

DOI: <https://doi.org/10.38035/dijdbm.v4i6>Received: October 21st 2023, Revised: October 30th 2023, Publish: November 10th 2023<https://creativecommons.org/licenses/by/4.0/>

Business Model Development Logistics for MSME in Rural Areas through Indonesian Postal Infrastructure (PosIND)

Riharsono Prastyantoro¹, Andri Gunawan², Dwi Novirani³

¹Science and Data Study Program, Logistics University Business International (ULBI), Bandung, Indonesia, soniriharsono@ulbi.ac.id

²PT. Pos Indonesia (Persero), Bandung, Indonesia

³Industrial Engineering Study Program, Institut Bandung National Technology, Bandung, Indonesia

Corresponding Author: soniriharsono@ulbi.ac.id¹

Abstract: Currently, the potential for logistics business in Indonesia and the world is very large, including the CEP (Courier, Express, Parcel) industry. *E-commerce* transactions are estimated to grow by 31.2%, resulting in a transaction value of around IDR 526 trillion in 2022. The biggest logistics business opportunities in 2024 are in the food and beverage processing industry, agriculture including the Micro, Small and Medium Enterprises (MSME's) sector. Online trading gives sufficient contribution significant in logistics industry in Indonesia. The main MSME's problem are how make it become digital-based institutions, have source competent staff, sufficient capital as well as get solution efficient logistics. **The** desired goal achieved from this study is develop concept of rural logistics business for MSME actors based on e-commerce, so can give solution for MSME actors in rural areas as well contribute in reduce logistics national cost. Methodology used is study library and Focus Group Discussion (FGD). Research goal give contribution theoretical form framework conceptual development logistics business for MSME in rural areas with use CEP operator infrastructure consists of five services business for MSME, namely **capital, human resources, marketing and sales, distribution and warehousing or fulfillment**. **Research goal also** provides contribution practically possible implemented by PT Pos Indonesia (PosIND).

Keyword: Logistics Business, E-Commerce, Rural Areas, CEP

INTRODUCTION

The potential for logistics business in Indonesia and the world is very large, including the courier industry or CEP. *E-commerce* transactions are estimated to grow by 31.2%, resulting in a transaction value of around IDR 526 trillion in 2022 (Prastyantoro et al., 2022). According to data from the Central Statistics Agency (BPS), it states that sector transportation, warehousing and logistics experience very high growth in 2022 to reach figure 19.87% (Dinata, 2024). Although there is uncertainty global economy, business logistics still experience very high growth in recent years. Based on information from the National Management Board of

the Association of Chain Experts Indonesian Supply (IARSI) that Indonesia's logistics market revenue in 2023 will reach US \$ 220.9 billion, up 8.5% from year previously (Ong et al., 2023). This matter indicated that business logistics own great potential For develop in a way Keep going continuously (Gani, 2017).

With increasing domestic market demand to logistics services, Supply Chain Indonesia (SCI) estimates that sector transportation, warehousing and distribution logistics will keep going grow more high in 2024 (Faturrahman, 2024). Opportunity business logistics the largest in 2024 is estimated will is in the processing food and beverage industry, agriculture, including the MSME sector and online trade will give sufficient contribution significant in industry logistics in Indonesia (Lusa et al., 2024).

Logistics business not only carried out in urban areas will but also done for covers rural areas. This matter become opportunity for PosIND For develop business service logistics for MSME players , especially in rural areas . The contribution of MSME in Indonesia is 61% in driving national economic growth (Novitasari, 2022). In 2022, the number of MSME in Indonesia will increase amounting to 64 million MSME, the most of which are in the West Java region with 1,494,723 MSME and the fewest in the Papua region with 3,932 MSME. (Yolanda, 2024).

MSME in rural areas can use IND Post infrastructure is spread across throughout Indonesia for to distribution the commodity so that until to customer (Gunawan, 2020). Whereas desired goal achieved from study this is develop concept of rural logistics business in a way comprehensive for MSME actors based *e-commerce*, so can give solution for MSME actors in rural areas (*rural*) as well contribute in reduce logistics national cost.

METHOD

The method used in this research is literature review and *Focus Group Discussion*.

