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Changing contours of the sharing economy

*E-commerce platforms, infrastructure
and value in the Indian economy*



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Glossary of Terms

Platform

Platforms are commonly understood to mean undertakings that facilitate interactions between two or more groups of people, or products that enable other products or services. Their sizes vary; they can grow to be very large and often become ubiquitous.

Infrastructure

Plantin et. al. define infrastructure as “essential, widely shared socio-technical systems”. This means that infrastructure is not just a technical offering; it is deeply embedded in the functioning of society. Infrastructure tends to be administratively regulated in public interest; though it may sometimes exist as a private or public monopoly. Associated with long-term sustainability and reliability, infrastructure tends to be large and widely accessible.

Infrastructuralisation

This refers to the inclination of an entity to take on the ubiquity, dependability, and irreplaceability of infrastructure. This report looks in particular at the new-found tendency of platforms to infrastructuralise - Plantin et. al. note that the “analysis of how platforms attract business sides, leverage direct and indirect network effects, afford programmability, and offer boundary resources, that platforms operationalise their infrastructural agendas.” One instance of digital platforms infrastructuralising is that they are now perceived as “ubiquitous communication utilities”, which are a key part of digital infrastructure.

Platformisation

This refers to the inclination of a service to take on the closed, private, fragmented, and relatively unregulated tendencies of a platform. Neiborg and Helmond (2018) note platformisation’s inward and outward extension – “with third-party integrations that operate within the boundaries of the core platform” and into other websites, apps, and platforms, respectively. Plantin et. al. closely associate the increasing privatisation and modularity of the internet since its conception to be a strong instance of platformisation.

E-commerce

E-commerce definitions vary according to purpose. In this report, by e-commerce we refer to the sale or purchase of goods carried out online, usually through a platform intermediary.

HTTP

Hypertext Transfer Protocol; “the communications protocol used to connect to Web servers on the Internet, or on a local network (intranet). Its primary function is to establish a connection with the server and send HTML pages back to the user’s browser. It is also used to download files from the server either to the browser or to any other requesting application that uses HTTP.”¹

URI

Uniform Resource Identifier; “a URI identifies the name and location of a file or resource in a uniform format. It includes a string of characters for the filename and may also contain the path to the directory of the file. URIs provide a standard way for resources to be accessed by other computers across a network or over the World Wide Web.”²

API

Application Programming Interface; APIs are intermediaries that facilitate conversation between two different applications. They can pull data in or push data out to make one application work with another. For example, Uber uses Google Maps APIs to pull data about location so that its cabs can be tracked.

¹ Definition of HTTP. (n.d.). Retrieved from <https://www.pcmag.com/encyclopedia/term/http>

² URI. (n.d.). Retrieved from <https://techterms.com/definition/uri>



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This report analyses the sharing economy through a detailed study of e-commerce in India. It examines the trends likely to shape the future of e-commerce through two phenomena: the infrastructuralisation of e-commerce platforms, and the platformisation of infrastructure due to e-commerce. Infrastructuralisation is examined through its potential for ubiquity, accessibility, reliability, and dependence; platformisation is examined through fragmentation, envelopment and privatisation.

This report uses quantitative research in the form of two online surveys among e-commerce consumers (n = 402) and third party sellers (n = 68), conducted by the market research agency IRB. Both surveys focused on Amazon and Flipkart, the largest platforms in Indian ecommerce. An extended interview with an industry association of logistics service providers in India supplemented the primary research.

The report is structured around two questions. The answer to the first question – ‘What are the implications of the potential infrastructuralisation of e-commerce in India?’ – focuses on developments in “New Retail”, or the merging of online and offline retail, in India. This includes large-scale investments such as Amazon’s bid to digitalise small businesses, the Facebook-Jio partnership to bring small businesses to WhatsApp, etc. We find that:

- A. E-commerce adds value to third-party sellers’ business by providing access to new domestic markets (84.6% of Amazon sellers, 77.6% of Flipkart sellers) and improving price discovery (67.7% of Amazon sellers, 58.6% of Flipkart sellers changed their price after going online). It adds value to consumers with helpful product reviews (70% of consumers), lower prices (79% of consumers), and brand discovery (70% of consumers).
- B. E-commerce creates a dependence, with a majority of sellers (92.3% of Amazon sellers, 84.5% of Flipkart sellers) making fundamental changes to their business practices to accommodate the rules of the platform or optimise operations on the platform. On average, sellers depended on Amazon for 50.4% of their total revenue and on Flipkart for 39% of their total revenue. Most sellers did not feel “locked in” to a particular platform, but the indication was that they were locked in to e-commerce in general. Most sellers also felt that the commission they paid platforms was low or

adequate (93.9% for Flipkart, and 87.5% for Amazon), showing that e-commerce in India is still in early stages of market-building.

The policy options, each with its own limitations, arising from this question must be evaluated against their propensity to preserve the value adds above:

1. Allow concentrated e-commerce markets to continue, but then undertake one or more of the below:
 - a. Disallowing New Retail, or limiting the growth of New Retail under monopoly conditions – for example, e-commerce entities looking to digitalise small retail shops should do so only by providing interoperability with other platforms;
 - b. Regulating platforms to minimise chances of breakdown;
 - c. Restricting the change of policies on platforms that may adversely affect platform participants without duly informing or consulting with the latter.
2. Maintain a minimum level of competition to allow switching between platform
3. Promote public ownership or democratic control of e-commerce platforms.

The answer to the second question – ‘What infrastructure is e-commerce platformising?’ – shows that e-commerce is primarily platformising two structures – the marketplace and logistics.

- A. Platformisation of the marketplace is taking place through control over market conditions – E-commerce firms both regulate and act as participants in the marketplace, thereby exerting inordinate amounts of control over the marketplace.

