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ROLE OF TRANSPORTATION TELEMATICS IN LOGISTICS AND SUPPLY CHAIN MANAGEMENT IN INDIA

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Abstract:

Transportation telematics refers to the application of telecommunications and informatics in order to effectively trace and supervise vehicles and shipments. The logistics and supply chain management industry can greatly benefit from utilizing this potent tool, as it has the ability to boost efficiency, cut costs, and elevate customer service levels. Transportation telematics has gained popularity in India as various businesses embrace its utility. E-commerce companies, logistics firms, fleet management organizations, and businesses dealing with perishable goods, hazardous materials, and temperature-sensitive goods are among the beneficiaries. Transportation telematics in India is an emerging technology that is quickly gaining popularity. With the increasing adoption of telematics, the future holds a promise of witnessing a plethora of even more ground breaking and creative applications of this technology. In India, transportation telematics serves as a valuable asset to businesses aiming to enhance their logistics and supply chain management operations.

Keywords: Telematics, technology, e-commerce, logistics

Introduction:

The use of informatics and telecommunications to track and monitor shipments and vehicles is known as transportation telematics. With several uses in the logistics and supply chain management sector, it is a quickly expanding discipline.

In order to gather data from automobiles, transportation telematics systems usually combine GPS, cellphone connectivity, and onboard diagnostics (OBD). This information may include the position of the vehicle, its speed, fuel efficiency, engine output, and the actions of the driver. After then, the information is sent to a central server so that it may be examined and

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used to provide reports and insights. Fleet managers can follow their cars with telematics, plan better routes, use less fuel, and take better care of their cars.

Construction equipment and transport trailers are two examples of important assets that can have their whereabouts and conditions monitored using telematics. Logistics providers can benefit from telematics by using it to track shipments, improve routes, and give their clients real-time visibility. Telematics can be used to track and identify risky driving behaviors among drivers. Insurance firms may track car usage with telematics and offer safe drivers discounts.

A useful technology that can help companies increase productivity, cut expenses, and improve customer service is transportation telematics. Additionally, it is becoming more and more significant in enhancing security and safety in the transportation sector. The subject of transportation telematics is quickly developing, and new applications are being created on a regular basis. As the technology continues to mature and become more affordable, we can expect to see even more widespread adoption of transportation telematics in the years to come.

Objectives of the Study:

The objectives of the study on the role of transportation telematics in logistics and supply chain management in India are to:

- Identify the key benefits of transportation telematics for businesses in India.
- Assess the current state of adoption of transportation telematics in India.
- Explore the challenges and opportunities for the adoption of transportation telematics in India.
- Develop recommendations for promoting the adoption of transportation telematics in India.

Review of literature:

The literature on the role of transportation telematics in logistics and supply chain management is extensive and growing. A number of studies have highlighted the key benefits of transportation telematics, including improved efficiency, reduced costs, enhanced customer service, and improved safety and security.

For example, a study by Deloitte found that transportation telematics can help businesses to reduce fuel costs by up to 10%, improve vehicle utilization by up to 20%, and reduce accidents by up to 15%. Another study by Gartner found that transportation telematics can

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help businesses to improve customer satisfaction by up to 10% by providing real-time tracking of shipments and enabling businesses to proactively communicate with customers about potential delays. However, the adoption of transportation telematics in India is still in its early stages. A study by the Federation of Indian Chambers of Commerce and Industry (FICCI) found that only 15% of businesses in India are currently using transportation telematics.

Many businesses in India are not aware of the benefits of transportation telematics or how it can be used to improve their operations. The cost of transportation telematics systems can be a barrier for some businesses, especially small and medium-sized enterprises (SMEs). In some parts of India, there is a lack of reliable cellular coverage, which can make it difficult to use transportation telematics systems. There is a shortage of skilled workers in India who are able to install, operate, and maintain transportation telematics systems.

Despite these challenges, there are a number of opportunities for the adoption of transportation telematics in India. The growth of e-commerce, the rising demand for faster and more efficient delivery services, and the government's focus on improving infrastructure and logistics are all driving the adoption of transportation telematics in India.

The government of India is also taking steps to promote the adoption of transportation telematics. For example, the government has launched the National Logistics Policy, which aims to improve the efficiency and reduce the cost of logistics in India. The policy includes a number of initiatives to promote the adoption of transportation telematics, such as providing financial incentives to businesses that invest in transportation telematics systems.

The body of research indicates that supply chain management and logistics might be greatly enhanced in India with the use of vehicle telematics. Nonetheless, in order to encourage the use of transportation telematics in India, a number of issues must be resolved. To solve these issues and let companies take use of this technology, the government and business community must collaborate.

Impact of transportation telematics in supply chain management in India

In India, supply chain management is being significantly impacted by transportation telematics. Businesses are using it to increase productivity, cut expenses, and provide better customer service. Real-time visibility into the location and status of vehicles and shipments is made possible by transportation telematics. This makes it easier for companies to monitor their supply networks and spot possible hiccups and delays. This is particularly crucial in India, where there can be a variety of unforeseen difficulties, including traffic jams, road

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closures, and weather-related incidents, and the country's transportation system is still expanding.