Literature review

Writer do search article with keywords *Rural Areas*, *Rural Development*, *Rural E-Commerce*, *Rural E-Commerce Logistics*, *Rural Economy*, *E-Commerce Logistics AND Rural AND MSME* (*Small Medium Enterprise*), with the number of journal article as shown in Table 1 as follows:

Search keywords article		
Letter	Keywords	Number of Journal Articles
A	Rural Areas	233,293
B	Rural Development	199,025
C	Rural E-Commerce	6,573
D	Rural E-Commerce Logistics	144
E	Rural Economy	73,083
F	E-Commerce Logistics AND Rural AND MSME	273

Source: *Sciencedirect 2015-2024*

Research that uses keywords *Rural Areas* in Science Direct between 2015-2024 as many as 233,293 articles, while those using keywords *Rural Development* a total of 199,025 articles. For keywords *Rural E-Commerce* acquired as many as 6,573 articles, while keywords with *Rural Ecommerce Logistics* as many as 144 articles and with keywords *Rural Economy* as many as 73,083 articles.

Writer using keywords *E-Commerce Logistics AND Rural AND MSME* and acquired a total of 273 articles. Furthermore writer using the keywords " *E-Commerce Logistics*" AND "*Rural*" AND "*MSME*" so that 9 articles were used as a literature review in this study.

(Abideen et al., 2023) conveyed that digital technology and information sharing systems to integrate supply chain logistics and transportation planning. E-consumer functionality is rated relatively low, most micro-enterprises do not intend to make changes to their IT systems

(Vakulenko et al., 2022), and business micro must focus on training employees so they can utilize existing system with more good. Crowd-shipping platform can connect stakeholders interests, save time and costs, overcome problem environment, and produce field work break time, which leads to a reduction transportation, low pollution air, and more environment sustainable (Upadhyay et al., 2020)

Impact of COVID-19 on logistics, discussed actions taken to overcome problems, and put forward prospect for future research (Z. Li et al., 2023). Provision service finance (FSP) is explored use signal through ability MSME operations and networks chain supply to overcome asymmetry information and improve MSME access to working capital financing (Song et al., 2020). The “Yiwu” development model is distinctive and differentiates it from traditional frameworks, and deserves further attention and discussion as a development approach with great potential (R. Li et al., 2016). Comprehensive overview about trend current affairs, challenges and opportunities future research in use block-chain technology for operation chain supply (Dutta et al., 2020). Exploration opportunity for business small and medium to take advantage of Canadian and US government programs to support cross-border e-commerce trade, all at once discuss implications for development cross-border e-commerce trade in other regions of the world and difficulties in isolate challenge related transportation with logistics cross border (Gessner & Snodgrass, 2015).

From the literature review, there is a research gap regarding the use of logistics/CEP operator infrastructure for comprehensive MSME business development. The logistics/CEP operator in Indonesia which has a network spread nationally is PosIND. The role of PosIND in development MSME businesses in rural areas has arranged inside a number of regulations relevant government with system logistics national and *road maps ecommerce*.

PosIND have network delivery letters and packages the widest in Indonesia with 24,000 points service that reaches 100 percent city / district, almost 100 percent sub-district and 42 percent sub-districts / villages and 940 locations transmigration remote area in Indonesia. All points are a chain that is connected to each other in a solid and integrated manner (Yuhida, 2011; Dewi, 2012). PosIND infrastructure both domestically and abroad in 2023 is described in full in table 2.

Table 2. Infrastructure PosIND

No	Networking PosIND	Amount
1	Online Post Office	3,870
2	E-Mobile Post	23
3	Extension Counter	266
4	Courier Postal Agent	13,878
5	Financial Services Postal Agent	101.324
6	Oranger	3,500
7	Oranger ‘Mawar’	1,166
8	PosAja Drop Point	56.111
9	Vehicle	10,523
10	Network International (number of countries)	228
11	Employee	16,040

Source: Annual Report 2023 PosIND

A canvas model approach has been created, namely "Nine Building Blocks", which makes it easier for business people to build and develop their business. Nine Building Blocks consists from: value propositions, client segments, distribution channels, client relationships, key activities, key resources, partner networks, cost structure and revenue flows as Figure 1. This canvas model approach will be used to design a proposed new business model related to the rural logistics business model through PosIND infrastructure in the MSME segment in this research.