In our survey, most sellers did not have an issue with their appearance in search rankings. This indicates that despite the platformisation of the marketplace, it is perhaps premature to ask for algorithmic fairness in e-commerce; but algorithmic transparency is still needed. We also found that over 70% of consumers now search for goods they are buying directly on the platforms instead of using search engines. This makes clear that if there were to be an issue with algorithmic fairness in search results in the future,



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it would affect nearly all of online product search, not just product search on a particular platform.

Platformisation of the marketplace also takes place through private labels. Both Amazon and Flipkart use sales and other data generated on their platform to introduce their own products (private labels) for sale on the platform. This is egregiously anti-competitive as third-party sellers do not have access to the data generated by themselves and which is used to develop and market private labels. A majority of sellers (63.1% for Amazon and 58.6% for Flipkart) said that they saw platform-branded products as competitors to their own products.

- B. *Platformisation of logistics* is evident in over half of surveyed sellers (63.1% for Amazon and 53.4% for Flipkart) claiming one of the reasons for selling online is shipping provided by the platform. Sellers and consumers both preferred bundled services (sales and shipping provided together by the platform), showing that such platformisation of logistics is likely to continue. About 20-25% of the e-commerce logistics market is controlled by e-commerce firms' own entities.

The policy implications for this question are as follows:

1. Mechanisms for data intermediation for mandated non-personal data sharing should be built for e-commerce. Intermediation is required because individual sellers cannot do much with their own sales data in isolation – it is platform-level data that matters for private label competition.
2. The separation of intermediation and sale (through private labels) has to be imposed on domestic e-commerce entities in multi-brand retail above a certain firm size as well. It should not remain limited to e-commerce entities receiving foreign investment.
3. Algorithmic regulation should include a minimum level of transparency about how algorithms rank results on e-commerce sites, with evolving standards for fairness.
4. To regulate broader economic effects, lending rules in the logistics sector should account for the platformisation of infrastructure caused by e-commerce.

Both tendencies underline the fact that e-commerce platforms affect markets and economic relationships outside their immediate scope. Regulations for e-commerce will have to preserve its value-adds to sellers and consumers while limiting its drawbacks.

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I. Introduction

The sharing economy has seen large conceptual shifts since its inception. It began with the simple online facilitation of peer-to-peer economic activity, often through a neutral intermediary.³ One of its value propositions was that people could sell the temporary use of underused assets. Soon, consumer-to-consumer sharing of assets and market and non-market hybrid structures largely gave way to for-profit intermediaries that upturned existing markets. Today, what we recognise as constituting the sharing economy is no longer people offering their couches for free to travellers in reciprocal arrangements, but large digital companies like Uber or Amazon. The “sharing economy” has now become synonymous with the recasting of markets with powerful intermediaries using digital technology. For instance, Airbnb started out as a way for homeowners to share space for short periods of time. It now has clients who buy several homes for the sole purpose of renting them out on Airbnb.⁴

A few digital platforms dominate the sharing economy today. Platforms are commonly understood to mean either undertakings that facilitate interactions between two or more groups of people, or products that enable other products and services. Rochet and Tirole (2003) were awarded the Nobel for their study of such structures, which they called two-sided markets. Instead of two-sided markets,⁵ the large digital platforms that we are familiar with today are more accurately described as multi-

sided markets. As an illustration, Facebook facilitates interactions between and/or provides services to not just consumers and advertisers, but also businesses (beyond advertising), other organisations, third-party developers, content creators, and so on.

Platforms have an ability to be the “base” on top of which different actors interact, and to grow outwards into bringing more types of actors into their fold. They allow the outsourcing of different functions – marketing, sales, shipping, etc. – away from the firm. This is why many theorists describe platforms as being infrastructure or infrastructure-like. In this literature, platforms are called data or digital infrastructures,⁶ evolving meta-organisations,⁷ or network-data architectures.⁸ The common thread in all these terms used to refer to platforms is an indication that digital platforms have evolved to become entities that affect economic and social relationships beyond their own scope, often shaping interactions in the entire economy both online and offline.

We wanted to clarify these descriptions of digital platforms in the sharing economy further, particularly as they relate to infrastructure. To what extent can platforms be classified as infrastructure? Infrastructure and platform studies are different, although related, strands of scholarship. Plantin et. al. (2018) prepared a comprehensive review of both to arrive at two concepts that are now becoming

³ Martin, C. J. (2016). The sharing economy: A pathway to sustainability or a nightmarish form of neoliberal capitalism?. *Ecological Economics*, 121, 149-159.

⁴ Lane, Lea. (2020, June 9). How bad are Covid-19 pandemic effects on Airbnb guests, hosts? *Forbes*. Retrieved from: <https://www.forbes.com/sites/lealane/2020/06/09/how-bad-are-covid-19-pandemic-effects-on-airbnb-guests-hosts/#51583d257432>

⁵ Rochet, J.-C., & Tirole, J. (2003). Platform competition in two-sided markets. *Journal of the European Economic Association*, 1(4), 990–1029.

⁶ Srnicek, N. (2017). *Platform Capitalism*. John Wiley & Sons and Nieborg, D. B., & Helmond, A. (2019). The political economy of Facebook’s platformization in the mobile ecosystem: Facebook Messenger as a platform instance. *Media, Culture & Society*, 41(2), 196–218. <https://doi.org/10.1177/0163443718818384>

⁷ Gawer, A. (2014). Bridging differing perspectives on technological platforms: Toward an integrative framework. *Research Policy*, 43(7), 1239-1249. <https://www.sciencedirect.com/science/article/pii/S0048733314000456>

⁸ Gurumurthy, Anita, Deepti Bharthur and Nandini Chami. (2019). Platform Planet: Development in the intelligence economy. IT for Change. Available at: https://itforchange.net/sites/default/files/add/Report-Platform%20Planet_Development_in_the_intelligence_economy.pdf

increasingly visible in the global economy: the 'infrastructuralisation' of platforms and the 'platformisation' of infrastructure.⁹

What is the 'infrastructuralisation' of platforms? Sometimes, platforms start to take on the characteristics of infrastructure – ubiquity, accessibility, reliability and dependence among others – without necessarily being publicly owned or regulated. Like infrastructure, the usage of large platforms can become a conventional practice. This ultimately leads to a reliance on the platform that, like with commonly used infrastructure, becomes visible when it breaks down or disappears, and causes general inconvenience in its wake. For instance, Google is embedded in our lives in more ways than most of us recognise – in the search for information, the navigation of daily routes, in payments and in phone systems – and a breakdown in Google would cause considerable problems to a large number of people.

