1.2 Literature Review

1. Blockchain and Decentralization in E-Commerce

* Blockchain is a decentralized system where transactions happen without intermediaries, reducing cost and improving transparency [(Nakamoto, 2008)](https://bitcoin.org/bitcoin.pdf).
* It can integrate with IoT to track goods and automate logistics, making supply chain more efficient [(Reyna et al., 2018)](https://www.sciencedirect.com/science/article/pii/S0167739X17329205).

1. Challenges in Traditional Last-Mile Delivery

* E-commerce logistics creates excessive packaging waste, contributing to environmental issues [(Sarkis and Zhu)](https://www.sciencedirect.com/science/article/pii/S0925527307001855).
* D2C companies struggle with rising delivery costs, hard to stay profitable [(McKinsey & Company)](https://www.mckinsey.com/industries/travel-logistics-and-infrastructure/our-insights/how-customer-demands-are-reshaping-last-mile-delivery).

1. Blockchain and Smart Contracts in Logistics

* Blockchain improves transparency and tracking of goods, reducing fraud and errors [(Azzi et al.)](•%09Azzi,%20R.,%20Chamoun,%20R.%20K.,%20and%20M.%20Sokhn.%20%22The%20Power%20of%20a%20Blockchain-Based%20Supply%20Chain.%22%20Computers%20&%20Industrial%20Engineering,%20vol.%20135,%202019,%20pp.%20582-592.%20DOI:%2010.1016/j.cie.2019.06.018.).
* Smart contracts automate logistics processes, speed up transactions, and reduce manual work [(Christidis and Devetsikiotis)](https://www.researchgate.net/publication/302919497_Blockchains_and_Smart_Contracts_for_the_Internet_of_Things).
* Blockchain real-time updates and better communication between supply chain partners [(Azzi et al.)](•%09Azzi,%20R.,%20Chamoun,%20R.%20K.,%20and%20M.%20Sokhn.%20%22The%20Power%20of%20a%20Blockchain-Based%20Supply%20Chain.%22%20Computers%20&%20Industrial%20Engineering,%20vol.%20135,%202019,%20pp.%20582-592.%20DOI:%2010.1016/j.cie.2019.06.018.).

1. Peer-to-Peer (P2P) Delivery and Decentralized Networks

* P2P networks will allow the delivery of different services in a more efficient and effective manner [(Yu et al.)](https://www.scirp.org/reference/referencespapers?referenceid=2566443).

1. Web 3.0 and Fulfillment Workflow Efficiency

* Smart contracts automate logistics workflows, reducing human error and increasing efficiency [(Christidis and Devetsikiotis)](https://www.researchgate.net/publication/302919497_Blockchains_and_Smart_Contracts_for_the_Internet_of_Things).

Works Cited

* Azzi, R., Chamoun, R. K., and M. Sokhn. "The Power of a Blockchain-Based Supply Chain." Computers & Industrial Engineering, vol. 135, 2019, pp. 582-592
* Christidis, K., and M. Devetsikiotis. "Blockchains and Smart Contracts for the Internet of Things."
* McKinsey & Company. "Parcel Delivery: The Future of Last Mile." 2022, [www.mckinsey.com](http://www.mckinsey.com).
* Nakamoto, Satoshi. "Bitcoin: A Peer-to-Peer Electronic Cash System." 2008, [www.bitcoin.org/bitcoin.pdf](http://www.bitcoin.org/bitcoin.pdf).
* Sarkis, J., and Q. Zhu. "Confirmation of a Measurement Model for Green Supply Chain Management Practices Implementation." IEEE International Conference on Management of Innovation and Technology, 2018. DOI: 10.1109/ICMIT.2018.8510485.
* Gao, Yu, et al. “Research on the Impact of E-Commerce Logistics on Last Mile Delivery.” Open Journal of Business and Management, vol. 8, no. 1, 2020, pp. 1-12. Scientific Research Publishing, doi:10.4236/ojbm.2020.81001.

Summary of Works Cited

1. Azzi, R., Chamoun, R. K., and M. Sokhn
   1. Explores implementation of blockchain technology in supply chain management
   2. Highlights how blockchain enhances transparency, traceability, and security in logistics processes
   3. Improving efficiency and reducing fraud
2. Christidis, K., and M. Devetsikiotis
   1. Intersection of blockchains and smart contracts with IoT
   2. These technologies can automate processes, improve data integrity, and facilitate secure transactions in decentralized applications
3. McKinsey & Company
   1. Challenges and future trends in last-mile delivery logistics
   2. Increasing costs for D2C companies
   3. Need for innovative solutions to enhance profitability in e-commerce
4. Nakamoto, Satoshi
   1. Foundational paper for Bitcoin
   2. Concept of decentralized electronic cash system
   3. Blockchain as a solution for double-spending problem
   4. Transparent peer-to-peer transactions without need for intermediaries
5. Sarkis, J., and Q. Zhu
   1. Implementation of green supply chain management (GSCM)
   2. Measurement model for confirming environmental benefits and operational efficiencies linking to sustainable logistic practices
6. Gao, Yu, et al
   1. Explores e-commerce logistics impact on last-mile delivery
   2. Identifies key challenges faced by logistics providers
   3. Suggests strategies to improve delivery efficiency, customer satisfaction, and SCM performance