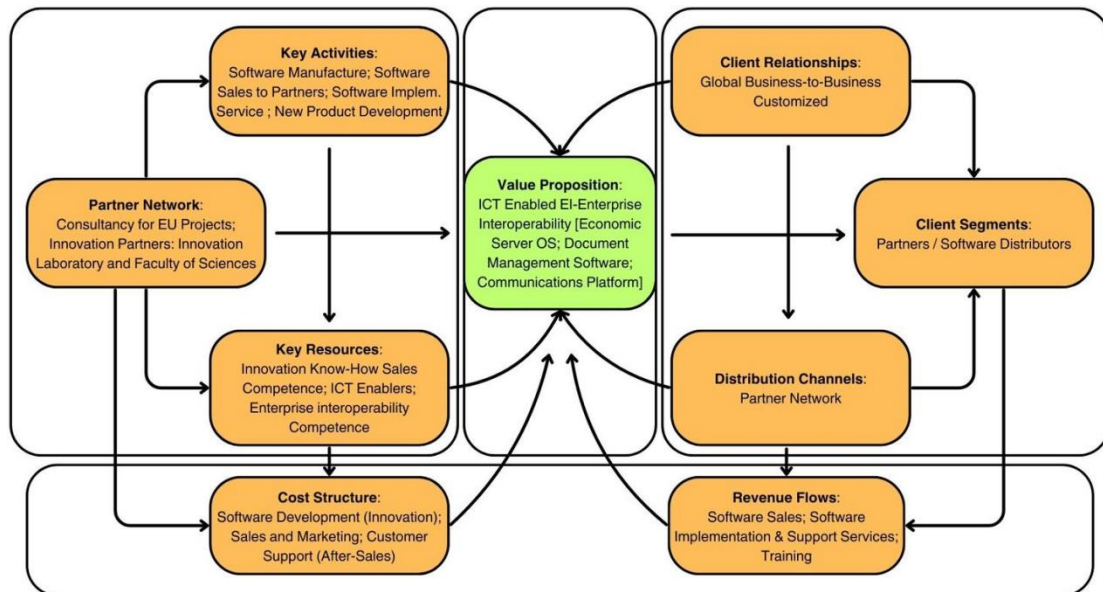


Figure 1. The Business Model Ontology Canvas (Osterwalder & Pigneur, 2010)

Rural logistics development is one approach that can be taken to overcome product distribution problems in Indonesia. The conceptual framework for the rural logistics system model consists of development stages based on four components, namely network structure, management, resources and business processes as in figure 2 (Sinaga et al., 2022).

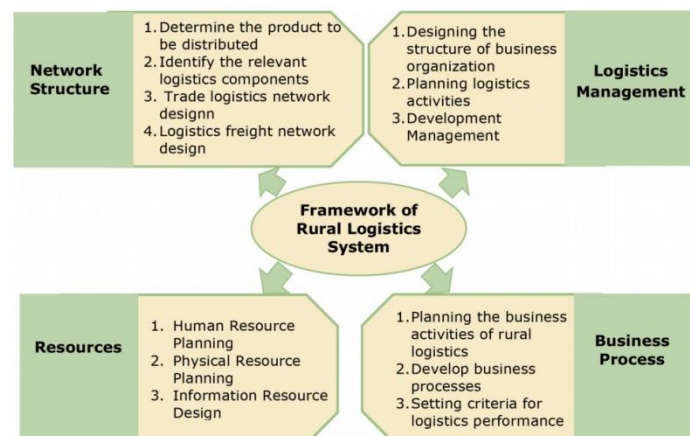


Figure 2. Conceptual Framework for Rural Logistics Systems (Sinaga et al., 2022)

In this conceptual framework, 4 (four) stages are explained in detail as follows:

1. Network Structure

The first stage is designing the network structure consisting of:

- a. determine the choice of products to be distributed
- b. identify component relevant logistics start from producer until to consumer including actors/ stakeholders
- c. Designing a trade logistics network for a rural logistics system consisting of 2 (two) alternatives:
 - Development of conventional trade logistics
 - Building a network model business with *e-commerce platforms*

In Indonesia conventional networks are relevant for rural conditions because digital technology infrastructure in rural areas has not yet developed as a whole, but global

competition leading to e-commerce markets shows that alternative models with e-commerce platforms are also being considered, although support is needed for this by increasing digital facilities/internet of things.

- d. and finally designing a logistics transportation network for a rural logistics system by identifying six crucial activities, namely: distribution, process, storage, information, filtration, and transportation.

