The impact of urban green and intelligent logistics on urban environmental protection

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Abstract. With the acceleration of urbanization in China, the problem of urban pollution has become more and more serious, which has brought great negative impact on people's life. The construction of urban intelligent logistics system, planning and guiding the green development of the city, at the same time, it also plays a certain role in promoting the environmental protection of the city. In this paper, based on factors other than green and green city green wisdom logistics countermeasure analysis, put forward the comprehensive evaluation index system of green wisdom logistics, combined with urban environmental protection, put forward the application of fuzzy analysis method to evaluate urban environmental protection green wisdom logistics, and put forward the comprehensive evaluation index system of urban green wisdom logistics contributes to promoting the development of green and urban environmental protection.

1. Introduction
At present, the problem of urban pollution is becoming more and more serious, which will lead to environmental degradation and hinder the economic development of cities. And affect normal environmental stability. With the construction of environmental protection facilities, urban environmental protection has been attached great importance. Green intelligent logistics, in accordance with requirements of the orderer processing, packaging, distribution, etc, - urban logistics is an important component of modern logistics service system, is the basic safeguard urban economy is an important factor affecting the urban environment protection, our country is in the key stage of urbanization, as the urban population and industry focus on rapid growth in urban distribution, This has an increasingly serious negative impact on urban traffic and the environment. Promoting the clean development of urban environment has become an important means to reduce the contradiction between the increasing demand for housing and the increasing demand for environment. China attaches great importance to the development of green urban layout, and has adopted a series of incentive measures and implemented relevant pilot projects. On the whole, however, the greening of our urban landscape is still in its infancy. Green city knowledge logistics is being studied in order to improve the efficiency of urban logistics system, reduce the impact of logistics on the urban environment, use green technology and knowledge technology, promote the green development of the city, protect all aspects of the urban environment, ensure the environmental sustainability of urban logistics and protect the urban environment.
2. Impact of urban green and smart logistics on urban environment

Urban smart logistics includes a series of logistics activities such as warehousing, transportation, loading and unloading, handling, packaging, circulation and processing. As for urban environmental protection, the paper identifies the non-green factors existing in each link and puts forward the corresponding green countermeasures to provide the basis for urban environmental protection.

2.1. Transport and distribution link

2.1.1. Non-green factor. First, the automobile technology level is backward, energy consumption emission level is not up to standard. According to statistics, China's urban logistics delivery vehicles account for nearly 6 million. Among them, the proportion of old diesel vehicles is high, the pollution is large, the energy consumption is high, and the urban environment is seriously polluted. According to the survey, China's urban cargo transport volume accounts for 20% ~ 30% of the total urban traffic, emissions account for about 30% ~ 40%. The NOx and PM of freight vehicles accounted for 68% and 79% of total vehicle emissions respectively. Second, the transportation organization is not reasonable. At present, there is insufficient effective connection between trunk transport and urban configuration, a large number of roundabout and inefficient transport, low transport efficiency, and increased integrated distribution costs. Unreasonable means of transportation also increase the traffic pressure in cities. These increase the pollution of the city.

2.1.2. Green measures. One is to choose environmentally friendly means of transport. For example, choose new energy vehicles using pure electric, natural gas, fuel ethanol or gasoline hybrid technology, or fuel freight vehicles with higher emission standards. The second is to optimize the organizational model. For example, advanced distribution methods such as joint distribution and centralized distribution can be adopted to strengthen the integration of distribution resources and reduce invalid transportation. Third, improve the level of information technology. For example, through the construction of information service platform, the efficiency of supply and demand connection of distribution can be improved and the empty train rate can be reduced. All these have had a key impact on the protection of the urban environment.

2.2. Package

2.2.1. Non-green factor. One is excessive packaging and waste of materials. Take express delivery as an example. Express packages usually include various packages. Include paper purchase list, plastic bags, cartons, tape, internal fillers (such as foam bags), etc. The packaging recovery system is not sound. There is more trash to be rushed away, but there is little recycling. In the solid waste of packaging waste, the overall recovery rate of paper packaging material reaches 90%, the recovery rate of plastic is only 14%, and the recovery rate of composite material is only about 10%. Third, packaging materials are not good for the environment. Express waste that cannot be recycled is usually disposed of in landfills and incinerations. Resulting in soil hardening and fertility decline, pollution of the atmosphere. The effects are even more serious when plastic particles are recycled into groundwater.