The second phenomenon – that of the 'platformisation' of infrastructure – is described by Plantin et. al. as new and existing infrastructures being organised on a platform logic. They trace the history of the deregulation and privatisation of digital infrastructure to explain why and how a platform structure replaced infrastructure. Privatised infrastructure often ends up in the form of fragmented but interoperable services. This is close to what we recognise as platforms. The example used is the privatisation of many components of the Internet itself.

The platformisation of the internet has largely entailed a shift away from published URIs and open HTTP transactions to closed apps that undertake hidden transactions with websites through controlled APIs. Plantin et. al. note that platforms and infrastructure overlap in many ways, with the significant difference being in scope and scale. This platformisation of the

internet means that the it has moved away from being infrastructure in the sense of being a public, flexible resource that is widely accessible. Instead, it now consists of a distinct set of platforms – Amazon, Facebook, Google being some of the most prominent – that in turn are looking more and more like infrastructure. The scope and scale of a platform and of infrastructure are distorting and merging – and regulatory thinking struggles to keep up with these changes.

This report builds upon this framework to answer the following questions:

1. What are the implications of the potential infrastructuralisation of e-commerce in India?
2. What infrastructure is e-commerce in India platformising?

These questions cannot be answered in static terms. This report analyses the process and effects of the tendencies towards monopolisation and fragmentation or privatisation. In the scope of this report, the issue with the platformisation of the internet happening at the same time as the infrastructuralisation of digital companies, is the colossal loss of neutrality and decentralisation in the digital world. With the creation of large gated communities of technology companies, the nebulous properties of these platforms will help them enjoy the best of both worlds – the loose regulation and large profits of platforms as well as the ubiquity and irreplaceability of infrastructure.

The report outlines the significant value adds the sharing economy has brought in the e-commerce segment, while also showing its pitfalls. It recommends policy options that would protect these gains in value from e-commerce while also ensuring that third-party sellers, consumers, and offline shops are not shortchanged in the rapid evolution of e-commerce.

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⁹ Plantin, J. C., Lagoze, C., Edwards, P. N., & Sandvig, C. (2018). Infrastructure studies meet platform studies in the age of Google and Facebook. *New Media & Society*, 20(1), 293-310.



II. Methodology

Apart from theoretical work, this report is based on two sets of surveys carried out in July 2020. We worked with the market research agency IRB (irbureau.com) to conduct online surveys among e-commerce customers and third-party sellers on e-commerce websites. The surveys were conducted online due to Covid-19 related lockdowns. We focused on questions about Amazon and Flipkart (including Jabong and Myntra) as these two platforms constitute about 90% of India's e-commerce market. Participants self-reported on these surveys and were incentivised through PayPal, gift vouchers or a donation to a charity of their choice. The surveys were opt-in and therefore we cannot formally rule out all selection bias. However, no information about the topic of the survey or surveyor details were shared with respondents before they started the survey. Checks and balances were incorporated to eliminate outliers or meaningless responses.

We surveyed 402 consumers, defined as people who said they had bought a product online in the last 6 months but before the Covid-19 lockdowns. This timeline was selected to avoid distortions in usual e-commerce buying behaviour caused by lockdowns. No specific demographic attributes were targeted.

Our consumer respondents were 64% male and 36% female. 76% were based in Metro or Tier 1 cities while 23% were in Tier 2 cities; only 1 respondent was from a non-Metro, Tier 1 or Tier 2 city. Below is the age distribution of respondents:

Age Group	Number of respondents	Percentage of total
Under 18	0	0%
Between 19-24	51	13%
Between 25 -35	211	52%
Between 36- 44	78	19%
Between 45-54	44	11%
Between 55-65	13	3%
Between 66-75	5	1%
Over 75 +	0	0%
Total	402	

We also surveyed 68 third party sellers on Amazon and/or Flipkart. For clarity, this refers to enterprises or people who list their products for sale on e-commerce websites. These sellers were randomly selected from "business decision-makers" classified into the e-commerce industry segment in the IRB panel. 73.5% of seller respondents were based in Metro or Tier 1 cities while 25% were based in Tier 2 cities. Again, only 1 respondent was from a non-Metro, Tier 1 or Tier 2 city. 67.6% sellers belonged to businesses that sold their own products, and 32.4% were re-sellers. Below is the size profile of businesses from all surveyors who answered this question (some sellers chose not to answer this):

Company annual revenue	Number of respondents	Percentage of total
Less than 20 lakhs	16	27
20 lakhs to 5 crores	35	59
5 crores and above	8	14
Total	59	

96% of the respondents sold their products on Amazon, while 85% sold products on Flipkart. 80.9% of the respondents sold their products on both Amazon and Flipkart.

The other stakeholder we wanted to study to understand the sector was logistics service providers for e-commerce firms. These include warehouse owners or operators, transport service providers, logistics technology providers, courier services, delivery personnel management providers, and service providers at ports or airports. As it was quite impractical to conduct a quantitative survey with a set of such diverse stakeholders, we supplemented our secondary research with an extended interview with an industry association of logistics service providers in India.

Together, these results gave us a rich set of insights into the e-commerce landscape in India. We have, of course, left out perhaps the most important part of this market – the workers in the sector, including warehouse workers, office workers and delivery workers. Surveying workers would entail a different focus not within the scope of this project. It should be noted that our recommendations do not cover any recommendations relating to e-commerce sector workers for this reason, and not because there is nothing to be done in that direction.

