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POLICY MEMO

Increasing Market Access for MSME: The role of e-commerce and transportation infrastructure

Since 2020, the Government of Indonesia has set ambitious goals to digitize micro, small and medium enterprises (MSMEs) and grow e-commerce transactions. However, there are still open questions on the welfare gains brought by e-commerce in Indonesia and how MSMEs can be better empowered to thrive in platforms and benefit from Indonesia's investment in transportation and logistics infrastructure. Collaborations between the government, e-commerce platforms, and researchers have the potential to assess recent innovations aimed at lifting the barriers experienced by MSMEs in expanding to new markets.

KEY RECOMMENDATION

Studies in developing countries have shown that the growth of e-commerce and infrastructure development can lead to welfare gains and economic growth. In Indonesia, where e-commerce and logistic services are rapidly growing, more evaluations are needed to understand the impact of e-commerce and new infrastructures on MSME business outcomes. Through testing interventions aimed at supporting MSMEs in gaining larger market access, e-commerce expansions and efforts to increase transportation efficiency can be better informed by evidence.

BACKGROUND

Indonesia has recently experienced a rise in the use of e-commerce following the Covid-19 pandemic. The contribution of e-commerce to Indonesia's trade sector significantly rose from 2 percent in 2016 to 20 percent in 2020, reaching its highest compared to previous periods (Ridhwan et al. 2021). Despite the rise of e-commerce, its sales and transactions are concentrated only in six provinces.¹ The concentration of online sales in these provinces can potentially be explained by a combination of factors such as higher internet penetration, especially in urban areas of these provinces, a more developed distribution network, and higher household expenditures (Das et al. 2018; BPS 2019). To widen the benefits of e-commerce, the Indonesian government has set targets to digitize at least 30 million MSMEs and increase the number of e-commerce transactions to IDR 600 trillion (USD 39 million) by 2024 (Galiartha 2022). As the economy reopens after the pandemic, it is less clear how digital commerce may evolve and assist the growth of MSMEs.

The rise of e-commerce has allowed MSMEs to reach consumers in various locations without the need to set up physical stores and offline distribution networks. While online marketplaces allow MSMEs to reduce the upfront costs associated with entering new markets, there are also additional challenges faced by MSMEs after they have been onboarded. In the open marketplace, many MSMEs still face challenges in optimizing available technologies to navigate the online marketplace. Today, for example, skills in marketing, improving product quality, customer services, inventory, and logistic distributions has become new necessities for MSMEs to thrive and compete among each other and large firms.

Outside the use of digital platforms, transportation and logistical infrastructures plays a supporting role in widening the access of goods throughout the Indonesian archipelago. The total costs of logistics incurred by firms in Indonesia are higher compared to its neighboring ASEAN countries. Among manufacturers, transport and container handling costs constitute 40 percent of logistical costs (World Bank 2015). In terms of logistics performance, the World Bank's 2023 Logistics Performance Index recently dropped Indonesia's rank to 61 out of 139 countries, 15 places lower than its ranking in 2018 (World Bank 2023). From the survey, Indonesia experienced a decrease in tracking and tracing of goods, timeliness of clearance time, and logistics competence and quality of services.

To tackle the high logistical costs, the Government of Indonesia plans to invest 429 billion between 2020 and 2024 in infrastructure. This has resulted in over 3,382 km of new highway roads, 782 km of new toll roads, 19 new seaports, and 10 new airports, among other infrastructural improvements (Business Indonesia n.d.). The availability of new infrastructures and a growing market in logistics and transportation sectors provide large opportunities to understand how this sector influences Indonesia's economic activity and how to best improve Indonesia's logistic performance.

¹ Ridhwan et. al. finds sales and purchases from 2018-2021 are concentrated in DKI Jakarta, West Java, East Java, North Sumatera, Central Java, and Banten. There is even a wide gap between the sales between DKI Jakarta as the highest rank (approx., IDR 12 trillion sales) in 2021 compared to West Java as the second highest (IDR 5 trillion sales).

POLICY INSIGHTS

Insights from past evaluations show the potential of how e-commerce and transportation infrastructure can lead to welfare gains. By conducting impact evaluations in the context of Indonesia, we can test innovations that empower MSMEs to benefit from greater market access.

1. Anonymized sales and purchase data can provide insights into the welfare gains brought by e-commerce and the impact of providing digital support for MSMEs.

E-commerce platform data on total sales from different cities provide insights into the impact of e-commerce and also analyze the heterogeneity of the impact. For example, how different sizes of businesses benefit from e-commerce, the level of inter-city trade, and if these services benefit both MSMEs and consumers. A study using sales and purchasing data from China's largest e-commerce platform found there is a correlation between sales and welfare gains (Fan et al. 2018). **The increase of domestic sales led to an increase in welfare gains, measured as changes in real wages, on average, by 1.6 percent. Specifically, smaller cities experienced larger increases in nominal wage, and consumers benefitted from having a variety of goods that were not previously available in the market.** The findings suggest promising results of how e-commerce can reduce inequality between regions and increase real wages.