2. Logistics Management

This stage is to establish logistics management which consists of:

- a. Designing structure organization
- b. Plan logistics activities
- c. Planning development management

3. Resources

In this stage, resources are determined to support logistics management activities which consist of:

- a. Human resource planning
- b. Physical resource planning
- c. Information resource design

4. Business Process

The final stage is to determine the business process which consists of:

- a. Planning the business activities of rural logistics
- b. Develop business processes
- c. Setting criteria for logistics performance

This research aims to create a conceptual framework for a rural logistics system business model for MSME which will be organized by PosIND as a logistics company as synthesis from research previously.

The National Logistics System blueprint is an integrated, effective and efficient logistics system to increase national competitiveness in regional and global markets, as well as to improve community welfare. PosIND is expected to increase its role in realizing an integrated logistics system by becoming a national logistics *backbone and building a* rural logistics system. This regulation is used as a reference because it is relevant to this research regarding the use of PosIND infrastructure in building a rural logistics system (Peraturan Presiden, 2012).

The E-Commerce Road Map states that economy basic electronic have potency high economy for Indonesia and is one bone back economy national , so in frame optimizing utilization potency economy based electronics , government need push acceleration and development of the trading system national based electronics (*e-commerce*), business beginner (*start-up*), development effort and acceleration logistics with set map road system trading national based integrated electronics (*e-commerce road map*). (Peraturan Presiden, 2017).

In this regulation it is clearly stated that there is a need to increase the capacity of local/national logistics service providers to meet delivery needs throughout Indonesia, one of which mentions the PosIND company for revitalization, restructuring and modernization as a national postal service provider so as to produce PosIND modern and competitive. This regulation is used as a reference in developing rural logistics business models.

FGD

The design of the new business model also uses the Forum Group Discussion (FGD) method by inviting academics, practitioners and MSME players regarding the role of PosIND in increasing digital access and logistics for MSME in rural areas. The FGD was held online on June 5 2024 with the theme "The Role of PosIND in Improving Digital Access and Logistics for MSME in Rural Areas". The FGD was attended by representatives from the Ministry of Communication and Information as the regulator, PosIND as the CEP operator from SOE, experts, academics (ULBI and Telkom University), and MSME. From the FGD, it can be seen

the problems faced by MSME actors, the hopes of MSME actors regarding access to digital and logistics services, as well as the solutions that must be prepared in providing access to digital and logistics services to overcome the problems faced by MSME actors so that they can provide services. which *is excellent* to customers .

RESULTS AND DISCUSSION

Based on the literature review and FGD, a rural logistics business model for MSMEs was produced using PosIND infrastructure in the form of a Business Model Canvas (BMC) and a conceptual framework for business model development. The following are the building blocks of the business model for PosIND rural logistics services for MSMEs as in table 3.

Table 3. Business Model Rural Logistics E-Commerce For MSME

Building block of business model	Rural Logistics E-Commerce
Value proposition	Simple, easy and integrated of Logistics Service
Client segments	B to B & individual MSME customers
Distribution channel	Omni Channel & Key Account Management (Post office outlets & postal agents)
Client relationship	Single Year & Multiyear Contracts
Key activities	Internal logistics services & SOE/Private LSP partners
Key resources	Rural physical network, ICT, material handling, working capital, human resources
Partner network	Internal network of SOE/Private LSP Companies & partners
Cost structure	Network Fixed Cost
Revenue flows	Contract-based fee (transportation, warehouse, other revenue)

This rural logistics e-commerce service business model for MSMEs in Indonesia adopts a proposed business model related to developing an e-commerce based logistics business concept in rural areas (Gunawan, 2020). Next, this business model was modified with several building block explanations starting from value propositions, client segments, distribution channel, client relationship, key activities, key resources, partner network, cost structure dan revenue flows which will be explained in more detail as follows:

- 1) Value proposition: value the services offered will use type of service customized, so give service simple, easy, and integrated logistics for customers consisting of warehouse, distribution, first mile, last mile, payment method, promotion/show case
- 2) Client segments: The target customers for this service are rural communities as MSMEs and urban communities as individual and corporate customers. MSME products that will be targets for PosIND logistics services are fashion, handicraft, food & beverages products.
- 3) Distribution channel: The distribution channels used implement omni channel and key account management by empowering all postal outlets, branch post offices which act as distribution centers, main branch post offices in district/provincial capitals which act as distribution centers and postal agents which are company partners spread throughout the region. Indonesia.
- 4) Client relationship: relationships with customers are based on multiyear work contracts so that they can provide customer solutions and loyalty programs.
- 5) Key activities: use service internal logistics of companies and partners external work, namely 3PL Logistics Service Provider (LSP) SOE and private.
- 6) Key resources: has capabilities in terms of human resources, material handling, working capital, technology networks (ICT) and especially physical networks spread throughout Indonesia by utilizing the existing post office network to rural areas and external partners who are members of SOE Logistics cluster is also a private partner.
- 7) Partner network: utilizing its own internal network to serve these services by utilizing the existing post office network and collaborating with partners such as using

warehouse facilities and means of transportation for both land, sea, air and train modes of transportation which can be done with a 3PL Logistics Service Provider (LSP) SOE and private.

- 8) Cost structure: The cost structure that comes out is in the form of fixed network costs including MHE (material handling equipment) procurement costs and variable costs such as daily operational costs.
- 9) Revenue flows: sources of income are obtained based on transportation revenue, warehouse/fulfillment revenue, other revenue.

As for the framework conceptual business model development logistics for MSME in rural areas with use infrastructure PosIND outlined as figure 3.

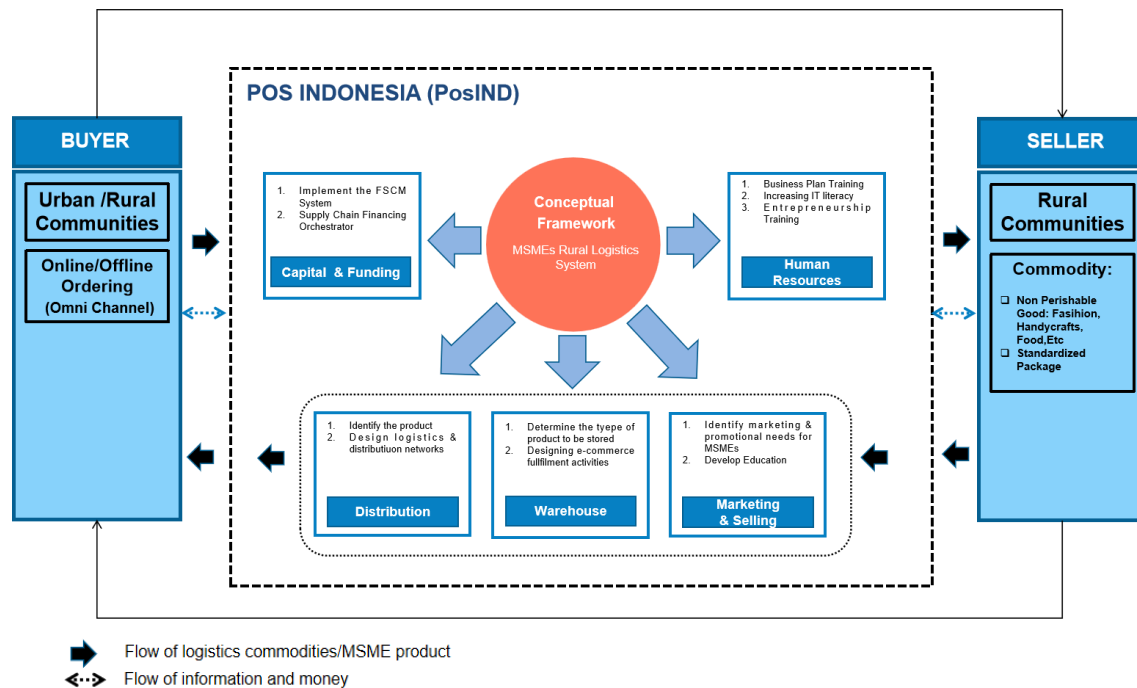


Figure 3. Conceptual Framework for Logistics Business Development for MSMEs in Rural Areas Using PosIND Infrastructure