Question 1: What are the implications of the potential infrastructuralisation of e-commerce in India?

In their study of cyber-infrastructure, Edwards et. al. (2007) describe the key characteristics of infrastructure as ubiquity, accessibility and reliability, among other parameters.¹⁰ We can immediately see that e-commerce in India does not as yet fit these descriptors. In 2019, e-commerce made up only 1.6% of retail sales in India. The corresponding global figure is 14%.¹¹ On accessibility too, e-commerce falls short. India has 504 million active internet users, which is about 36.5% of the population. These users tend to be young, urban and male. Since Covid-19 lockdowns, the reliability of e-commerce has also taken a hit.

Having established that e-commerce in India today cannot be classified as infrastructure, it is much more helpful to look at the tendency of Indian e-commerce towards infrastructuralisation. The literature on infrastructure recognises monopoly provision as a characteristic of infrastructure. Is Indian e-commerce a monopoly market today? It is clear that if the relevant market is retail in general, e-commerce is not a significant proportion of this market. Within the e-commerce market itself there exists a duopoly. As of 2018, Walmart-owned Flipkart (with Myntra and Jabong) controlled 38.3% of the e-commerce market, and Amazon controls about 31.2%.¹²

The more relevant question is if e-commerce will continue to be a monopolistic market as it grows outwards into all retail. In 2019, Amazon announced a billion-dollar investment in India to help small and medium sized businesses come online. This naturally means that these businesses will be supported to sell on Amazon's own platform. Amazon is also working on turning neighbourhood shops into e-commerce delivery centres. Facebook's investment in

Reliance Jio is meant to primarily bring small businesses online via WhatsApp. Google's \$10 billion Google for India Digitization Fund to help accelerate India's digital economy involved a significant investment in Jio as well.

From these recent developments in investment, it is safe to assume that the share of e-commerce in retail will continue to grow through new retail. "New retail" is a term coined by Alibaba founder Jack Ma to denote the blurring boundaries between online and offline retail. It involves the digitalisation of physical stores among other ways of integrating online and offline shopping. Investments from Amazon, Facebook and Google described above are examples of new retail. Amazon's investment targets 10 million businesses (it currently has 500,000 Indian sellers on its platform) while the Facebook-Jio partnership targets 60 million businesses. At this scale and in this role, e-commerce starts to look more like infrastructure; and given that a few large technology companies are making the investments that will create "new retail" in the future, the concentrated nature of e-commerce markets is likely to continue existing.



Economic relationships among stakeholders:

With this growth trajectory of e-commerce in mind, we now look at some of the existing economic relationships prevailing between e-commerce platforms and participants on these platforms, i.e., sellers and customers. We then analyse how these relationships and tensions might play out when e-commerce has a much larger market share. This will also help us understand which effects of e-commerce should be preserved when thinking of new e-commerce

¹⁰ Edwards, P. N., Jackson, S. J., Bowker, G. C., & Knobel, C. P. (2007). Understanding infrastructure: Dynamics, tensions, and design

¹¹ Kathuria, S., Grover, A., Perego, V. M. E., Mattoo, A., & Banerjee, P. (2019). Unleashing e-commerce for South Asian integration. The World Bank.

¹² Arcieri, K. (2019, October 10). Flipkart is No. 1 in India but faces formidable foe in Amazon, say experts. Retrieved from <https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/flipkart-is-no-1-in-india-but-faces-formidable-foe-in-amazon-say-experts-54083920#:~:text=After%20adding%20the%20market%20share,controls%20a%2038.3%25%20market%20share.>

models. We analyse these economic relationships in terms of value adds and dependence.

Value adds

New markets: Both sellers and consumers derive value from an online marketplace. Sellers sell online mainly for access to domestic markets (84.6% of Amazon sellers, 77.6% of Flipkart sellers). Other benefits of selling online include access to international markets (33.8% of sellers on Amazon, which has marketplaces based outside India as well) and streamlining order

processing. Only 36.9% of Amazon sellers and 39.7% of Flipkart sellers said that they sold online because the costs were less than selling offline. This response did not vary significantly with the size of business, location of business or business type. It thus appears that the primary value add of online platforms for sellers is access to markets or consumer bases they would not otherwise have access to.

“The primary value add of online platforms for sellers is access to markets or consumer bases they would not otherwise have access to.”

Chart 1: Why do you sell on Flipkart?