As an online platform, e-commerce possesses valuable administrative data, such as accurate and objective measures of sales and purchase data at the firm level, hence avoiding social desirability or recall bias that comes from survey data. Acknowledging protection of personal information is required by Indonesia's data protection law (Pujianti 2023) and a range of tools are available to protect personal information in administrative data. For example, aggregating, coarsening, or removing personal details in transferring data. In the cases where research is only possible when individuals are personally identified, i.e., to know who receives the program, temporary access can be given in collaboration with partnering organizations.

2. Business training designed to onboard MSMEs to e-commerce empowers entrepreneurs to utilize supporting services provided by the platform and maximize their presence.

The Indonesian government and private sectors have conducted multiple capacity-building interventions to empower MSMEs in e-commerce platforms. Tailored business training, even those conducted online, can be an effective way to remove the growth barriers for MSMEs that recently joined e-commerce platforms. Leveraging user-seller matched search and browsing data from a leading e-commerce platform in China, Jin and Sun (2020) found access to **training programs² which focused on practical online business operation and marketing skills increased new sellers' revenue, on average, by 1.7 percent.** Treated sellers, in aggregate, earned USD1.8 million higher revenues since they attract 1.3 percent more visitors to their site as they become more engaged in marketing and have 0.8 percent more customers making purchases. Sellers who completed tasks given through the training earned 6.6 percent more revenue and 5.2 percent more visitors to their sites. Treated sellers also improved customer services as they adopted supplementary services such as AI assistants to handle customer inquiries.

Supporting MSME's growth in e-commerce platforms holds many potentials, and platforms play a critical role in lifting growth barriers experienced by MSMEs. Training MSMEs to maximize their presence on platforms closes sellers' knowledge gap and empowers them to grow. At the same time, it can also maximize customers' experience on platforms as sellers become more experienced in utilizing marketing to attract customers and provide better customer services.

2 To conduct the online business training program, the authors worked with an e-commerce platform to implement an online business program. The training teaches generic best practices, the materials are organized as a sequence of tasks (tutorials, Q&A, forums, and webinars) and each task tackles specific challenges to increase the practicality of applying the materials. In the training, the platform uses administrative data to dynamically match sellers with the most appropriate tasks based on sellers' performance and actions. To measure the impact of the program, researchers randomized the access to these training programs among new sellers.

3. **By measuring the impact of programs aimed at reducing logistical barriers for MSMEs, the expansion of e-commerce can be better informed by evidence.**

Overcoming logistical barriers to e-commerce has the potential to provide economic benefits for rural areas, however, studies in this area are still limited. A study in China evaluated a program where an e-commerce firm installs a terminal³ in central village locations with aims to reduce last-mile logistics and transactional barriers (Couture et al. 2021). The study did not find significant gains or losses in the production and income for the local economy, which suggests that terminals are rarely used to sell or receive goods from e-commerce platforms. **The welfare gains of providing e-commerce terminals were driven by the reduction in the cost of living for retail consumption, and the positive effect was only seen in 15 percent of rural households who are, on average, richer, younger, and living in remote markets.** At the village level, the authors found the number and total weight of out-shipments increased smoothly over the period of two years, yet such impacts were only pronounced in villages without pre-existing delivery services.

The impact of programs can vary depending on the context, design, and how the program is introduced to beneficiaries. Impact evaluations, particularly randomized evaluations, provide the opportunity to pilot and test complementary interventions that can support MSMEs and consumers in rural areas to benefit from e-commerce and its logistical support expansion. One of the main challenges in expanding market access is the high logistics cost. Due to the small production volumes, capital, and use of fewer resources, MSMEs incur higher production and shipping costs. The recent growth of logistic providers in Indonesia provides potential solutions to aggregate and consolidate the needs of MSMEs to increase their efficiency. Services such as providing bulk shipping rates, warehouse and storage solutions, as well as technology infrastructure to assist inventories, are currently being offered, yet little is known on the impact of these programs in the Indonesian context. Collaborations between government, private sectors, and researchers can uncover how the future expansion of domestic trade can be better supported.

4. **Investment in transportation infrastructure can promote economic growth and improve household welfare; however, little is known about its impact on business outcomes.**

Generally, investment in the transportation sector or transport infrastructure has been considered a key factor in promoting economic growth (Donaldson 2018). By conducting evaluations, we can identify how new infrastructures affect travel speed, transport costs, save time, and test supporting innovations to create efficient transportation that reduces economic loss.

Past studies showed that building new infrastructures and their maintenance can influence household welfare. For example, two impact evaluations on China's High-Speed Railway (HSR) displayed that the establishment of a new infrastructure may have a statistical association with the flow of passengers and rate of employment. Not only the flow of passengers increased by 10 percent, but employment also increased by seven percent (Lin 2017). Additionally, there is also a correlation between trade and income: Every one percent increase in trade from prefecture-level cities has led to an increase of 0.123 percent increase in real income nationally (Zou, Chen, Xiong 2021). **In the context of Indonesia, Gertler et al. (2022) found that every 10 percent increase in road quality led to a 2 percent increase in per capita consumption in a district.** Such welfare gains are found to be driven by workers shifting their occupation out of informal employment into higher-wage manufacturing jobs.