In Figure 3 above, it can be explained that MSMEs in rural areas act as sellers of commodities consisting of non-perishable goods such as fashion, handicrafts, food and products that have standard size packaging. Meanwhile, the role of buyers comes from urban and rural areas by carrying out order transactions online using socio-commerce media or offline by utilizing the PosIND infrastructure network which has physical service outlets spread widely to sub-districts and remote areas. When there is an order from a buyer, MSME actors who act as sellers will utilize PosIND business services. PosIND as a logistics service provider offers 5 (five) business services as follows:

- 1) Offering a Financial Supply Chain Management (FSCM) system in the logistics ecosystem as a Supply Chain Financing orchestrator for all stakeholders involved, from suppliers to retailers in the existing supply chain, for example MSME players. PosIND can offer assistance in working capital management, payment and cash management, risk mitigation to logistics players, for example MSMEs and logistics providers.
- 2) Empowering and educating human resources through business planning training, increasing information technology literacy and entrepreneurship training.

- 3) Providing guidance in the field of marketing and sales by utilizing the PosIND infrastructure network for MSMEs to market their products, including making PosIND outlets a sales channel.
- 4) Offering full-fill e-commerce service solutions for MSME business actors by utilizing the PosIND infrastructure network, namely the room capacity at the Main Branch Post Office (KCU) or Branch Post Office (KC) as well as partnerships with other logistics cluster state-owned companies.
- 5) Offers integrated logistics service solutions for MSME products to prospective buyers in all regions in Indonesia by utilizing the PosIND infrastructure network which is spread widely to sub-districts and remote areas with branch offices (offline) as well as digital networks (online mobile pos) including services Cross Border to all countries in the world.

CONCLUSION

This research provides 2 (contributions) to the problems that have been previously identified, namely:

- 1) The theoretical contribution is in the form of a conceptual framework for logistics business models for MSMEs in rural areas which consists of 5 (five) business services, namely capital, human resources, marketing & sales, distribution and warehousing (fulfillment).
- 2) The second contribution is to provide a practical contribution that can be implemented and carried out by the BUMN Logistics operator, namely PosIND, by offering integrated logistics service solutions for MSME products to prospective buyers in all regions in Indonesia, because PosIND has an extensive physical network infrastructure spread throughout Indonesia. sub-districts and remote areas with branch offices (offline) and also digital networks (online mobile post) including Cross Border services to all countries in the world.

This can be done assuming the company has carried out the design of the network structure, resources (human resources, physical resources, information resources), logistics management and business processes well. To support this proposal to be implemented properly, full support and commitment from the government as the regulator is needed, namely from the Ministry of Communication and Information regarding digital access for rural communities which must be spread evenly, from the Coordinating Ministry for the Economy (Kemenko) regarding strengthening the national logistics system and other ministries that regulate technically related logistics and distribution operational regulations.

REFERENCE

- Abideen, A. Z., Sorooshian, S., Sundram, V. P. K., & Mohammed, A. (2023). Collaborative insights on horizontal logistics to integrate supply chain planning and transportation logistics planning – A systematic review and thematic mapping. In *Journal of Open Innovation: Technology, Market, and Complexity* (Vol. 9, Issue 2). Elsevier B.V. <https://doi.org/10.1016/j.joitmc.2023.100066>
- Dinata, A. P. (2024). *Analisis Pengaruh PDRB Sektor Jasa, Tingkat Pendidikan dan Upah Terhadap Penyerapan Tenaga Kerja Pada Sektor Jasa di Kota Surabaya*. UPN Veteran .
- Dewi, Y. N. (2012). UPAYA PT. POS INDONESIA (PERSERO) CABANG PURWOREJO. *Universitas Negeri Yogyakarta (UNY). Yogyakarta*.
- Dutta, P., Choi, T. M., Somani, S., & Butala, R. (2020). Blockchain technology in supply chain operations: Applications, challenges and research opportunities. *Transportation Research Part E: Logistics and Transportation Review*, 142. <https://doi.org/10.1016/j.tre.2020.102067>