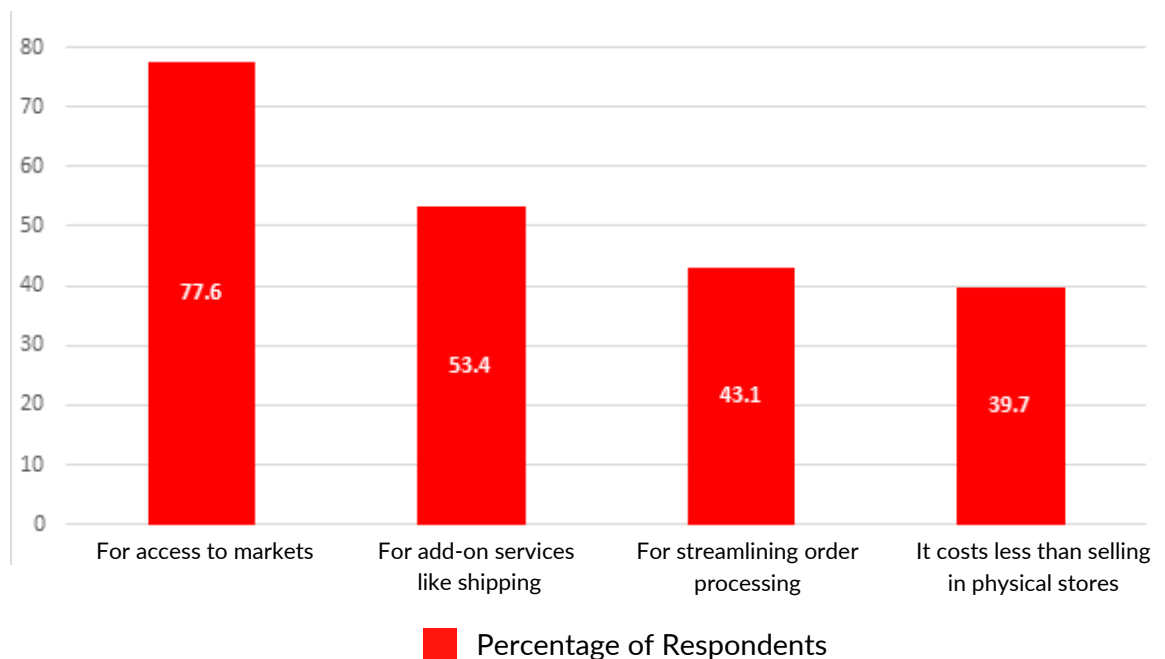
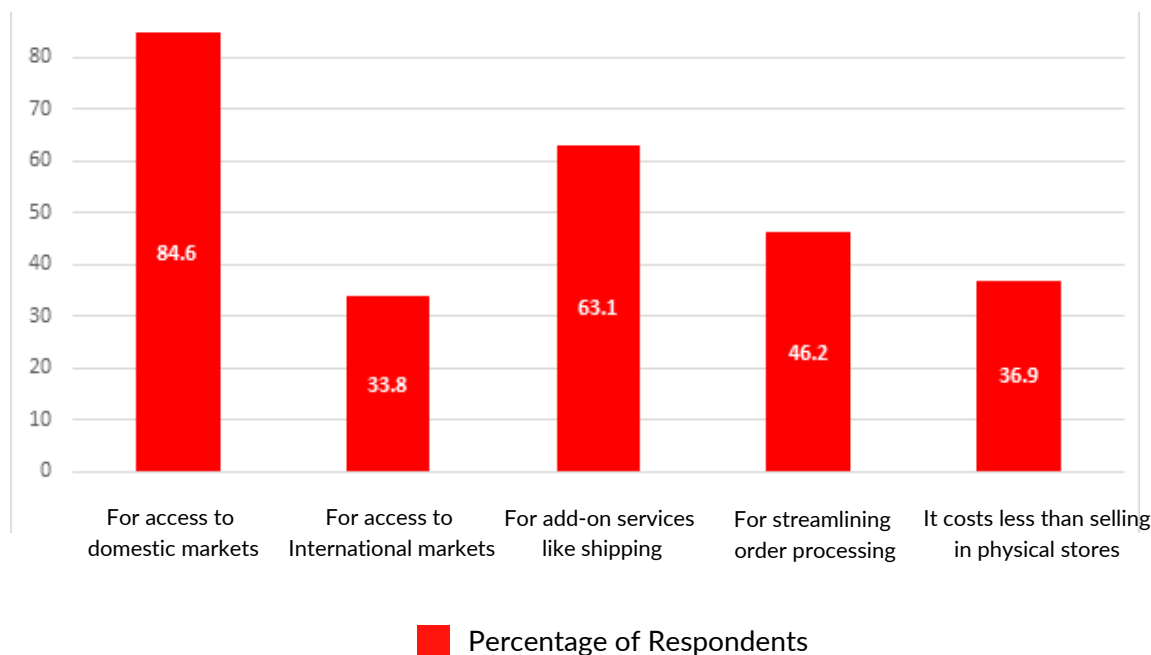


Chart 2: Why do you sell on Amazon?



It is likely that access to markets will continue to be a value-add to sellers when e-commerce captures a larger proportion of retail market share. The magnitude of that value might not remain the same with many more sellers competing for the same markets and with existing physical shops in local markets digitalising under the aegis of e-commerce firms.

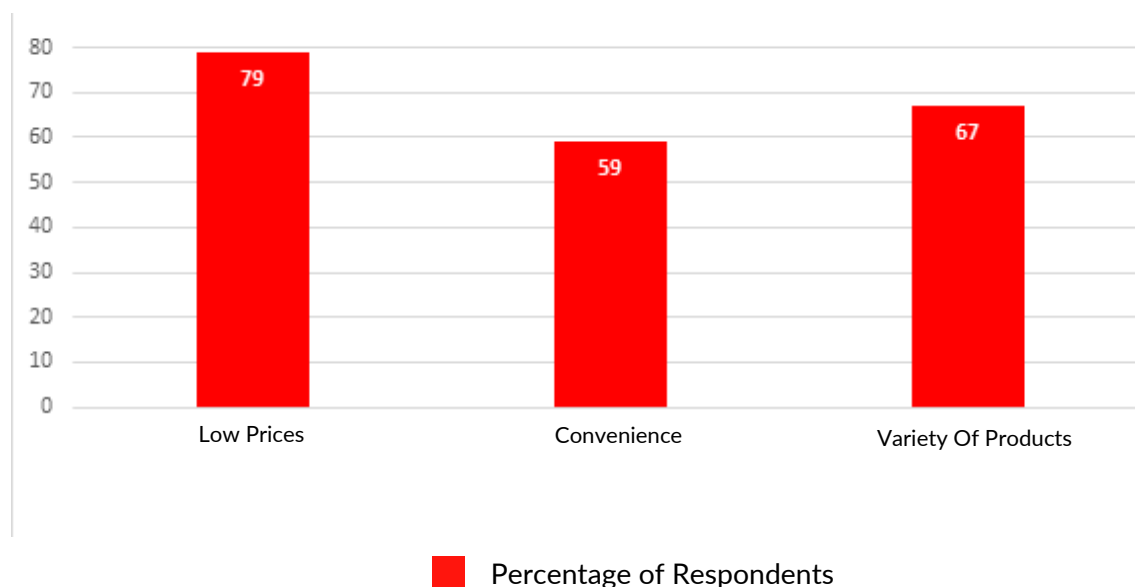
Price discovery: There is some indication that e-commerce platforms make price discovery easier. Most sellers said that they had changed the price of their product(s) after listing them online. See below:

Have you changed the price of your products after listing them?	Amazon		Flipkart	
	Number of Respondents	Percentage of total	Number of Respondents	Percentage of total
(a) Yes, reduced the price	18	27.7	11	19.0
(b) Yes, increased the price	26	40.0	23	39.7
Total of (a) and (b)	44	67.7	34	58.6
(c) Yes, but for unrelated reasons	10	15.4	13	22.4
(d) No	11	16.9	11	19.0
Total	65		58	

We found that a change in prices was not significantly correlated with the size of the business. If we assume that the new prices are more rational than prices in offline markets due to more information being made available, we can conclude that as platforms grow and more interactions occur on the platform, price discovery is likely to improve. On the other hand, if these new prices are functions of the peculiarity of the type of consumers that use online platforms currently, we can expect these prices to converge to offline market prices as platforms grow.

Low prices: Most consumers (79%) cited low prices as a reason for shopping online. Although most consumers said the online shopping experience was convenient (92%) and provided a large variety of products (87%), a smaller subset of consumers (59% and 67%, respectively) said that this affected their decision to shop online. It thus appears that for consumers, the primary value add is the price differential between online and offline shopping. This was confirmed in the qualitative responses as well, where respondents repeatedly cited discounts and low prices as reasons for shopping online.

Chart 3: Motives for Shopping Online



“Given that low prices are the primary value-add for consumers, e-commerce platforms are likely to follow this same path of control and extraction to maintain low prices.”

It is difficult to imagine this price differential sustaining without deep discounting facilitated by venture capital. Only that part of the differential that is due to any inherent efficiency in conducting commerce online is likely to sustain. However, there is another dimension to low prices. From Amazon's role in US and other e-commerce markets as a comparison point, it seems likely that prices can continue to remain lower online due to the advantages presented

by infrastructuralisation through control of all parts of the value chain, such as sales, logistics, warehousing, delivery, etc. Consequently, at the advanced stage of e-commerce development, part of these lower prices is offset by high seller commissions and extraction from other economic factors.¹³ Given that low prices are the primary value-add for consumers, e-commerce platforms are likely to follow this same path of control and extraction to maintain low prices.

¹³ Mitchell, S., Knox, R., & Freed, Z. (2020, August 11). Report: Amazon's Monopoly Tollbooth. Retrieved from https://ilsr.org/amazons_tollbooth/

Reviews: The existence of customer reviews can also be considered a value-add introduced by e-commerce. Most consumers (70%) said that customer reviews affected their purchase decisions. See below:

Did customer reviews affect your purchasing decision?	Number of respondents	Percentage of total
Yes	282	70%
Somewhat	99	25%
No	21	5%
Grand Total	402	100%

The problem of fake reviews is significant and impedes the value-add of fake reviews. Other surveys have shown that consumers want action against fake reviews online.¹⁴

Brand discovery: Another value-add for both sellers and consumers are the fact that e-commerce allows for new brand discovery. A large majority of consumers (70%) said that they had purchased a product online from a brand

that they were previously unaware of. This not only provides consumers a wider choice set, it also provides a new avenue of discovery for brands. E-commerce allows new sellers and brands to “plug and play”, that is, to easily integrate with an existing large distribution network. This value-add can continue to exist when e-commerce starts to resemble infrastructure.



Dependence

Although e-commerce platforms may not wield market power in retail markets, the relationship between the platforms and sellers is still characterised by dependence in many ways. About 66.2% of the sellers we surveyed sold their goods both online and offline, while the rest sold only online. For sellers who sell only online, any breakdown of platform services, or

change in platform policies, would affect their entire business. On average, sellers depended on Amazon for 50.4% of their total revenue and on Flipkart for 39% of their total revenue.

We also asked sellers whether they had changed any business practices due to selling online. The results are below:

Have you changed any of these business structure or practices due to selling online?	Amazon		Flipkart	
	Number of Respondents	Percentage of total	Number of Respondents	Percentage of total
HR or managerial changes	20	30.8	14	24.1
Financial changes (e.g. credit, insurance, cash flow management)	36	55.4	21	36.2
Changes in product design	36	55.4	26	44.8
Changes in marketing techniques	29	44.6	30	51.7
None of the above	5	7.7	9	15.5
At least one change	60	92.3	49	84.5
Total	65		58	

¹⁴ Ahmad, I. (2020, March 15). Consumers Call for Action on Fake Reviews [Infographic]. Retrieved from <https://www.socialmediatoday.com/news/consumers-call-for-action-on-fake-reviews-infographic/574147/>