Improvements to logistics, ports, and trade facilitation have not been the subject of many impact evaluations. There has been a relatively small number of studies that assess the effect of transport development on business outcomes such as sales, revenues, profits, or productivity. Most evaluations on infrastructure focus on the economic impact at the macro level. For example, **a study on port performance and maritime logistics in East Indonesia found that low port efficiency can disrupt the distribution of goods between islands, resulting in higher logistics costs** (Amin et al. 2021). They also found that high maritime logistics costs (e.g., loading and unloading tariff, sea freight cost) harm the island's economy in terms of the Gross Regional Domestic Product (GRDP) per capita.

3 In these terminals, villagers can pay after receiving their products or get paid upon the pickup of their shipments in cash.

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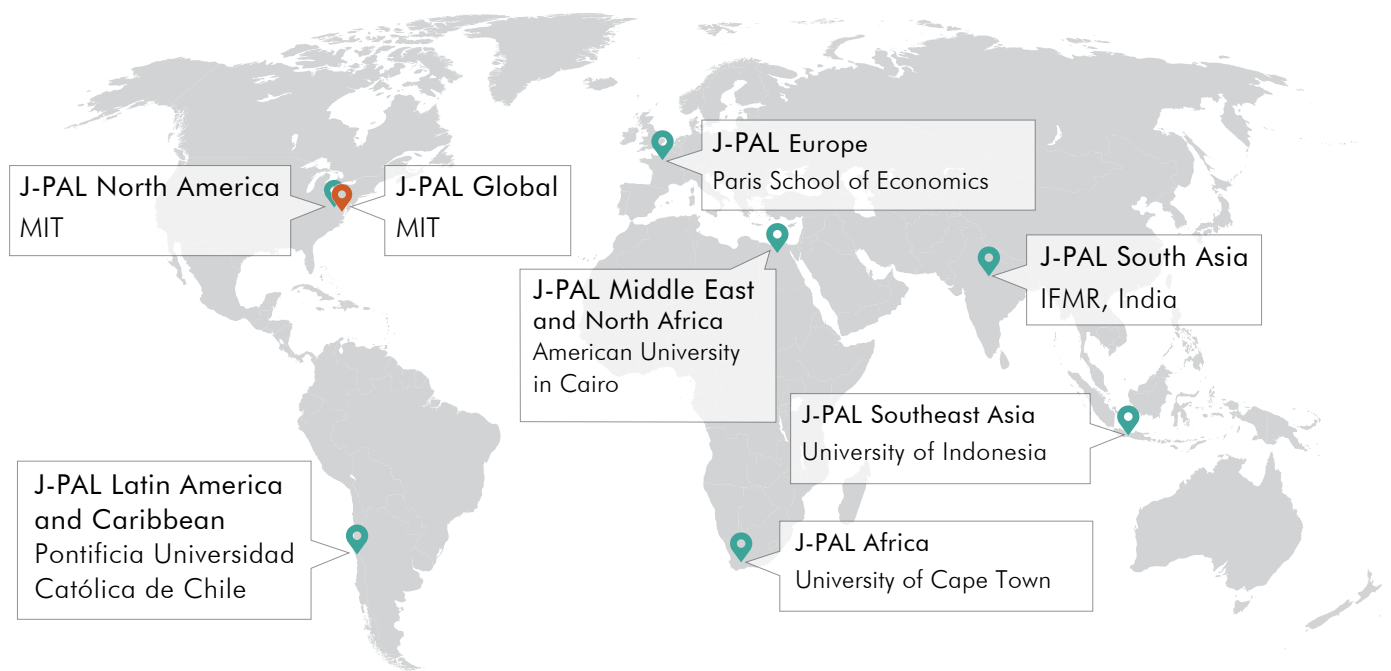
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ABOUT J-PAL AND J-PAL SOUTHEAST ASIA

The Abdul Latif Jameel Poverty Action Lab (J-PAL) was established in 2003 as a research institute within the Economics Department of the Massachusetts Institute of Technology (MIT), Cambridge. J-PAL believes that development can be more effective if policymakers and implementers have access to rigorous evidence of what programs and policies work or not, and why. Currently, J-PAL has over 750 affiliated researchers who have more than 1,600 completed and ongoing evaluations in more than 80 countries. These projects rigorously test the effectiveness of programs in areas including health, education, finance, labor markets, environment, governance, and agriculture.

In 2013, then-Indonesian President Susilo Bambang Yudhoyono launched the Abdul Latif Jameel Poverty Action Lab Southeast Asia Regional Office (J-PAL SEA) in Jakarta under the Faculty of Economic and Business, Universitas Indonesia. J-PAL SEA's mission is to equip policymakers with rigorous evidence to inform the design of social programs that will make a lasting contribution to poverty reduction in Indonesia and the Southeast Asia region.

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