- Gani, A. (2017). The Logistics Performance Effect in International Trade. *Asian Journal of Shipping and Logistics*, 33(4), 279–288. <https://doi.org/10.1016/j.ajsl.2017.12.012>
- Gessner, G. H., & Snodgrass, C. R. (2015). Designing e-commerce cross-border distribution networks for small and medium-size enterprises incorporating Canadian and U.S. trade incentive programs. *Research in Transportation Business and Management*, 16, 84–94. <https://doi.org/10.1016/j.rtbm.2015.07.005>
- Gunawan, A. (2020). Usulan Pengembangan Bisnis Rural Logistics E-Commerce Di PT Pos Indonesia (Persero). In *Jurnal Ilmiah Teknologi Informasi Terapan* (Vol. 6, Issue 3).
- Li, R., Wang, Q., & Cheong, K. C. (2016). From obscurity to global prominence - Yiwu's emergence as an international trade hub. *Cities*, 53, 8–17. <https://doi.org/10.1016/j.cities.2015.12.009>
- Li, Z., Gu, W., & Meng, Q. (2023). The impact of COVID-19 on logistics and coping strategies: A literature review. *Regional Science Policy and Practice*, 15(8), 1768–1794. <https://doi.org/10.1111/rsp3.12665>
- Lusa, S., Purbo, O. W., & Lestari, T. (2024). *Peran e-Commerce dalam Mendukung Ekonomi Digital Indonesia*. Penerbit ANDI.
- Faturrahman, M. A. (2024). *Pengaruh Supply Chain Integration Agility Dan Innovation Terhadap Kinerja Perusahaan*. Universitas Islam Indonesia.
- Novitasari, A. T. (2022). Kontribusi UMKM Terhadap Pertumbuhan Ekonomi Era Digitalisasi Melalui Peran Pemerintah. *Journal of Applied Business and Economic (JABE)*, Vol. 9.
- Osterwalder, A., & Pigneur, Y. (2010). Business model generation: a handbook for visionaries, game changers, and challengers (Vol 1). John Wiley & Sons.
- Peraturan Presiden. (2012). *Peraturan Presiden Republik Indonesia, Nomor 26, Cetak Biru Pengembangan Sistem Logistik Nasional*.
- Peraturan Presiden. (2017). *Peraturan Presiden, Nomor 74, Peta Jalan Sistem Perdagangan Nasional Berbasis Elektronik (Road Map E-Commerce) Tahun 2017-2019*.
- Prastyantoro, R., Putro, H. P. H., Yudoko, G., & Dirgahayani, P. (2022). E-Commerce Parcel Distribution in Urban Areas with Sustainable Performance Indicators. *Sustainability (Switzerland)*, 14(23). <https://doi.org/10.3390/su142316229>
- Ong, Ra. G. R. J., Mendoza, H. L., Tarriela, C. J. T., Geganzo, L. L. G., Valenzuela, S. A., Arceo, J. V. G., & Garcia, K. C. C. (2023). *Toward Increased and Stable Investments in National Security in the Philippines: An Analysis of Trends, Allocations, and Policy Options in Philippine Defense Spending (Phase 2)*.
- Sinaga, T. S., Hidayat, Y. A., Wangsaputra, R., & Bahagia, S. N. (2022). The Development of a Conceptual Rural Logistics System Model to Improve Products Distribution in Indonesia. *Journal of Industrial Engineering and Management*, 15(4), 670–687. <https://doi.org/10.3926/jiem.4011>
- Song, H., Yang, X., & Yu, K. (2020). How do supply chain network and SMEs' operational capabilities enhance working capital financing? An integrative signaling view. *International Journal of Production Economics*, 220. <https://doi.org/10.1016/j.ijpe.2019.07.020>
- Upadhyay, C. K., Vasantha, G. A., Tiwari, V., Tiwari, V., & Pandiya, B. (2020). Strategic upturn of reverse logistics with Crowdshipping: Transportation explication for India. *Transportation Research Procedia*, 48, 247–259. <https://doi.org/10.1016/j.trpro.2020.08.019>
- Vakulenko, Y., Arsenovic, J., Hellström, D., & Shams, P. (2022). Does delivery service differentiation matter? Comparing rural to urban e-consumer satisfaction and retention. *Journal of Business Research*, 142, 476–484. <https://doi.org/10.1016/j.jbusres.2021.12.079>
- Yolanda, C. (2024). Peran Usaha Mikro, Kecil, Dan Menengah (UMKM) Dalam Pengembangan Ekonomi Indonesia. *JURNAL MANAJEMEN DAN BISNIS*.

Yuhida, S. (2011). PERANAN POS INDONESIA (Studi tentang Kantor Pos Solo dan Peranannya dalam Bidang Jasa bagi Masyarakat). *Universitas Negeri Sebelas Maret (UNS). Surakarta*.