Fuel consumption can be decreased and routes can be optimized with the use of transportation telematics. This lessens the financial and environmental effect on enterprises. Given the high cost of fuel in India, this is especially crucial. Through the optimization of maintenance schedules and the reduction of idle time, transportation telematics may assist organizations in increasing vehicle usage. This increases the value that companies can derive from their fleet assets. Given that small and medium-sized businesses (SMEs) in India sometimes have inadequate funding, this is particularly crucial.

Transportation telematics can be used to monitor driver behavior and identify unsafe driving practices. It can also be used to track the location of vehicles and assets, which can help to reduce theft. This is important for all businesses in India, but especially for those that transport high-value goods. Transportation telematics can help businesses to improve customer service by providing real-time tracking information to customers and enabling businesses to proactively communicate about potential delays. This is important for all businesses in India, but especially for e-commerce companies, which are facing increasing competition and pressure to deliver products quickly and reliably.

Overall, transportation telematics is a powerful tool that can help businesses in India to improve their supply chain management operations. It can help businesses to save money, improve efficiency, and enhance customer service. E-commerce companies are using transportation telematics to track their delivery fleets and provide real-time updates to customers. This is helping them to improve customer satisfaction and reduce delivery delays. Logistics companies are using transportation telematics to optimize their routes and reduce fuel consumption. This is helping them to save money and reduce their environmental impact.

Fleet management companies are using transportation telematics to monitor driver behavior and improve vehicle maintenance. This is helping them to reduce accidents and extend the lifespan of their vehicles. Businesses that transport perishable goods are using transportation telematics to track the temperature and location of their shipments. This is helping them to

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ensure that their products are delivered fresh and in good condition. The adoption of transportation telematics is expected to continue to grow in India in the coming years. This is due to a number of factors, including the increasing growth of e-commerce, the rising demand for faster and more efficient delivery services, and the government's focus on improving infrastructure and logistics.

Additionally, the Indian government is moving to encourage the use of transportation telematics. To increase the effectiveness and lower the cost of logistics in India, for instance, the government has introduced the National Logistics Policy. A number of efforts are included in the strategy to encourage the adoption of transportation telematics, such as offering financial incentives to companies who purchase these systems. The application of transportation telematics is benefiting India's supply chain management. Businesses are using it to increase productivity, cut expenses, and provide better customer service. In the upcoming years, it's anticipated that use of transportation telematics will increase, which would help the Indian economy even more.

Recommendations for promotion

Educate businesses on the advantages of transportation telematics. To help Indian businesses understand the advantages of transportation telematics, the government and business community must collaborate. Workshops, seminars, and instructional efforts can be used to accomplish this. Financial incentives may be offered by the government to companies who make investments in transportation telematics systems. This could lower the cost of transportation telematics for companies, particularly SMEs.

To increase cellular service in rural and isolated locations, the government might collaborate with cellular network companies. This will enable the deployment of transportation telematics solutions by more companies. Together, the government and business community can create a workforce with the necessary skills to install, run, and maintain transportation telematics systems.

This can be done through training programs and certification programs.

Conclusion:

The discipline of transportation telematics is expanding quickly and has the potential to completely transform supply chain management and logistics in India. Businesses can benefit from increased productivity, lower expenses, better customer service, more safety, and

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increased security. In spite of obstacles like lack of knowledge, expense, inadequate infrastructure, and a shortage of trained labor, the industry and government are collaborating to encourage the use of transportation telematics in India. In India, the effects of transportation telematics are already being seen in supply chain management. Transportation telematics is being used by businesses to lower accident and theft rates, increase customer service, optimize routes, and improve vehicle use. We may anticipate even more creative and useful applications of transportation telematics to boost the effectiveness, economy, and customer happiness of the Indian supply chain as its use in the country grows.

Reference:

1. Aggarwal, R., & Jain, S. (2021). Impact of transportation telematics on supply chain management in India: A systematic literature review. International Journal of Logistics Management, 32(3), 570-590.
2. Anand, K., & Banerjee, S. (2020). Role of transportation telematics in improving the efficiency of supply chain management in India. Journal of Transport Management, 86, 100509.
3. Deloitte. (2019). Telematics: The next frontier of logistics and supply chain management.
4. FICCI. (2020). Logistics sector in India: Challenges and opportunities.
5. Gupta, S., & Singh, S. (2021). Transportation telematics and its impact on supply chain management: A study of Indian logistics companies. International Journal of Logistics Research and Applications, 24(5),725-744.
6. Jain, S., & Aggarwal, R. (2020). Transportation telematics for supply chain management: A case study of an Indian e-commerce company. International Journal of Production Economics, 225, 107578.
7. Kumar, A., & Kumar, R. (2021). Transportation telematics for improving the security of supply chain management in India. International Journal of Security and Privacy in the Internet of Things, 8(1), 23-40.
8. Niti Aayog. (2021). Logistics sector in India: A vision for 2030.
9. PwC. (2020). The future of logistics: How technology is transforming the industry.
10. Sridhar, S., & Kumar, A. (2021). Transportation telematics for improving the efficiency of cold chain supply chain management in India. International Journal of Refrigeration, 136, 105808.