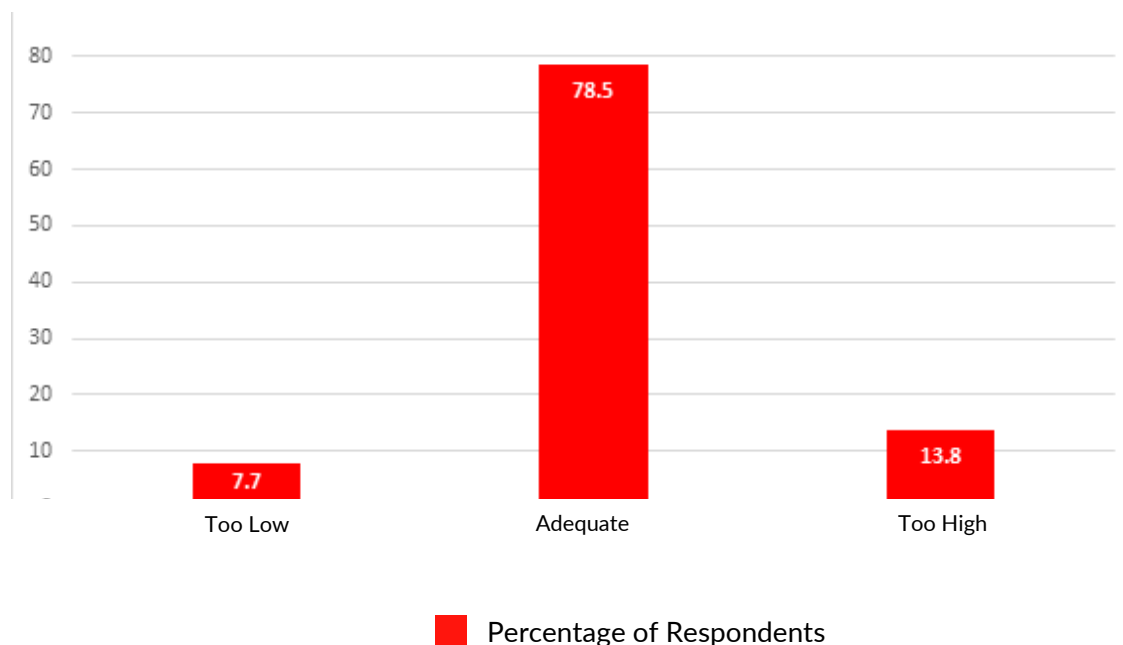
Most sellers (92.3% for Amazon and 84.5% for Flipkart) had made at least one business structure or process change to sell online more efficiently. These include changes as fundamental as those in product design. We found that the propensity to change business structures or processes did not vary significantly with business size.

These results are indicative of a strong platform dependence: businesses are orienting themselves to be optimal for selling online.

When asked about the commission they pay to the platforms, most sellers believed that the commission was adequate. In the purview of the

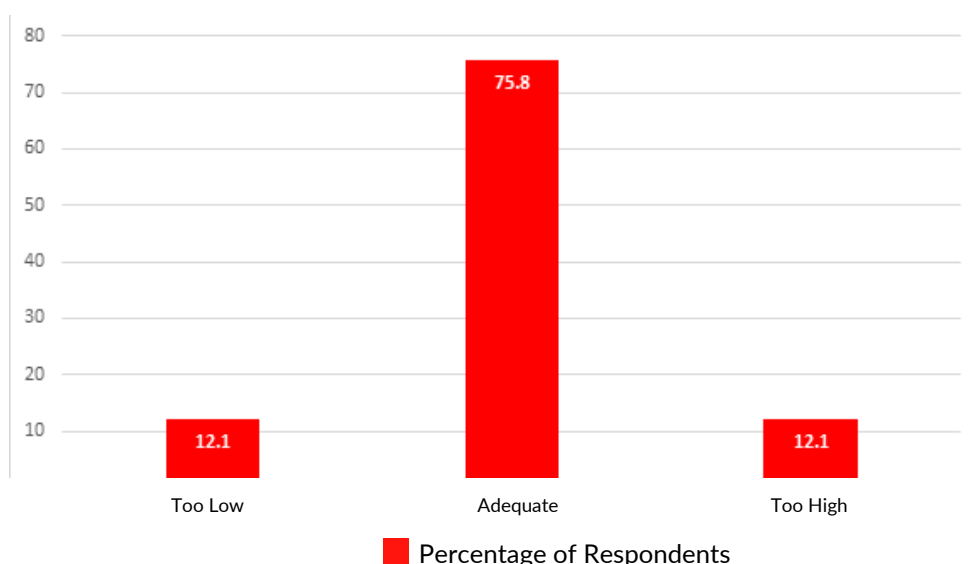
-structuralisation and monopolisation of e-commerce, however, especially when thinking of a future when these sellers are dependent on the platforms they sell on, it will be very easy for Amazon and Flipkart to raise their commissions. It is likely that the sellers will have no choice but to continue to pay, since their reliance on these platforms as their main source of revenue may only continue to increase. In the US, where Amazon controls a larger share of the market, seller commissions have grown from 19% to 30% in merely five years, while prices of the goods being sold on Amazon have stayed relatively stable.¹⁵

Chart 4: Do you think the commission you pay Amazon is



¹⁵ Mitchell, S., Knox, R., & Freed, Z. (2020, August 11). Report: Amazon's Monopoly Tollbooth. Retrieved from https://ilsr.org/amazons_tollbooth/

Chart 5: Do you think the commission you pay Flipkart is



Consumers also indicated some tendency towards dependence. In the qualitative responses, 24 respondents mentioned that they preferred shopping online because they did not have the time to shop offline. The dependence on e-commerce is linked to patterns of employment, city planning, childcare etc., which are lifestyle factors that cannot be easily changed once e-commerce is integrated into them.

Lock-in: A related phenomenon is that of being “locked-in” to a platform. This means that platform participants face too high a cost to switch out of the platform to a different platform. High switching costs are a threat to competitive markets. We asked sellers how easy they thought it would be to switch out of each platform. The results are below:

How easy do you think it would be to switch out of this platform to another platform?	Amazon		Flipkart	
	Number of Respondents	Percentage of total	Number of Respondents	Percentage of total
Very easy	10	15.4	13	22.4
Easy	18	27.7	15	25.9
Neutral	19	29.2	17	29.3
Difficult	17	26.2	12	20.7
Very Difficult	1	1.5	1	1.7
Total	65		58	

Most sellers did not think that switching out of one platform to another was difficult or very difficult. About 18.2% of sellers who sold on both platforms found it difficult or very difficult to switch their existing business out of both platforms; 29% of sellers who sold on both platforms found it difficult or very difficult to switch their business out of at least one platform. With the limitations of self-reporting on this question in mind, it does not seem as if switching out of one platform to another platform is a major issue for sellers.

We found that sellers who sold their goods in both online and offline stores were more likely to find switching out of Amazon easier (statistically significant correlation at $p < 0.05$). The correlation was not statistically significant for Flipkart.

