and it is very normative for enterprises. weak.

3.   Mobile Phones Recycling Mode Optimization Strategy under E-commerce

3.1.   Strengthen platform characteristic construction and improve service level

1) Ensure the safety of website operations and the confidentiality of customer information, and provide users with information security protection. For instance, the platform helps eliminate the information on the mobile phone face-to-face when recycling the mobile phone to increase mutual trust and improve user experience.

2) Strengthen the service quality of the platform, enhance the brand image of the platform, and obtain a long-term and sustainable competitive advantage.

3) Strengthen staff training, improve staff professionalism, and bring users a better service experience.

4) Reasonably allocate platform resources, reduce the intermediate links of recycling mobile phones, reduce recycling costs, improve platform operation efficiency, and ensure smooth operation channels.

3.2. Improve platform profit models and increase profitability

1) Cooperate with mobile phone manufacturers to provide more preferential mobile phone repair and maintenance services. The platform is responsible for the collection and recycling of transportation, and the manufacturer is responsible for the maintenance and maintenance of mobile phones to provide users with more convenient services.

2) The second-hand mobile phone can be purchased on the platform. The user who owns the mobile phone publishes the second-hand mobile phone information on the platform, and the demander checks it on the platform. If both parties agree, the transaction can be directly conducted in a C2C model. Making a profit by charging a certain service fee.

3) The network recycling platform can actively cooperate or merge with other competitors to increase the strength and influence of the platform, realize oligopoly, gain a larger market and obtain faster development, and avoid vicious competition brought about by price wars.

3.3. Improve technology for recycling and disposal of used mobile phones

1) My country can learn from various foreign excellent experience and treatment methods to improve the utilization rate of used mobile phones. Distant countries have robust technologies and industrialized applications in the recycling of used mobile phones. Take the recycling process of mobile phone batteries as an example. As a rare metal, cobalt does not constitute a very reliable way to extract it from mobile phones in China. Japan's Sumitomo Metals Co., Ltd. and Sony have jointly developed an extraction from waste lithium-ion batteries. Metal cobalt and other precious metal elements are technology that removes organic matter through a series of incineration, and extracts the cobalt element by a method of melting and catalysis, and almost no additional waste is generated.

2) All enterprises and relevant research departments in my country should also increase their efforts to undertake a study on waste recycling. Give full play to their individual initiative and actively carry out innovative development.

3) Encourage mobile phone manufacturers to use recyclable green materials to produce mobile phones. Making mobile phones from materials that are beneficial to recycle can facilitate more effective material derivative use by manufacturers after mobile phones are recycled, ensuring the recycling rate of materials and reducing waste.

3.4. Improve laws and regulations

1) It is proposed that relevant departments actively implement and implement mobile phone recycling responsibilities for mobile phone manufacturers and distributors. The EPR system is essentially economic liability. That is, "who makes a profit is responsible." When recycling mobile phones, mobile phone distributors and manufacturers are all dependable. At present, it is widely accepted that only mobile phone manufacturers are responsible for the recycling of mobile phones. It is misleading, which also makes numerous distributors decide to avoid the issue of mobile phone recycling.

2) Improve the preferential electoral system for mobile phone recycling by enterprises, actively encourage and financially reward enterprises that have carried out mobile phone recycling, while enterprises that fail to fulfill their mobile phone recycling responsibilities should be punished and regulated their behavior.

4. Summary

The rise of the Internet plus mobile phone recycling model is driving the upgrading of the business model of traditional industries. Mobile phone recycling under e-commerce breaks the time and space constraints of traditional mobile phone recycling mode transactions and resolves the information asymmetry between the two parties. Utilizing the network platform

to connect users and processing companies improves recycling efficiency and reduces recycling costs, so that more discarded mobile phones flow to formal processing companies, saving resources and reducing environmental pollution. In this article, there are still deficiencies in the applicable laws, regulations, policies, and related industry standards and regulatory measures for the recycling of used mobile phones. How to survive in the fierce market competition is a problem that the network recycling platform must consider. In the context of e-commerce, used mobile phone recycling platforms must strengthen the platform's characteristic construction, improve service quality, enrich platform profit models, improve profitability, actively promote the implementation of relevant laws and regulations, protect the rights of both the platform and users, and promote the further development of the mobile phone recycling industry development of.

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