2.2.2. Green measures. One is to encourage less packaging. Encourage the promotion of operational measures to simplify packaging. For example, use packaging technology to reduce the use of materials while sending the original packing cases. Promote the construction of packaging recovery system. Promote the application of packaging containers such as turnover boxes and recycling boxes in urban distribution, establish a recycling mechanism for non-circular express delivery, and promote the reuse of packaging containers and packaging materials. Third, promote the application of green packaging materials. Promote the application of green packaging materials such as plastic packaging and environment-friendly ink, and reduce the negative impact of waste packaging on the environment.
2.3. Loading and unloading link

2.3.1. Non-green factor. First of all, the goods were seriously damaged during the loading and unloading process. Loading and unloading is the main link of goods damage in the process of logistics. In particular, some liquids that have a direct impact on the urban environment cause air pollution and the high rate of loss of goods leads to social waste. Second, some loading and unloading equipment is technically backward, causing a certain degree of pollution. At present, part of our warehouse is still in use. Fuel plug, low operating efficiency, high noise, large exhaust and other problems.

2.3.2. Green measures. First, promote the standardization of container transport and operating tools. Promote the coordination and standardization of series standards such as color palette, logistics turnover box, shelf, vehicle packaging module, etc., greatly improving the loading, unloading, handling and logistics efficiency of each link. Promote the standardization of unit logistics work. Logistics unit as a measurement unit, information unit, ordering unit, to promote the carrier's transportation, and the delivery of the carrier, and the delivery of the carrier, to promote the transport container in different business entities and different process links between the circulation and sharing, reduce the damage rate of goods. Second, promote the use of green loading, unloading and handling equipment. Electric forklifts are characterized by low noise and no exhaust pollution. At the same time, with the development of electronic control technology, electric loading, unloading and handling equipment has developed advanced technologies such as lamination machine, narrow alley forklift, AGV and RGV.

2.4. Circulation processing link

2.4.1. Non-green factor. First, the scale of decentralized treatment is reduced, resulting in low efficiency. At present, some companies distribute processing links near consumers to improve customer response time. However, due to the low efficiency of decentralized treatment and the inconsistent standards, it increases the consumption of resources and causes a lot of resource pollution to the city. Second, there is waste pollution in the circulation and processing links. In the process of recycling and utilization, the waste often produced will cause serious environmental pollution

2.4.2. Green measures. Focus on recycling processing, reduce costs and improve efficiency, reduce waste pollution. Through centralized processing and unified distribution, it strengthens the scale effect, promotes the popularization of standardization and the application of advanced processing technology, improves the service quality, reduces the cost and efficiency, and reduces the waste pollution.

3. Development trend of green and smart logistics

The concept of green logistics and intelligent logistics has not been formed in China. The whole society has not yet fully established the awareness of the development of green and intelligent logistics. As the main body of the market, most enterprises do not really undertake social responsibility, but passively abide by the government's environmental laws and regulations, and passively carry out related business. With the strengthening of government policies and people pay more and more attention to the environment, urban green and intelligent logistics will usher in further development.

Wisdom is promoting the development of urban logistics. Now logistics enterprises have made great progress in the information system of intelligent logistics. Many enterprises have a variety of equipment for information, sensing, collection, transmission and processing. The application scope of RFID, GPS/GIS, EDI and other information technologies is gradually expanding, the integration of information resources is still in the exploration stage, and the intelligent process of logistics operation process is also constantly advancing. Cargo tracking systems, intelligent transport management systems and automated warehouse management are already on the scale. In the future, relevant government departments should further strengthen the standardization of information. Enterprises should collect and obtain information resources through the public logistics information platform, realize the smooth connection between the
exchange layer and the application layer, and finally establish a complete intelligent logistics information platform. The whole logistics process is supported by information technology, which realizes the functions of system perception, exchange, analysis, processing feedback and self-correction in each stage of logistics activities. In addition, logistics enterprises can reduce operating costs and expenses and obtain economies of scale through joint operation of equipment, data information and package services of logistics facilities. It is an inevitable trend for the development of urban logistics to ensure the high efficiency of the whole process of logistics, combine highly with the information industry and move towards intellectualization.

Regarding the development of urban green logistics, China has formulated and published relevant policies and regulations to solve environmental pollution in recent years, but in order to meet the international green standards, the implementation of specific policies is still very perfect. Therefore, the development of green logistics needs the input and participation of the government, as well as the active guidance and policy support at the macro level. It is not enough to rely solely on environmental protection efforts and a single enterprise's awareness of sustainable development. Business interests of enterprises is the first goal, green development requires the unity of economic benefits, social benefits and environmental benefits, efficient and sustainable harmonious development, such as green logistics link through joint distribution, distribution facilities, promote the use of clean energy, improve the urban environment and logistics efficiency width improved. The continuous maturity of logistics technology will also provide effective support for the development of green logistics.

4. Green intelligent logistics and environmental comprehensive benefit evaluation
The development of green and intelligent logistics is the foundation of sustainable urban development. Emphasis is laid on reducing the waste of resources in the whole process of logistics activities, reducing harmful behaviors of urban environment, and integrating the concept of logistics activities and environmental harmony and symbiosis. That popularization contributes to the sustainable development of the society and economy. With more and more serious environmental pollution, in order to improve people's environmental awareness, green logistics activities are gradually paid attention to. With the concept of sustainable development, consumers' recognition of enterprises and products is getting lower and lower, and enterprises are paying more and more attention to social responsibility and contribution to society. Improve benefits and benefits, establish a good image of the enterprise, improve the brand value of the enterprise, but also contribute to the protection of the urban environment. The comprehensive effect analysis can be used as the social and economic effect index of waste.

