


# Chapter 9

## Platform Ecosystems in Hospitality and Transportation: A Technological Perspective

Usharani Bhimavarapu

 <https://orcid.org/0000-0002-0246-1420>

*Computer Science and Engineering, Koneru Lakshmaiah Education Foundation,  
India*

### ABSTRACT

*Platforms have become integral to the evolution and efficiency of hospitality, transportation, and various other industries. These digital ecosystems facilitate seamless interactions between service providers and consumers, optimizing resource use and enhancing customer experiences. In hospitality, platforms enable personalized booking, real-time feedback, and dynamic pricing, while in transportation, they improve route optimization, demand forecasting, and ride-sharing efficiency. Other industries also leverage platforms to streamline operations, improve data management, and foster innovation. Advanced technologies like Bi-Stacked Artificial Neural Networks (Bi-Stacked ANN) and Ant Colony Optimization (ACO) are increasingly integrated within these platforms to handle large datasets, extract relevant features, and provide accurate predictions. This paper explores the significance and applications of platforms in diverse sectors, emphasizing the role of intelligent algorithms in enhancing platform functionality and service delivery.*

DOI: 10.4018/979-8-3373-2053-3.ch009

Copyright © 2026, IGI Global Scientific Publishing. Copying or distributing in print or electronic forms without written permission of IGI Global Scientific Publishing is prohibited. Use of this chapter to train generative artificial intelligence (AI) technologies is expressly prohibited. The publisher reserves all rights to license its use for generative AI training and machine learning model development.

## INTRODUCTION

Platforms have transformed the hospitality sector by giving one common virtual platforms that facilitate instant interaction between consumers and service providers. Earlier, it took a long time to reserve a hotel or other accommodations through agents or direct calls. Thanks to platforms such as Airbnb and Booking.com, consumers can immediately compare prices, availability, and comments. Convenience facilitates the fulfillment of increased consumer demands for ease and transparency. Second, the sites allow private hosts and small hotels to access global consumers at low advertising expense. Third, for consumers, the websites provide assurance through confirmed listings, reviews, and ratings that facilitate decision-making. Fourth, the sites allow dynamic pricing models providing better revenue management for hospitality providers. The need for platforms in hospitality occurs with reduced friction, increased access, and maximization of assets' utilization. Platforms also introduce the competition that keeps service quality and customer satisfaction improved. Not least, they introduce efficiency and scalability into the hotel market.

To the transport sector, platforms introduce the critical element of asset-sharing in efficient ways as well as real-time service matching. Historically, flagging down a taxi or for rides required flagging down along the road or the calling of central terminals, which was untrustworthy and time-consuming. Ride-hailing transport such as Uber, Lyft, and Grab utilize sophisticated algorithms for real-time instant matching of riders and drivers, reducing waiting time and the unavailability of services. Real-time matching maximizes use of vehicles and reduces empty rides and hence saves carbon footprints. Besides, transport platforms enable dynamic price elasticity, for instance, surge prices, to stabilize demand-supply. Platforms increase security by tracking rides and providing feedback to riders for drivers and vice versa. Platforms have evolved from taxis to bike-share, car rental, and integrating public transport into multimodal transport hubs. Platforms provide minute-by-minute real-time travel information, and this is helping city planners optimize traffic and infrastructure for enhancement. Transport platforms are driven by a desire for convenience, efficiency, security, and sustainability. Transport platforms transform city transport over time and make transport solutions scalable.

Retail platforms in retailing are significant enablers of seller-buyer transactions across geography. Online marketplaces like Amazon, eBay, and Etsy aggregate hundreds of thousands of sellers and offer choice and competitive prices unprecedented. They make the playing ground level for small and medium enterprises to reach large markets, thus business becomes democratic. Consumers find them to be providing product details, consumer feedback, and safe payment, thus they are safe. Platforms simplify shipping and inventory management by integrating with shipping and warehouse firms. Platforms also connect large bodies of consumer

30 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage: [www.igi-global.com/chapter/platform-ecosystems-in-hospitality-and-transportation/396836](http://www.igi-global.com/chapter/platform-ecosystems-in-hospitality-and-transportation/396836)

## Related Content

---

### **Bridging Agricultural Innovation and Clinical Nutrition to Provide Affordable, High-Quality Food Across Diverse Communities**

Gangadhar Dhulipala and Eugene J. M. Lewis (2026). *Evolutions in Technology, Innovation, Adaptation, and Discovery* (pp. 251-272).

[www.irma-international.org/chapter/bridging-agricultural-innovation-and-clinical-nutrition-to-provide-affordable-high-quality-food-across-diverse-communities/407938](http://www.irma-international.org/chapter/bridging-agricultural-innovation-and-clinical-nutrition-to-provide-affordable-high-quality-food-across-diverse-communities/407938)

### **Analyzing International Business Operations in the Post-Pandemic Era Taking Into Account Industry 5.0 Realities**

Nika Chitadze (2023). *Opportunities and Challenges of Business 5.0 in Emerging Markets* (pp. 79-98).

[www.irma-international.org/chapter/analyzing-international-business-operations-in-the-post-pandemic-era-taking-into-account-industry-50-realities/320726](http://www.irma-international.org/chapter/analyzing-international-business-operations-in-the-post-pandemic-era-taking-into-account-industry-50-realities/320726)

### **Efficacy of ADDIE-Integrated Flipped Learning Model: An Intervention Study**

Vijayakumar S., Tamil Arasan P. and Venkateswara U. (2023). *International Journal of E-Adoption* (pp. 1-10).

[www.irma-international.org/article/efficacy-of-addie-integrated-flipped-learning-model/316536](http://www.irma-international.org/article/efficacy-of-addie-integrated-flipped-learning-model/316536)

### **Routing Protocols Design and Performance Evaluation in Wireless Mesh Networks**

Mohsen S. Alsaadi and Naif D. Alotaibi (2019). *International Journal of Technology Diffusion* (pp. 60-74).

[www.irma-international.org/article/routing-protocols-design-performance-evaluation/219334](http://www.irma-international.org/article/routing-protocols-design-performance-evaluation/219334)

### **The Impact of Social Capital and Time Spent on Facebook on Social Recognition and Attachment**

Richard Ladwein and Mohamed Slim Ben Mimoun (2021). *Handbook of Research on IoT, Digital Transformation, and the Future of Global Marketing* (pp. 180-192).

[www.irma-international.org/chapter/the-impact-of-social-capital-and-time-spent-on-facebook-on-social-recognition-and-attachment/286279](http://www.irma-international.org/chapter/the-impact-of-social-capital-and-time-spent-on-facebook-on-social-recognition-and-attachment/286279)