Therefore, the comprehensive effect evaluation of green intelligent logistics mainly consists of two parts: social benefit index and economic benefit index. Social benefit indicators are indicators that bring improvements to a city through resource conservation, environmental protection and sustainable development. Economic efficiency index is an index that helps to improve the market competitiveness of enterprises. It can list the improvement of economic efficiency and cost reduction of enterprises. The specific evaluation index system is shown in Table 1. The indexes recorded in the evaluation indexes are used as reference indexes to analyze the effect of urban green intelligent logistics in the practical application process from the perspective of economy and society, which can better guide the practice and improve the comprehensive effect. Among these influencing factors, as many indicators are qualitative indicators, the degree of their merits and demarcations are not clear. The following explanations are given for each indicator.
Table 1. Comprehensive benefit evaluation index of urban green and smart logistics.

| Social benefits                                      | Economic benefits                                      |
|------------------------------------------------------|--------------------------------------------------------|
| Saving energy contribution rate                      | Reduce cost contribution                               |
| Reduce the contribution rate of pollution            | Recycling efficiency                                   |
| Consumption rate of non-renewable resources          | Contribution rate of technological innovation         |
| Consumption rate of recyclable resources             | Government support contribution rate                   |
| Industry contribution rate                           | Return on project investment                           |
| Urban greening has been promoted accordingly         |                                                        |
| Contribution rate of city image                      |                                                        |

Public environmental protection and social development

4.1. Social benefit evaluation

The contribution rate of energy conservation and emission reduction, the consumption rate of non-renewable resources and the consumption rate of renewable resources are determined according to the reduction of energy consumption, pollutant emission, consumption of non-renewable resources and consumption rate of renewable resources. According to the proportion of GDP created by urban green intelligent logistics industry in the whole society's green intelligent industry, as well as the promoting effect of green concept on society, the industrial contribution rate and green effect promotion index are determined. They reflect the promoting effect on the logistics industry, and the higher the proportion, the higher the importance. The contribution rate of urban image and public environmental protection facilities construction is determined according to the degree of urban standardization or environmental improvement brought about by the application of urban green and smart logistics. It reflects the importance of urban green logistics and intelligent logistics to the image and construction of a city.

4.2. Economic benefit evaluation

According to the development of green intelligent logistics, the total cost of the system is reduced, and the degree of waste recycling, the contribution rate of cost reduction and the recovery rate are determined. The index of technological innovation contribution rate is determined according to the contribution degree of technological innovation progress to profit growth, without considering the influence of capital and labor factors. The larger the proportion, the more important the technological innovation. The contribution rate of government support is determined according to the increased income of government financial subsidies, tax exemptions and other policy support, which reflects the position and help of government support in the application process of urban green intelligent logistics. The rate of return on investment of the project is determined according to the proportion of effectively improving the rate of return on monetary capital through investment and construction in the practical application of urban green intelligent logistics.

According to the dual social and economic attributes of green smart logistics, this paper takes these two elements as the main evaluation indexes. Considering that this part is a qualitative index, the ambiguous evaluation method is chosen in the comprehensive evaluation. This is an evaluation method based on the ambiguous comprehensive evaluation method. Based on the indistinct mathematics theory, the qualitative evaluation of the degree of subordination is transformed into a quantitative evaluation that is, using the ambiguous mathematics. Comprehensive evaluation of things and objects restricted by various factors. In the evaluation process, the weight of the indicators is quantified. The specific methods are DELFI (expert survey method), analytic hierarchy process, etc. In the actual operation, the evaluation results are influenced by expert knowledge, experience and personal preferences. The advantage of fuzzy analysis method is that it can solve the difficulty of fuzziness and quantification, and it is mainly applied to the problem of uncertainty evaluation. The basic steps are as follows.

1) Firstly, the factor set of the evaluation object is determined: \( U=\{u_1,u_2,\ldots,u_n\} \).
2) Determine Evaluation Set: \( V=\{v_1,v_2,\ldots,v_m\} \), they represent sorrow, good, medium and bad.
3) Establish weights to reflect the importance of factors.
4) Establishing a fuzzy matrix
5) The result vector of fuzzy comprehensive evaluation was calculated

5. Conclusion
Urban green intelligent logistics has become a new development direction of logistics industry. It has developed rapidly and been widely used in foreign countries, but it is still in its infancy in China. Through the comprehensive evaluation of green intelligent logistics, people can have a more comprehensive and deeper understanding of it, and it has a certain positive impact on promoting urban environmental protection.

Acknowledgments
The work was sponsored by the School of Management, Tianjin University of Technology.

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