Dependence is often the other side of platform efficiency. Plantin et. al. cite Baldwin and Woodward (2008) to point out how in the field of business, platforms are understood as structures with core components and complementary components. Core components have low variability and can accommodate complementary components with high variability. This means that the cost of innovation is lowered, as the same core components can be used for each new complementary component. In e-commerce websites, the core components include the

website and all its functionalities; the variable components are the different products that can be sold on the website. The cost of innovation is lowered as new types of products can seamlessly be integrated onto the website. To access this lower cost of innovation, sellers must make some changes. We have seen that they change how their business is organised and adopt new approaches to suit e-commerce platforms, such as new marketing techniques. We have also seen that they do not feel locked in to a particular platform. We can then conclude, while aware of all the limitations of the survey, that sellers face a tendency to depend on e-commerce platforms in general and not on an e-commerce platform in particular. The problem, if any, is not yet a traditional monopoly problem.



Policy implications:

We must first note that e-commerce creates value for sellers and buyers as enumerated above. The first implication for policy then, is that we must attempt to preserve these value-adds.

Following is a condensed table of the major value-adds of e-commerce in the context of infrastructuralisation for sellers and consumers. The third column shows how likely current value-adds are to sustain if e-commerce becomes infrastructuralised as is predicted.

Group	Value add	Sustainability of value-add
Sellers	Market access	Can sustain but the magnitude of value will reduce with increased competition.
Sellers and consumers	Price discovery	Can sustain if improvement in price discovery is likely due to platform efficiency and broader reach amongst sellers and buyers. Cannot sustain if prices have changed because a specific kind of consumer base uses e-commerce currently.
Consumers	Low prices	Cannot sustain given deep discounting unless there is high extraction in other parts of the economy.
Consumers	Reviews	Can sustain if fake reviews are weeded out at scale.
Sellers and consumers	Brand discovery	Can sustain as the "plug and play" nature of e-commerce remains.

The relative unimportance of lock-in as a problem means that the concern for policy is not so much interoperability among platforms – although we must not rule that out – but on how to reckon with dependence on the platform structure of markets. This dependence is not by itself concerning. After all, sellers always organise their businesses to suit the assemblages of offline markets. We must however be conscious of the infrastructural nature of platforms when they cause such dependence. In its most extreme case, this means that if the few major e-commerce platforms break down, its participants can no longer sell at all, or sell only at a high cost of restructuring their business. It also means that if a platform that does not have close competitors changes its policies, sellers cannot easily switch to non-platform selling. Such an infrastructural nature is an argument against concentrated markets in e-commerce.

This means that the value adds we listed in the table above have to be balanced with the risk of creating concentrated markets in an infrastructuralised sector. That leaves us with the following choice set of policy options, each with different risk-reward trade-offs:

- a. Allow concentrated e-commerce markets to continue: A majority of the e-commerce market today has been captured by Amazon and Flipkart. We can make the policy choice of letting such concentration continue (regardless of the particular companies that capture the market); this would allow us to preserve the gains that platforms with a large market share bring, but it would entail that we make one or more of the following policy choices as well:
 - i. Stop the development of New Retail in its tracks. This would ensure that the tendencies towards dependence that we described earlier do not materialise in the online and offline world.
 - ii. Regulate e-commerce platforms to minimise the chances of breakdown. In

- iii Restrict e-commerce platforms from changing certain policies that affect platform participants without involvement from those participants. If e-commerce dominates all business-to-consumer commerce, and the market is concentrated, sellers and consumers have a right to intervene in this market to demand consultation on policy changes made even by a privately owned platform.

- b. Foster competition in e-commerce: The other policy choice is to determine that concentrated e-commerce markets are not worth the value adds they bring to platform participants, and that value will be maximised not by regulations against breakdown and against unilateral policy change, but through competition. Competitive markets allow platform participants to switch between platforms and avoid repercussions from a breakdown or change in policy in one platform. It does mean, however, that platforms can lose the economies of scale that come through a large market share.

- c. Create publicly owned/democratically controlled e-commerce: We could also determine that economies of scale are important to maintain the value-adds of e-commerce, while the pitfalls of dependence on a concentrated market of private players are too many. In this case, the establishment of a publicly owned and/or democratically controlled platform for e-commerce merits consideration. Public ownership would naturally not extend to sellers on the platform.

All these policy options will have their drawbacks. What is clear is that if e-commerce becomes the backbone of all retail and includes offline shops in its networks of dependence, i.e., if it becomes infrastructural, these policy options will have to be seriously considered. Given the trajectory of e-commerce in India, it is not too early for policymakers to start assessing these options and evaluating new market developments in this light.

Question 2: What infrastructure is e-commerce platformising?

Plantin et. al. describe the historical decline of the public infrastructural ideal and its replacement by fragmented, privatised but inter-operable systems. They highlight the role that computing has played in infrastructure being splintered, and refer to the combination of deregulation, privatisation and splintering as the “platformisation” of infrastructure. With Indian e-commerce, we can already see some trends towards platformisation of infrastructure.



Platformisation of the marketplace

One important arena of platformisation through e-commerce is the platformisation of the marketplace itself. The marketplace has generally been a quasi-public entity. Even if privately owned marketplaces existed before e-commerce, there was never a comparable monopoly or ability to intervene in market transactions before this. E-commerce converts the marketplace into a privatised and splintered entity. E-commerce marketplaces can pick winners, sell their own wares and manipulate participant behaviour to an unprecedented extent now. We examine these issues in detail below:

- a **Control over market conditions**– Platforms can control a large range of factors that shape marketplace outcomes. This includes the order in which products appear when users search for them. Apart from purchasing advertising services, sellers have no way of controlling or even being aware of how search rankings work.

Most sellers in our survey, however, did not have a problem with their search ranking. See below:

When customers search for a product that you sell, do you think your product listing appears:	Amazon		Flipkart	
	Number of Respondents	Percentage of total	Number of Respondents	Percentage of total
Sufficiently at the top of search results	38	58.5	34	58.6
Too low in search results	6	9.2	4	6.9
Neutral	21	32.3	18	31.0
Not sure	0	0	2	3.4
Total	65		58	



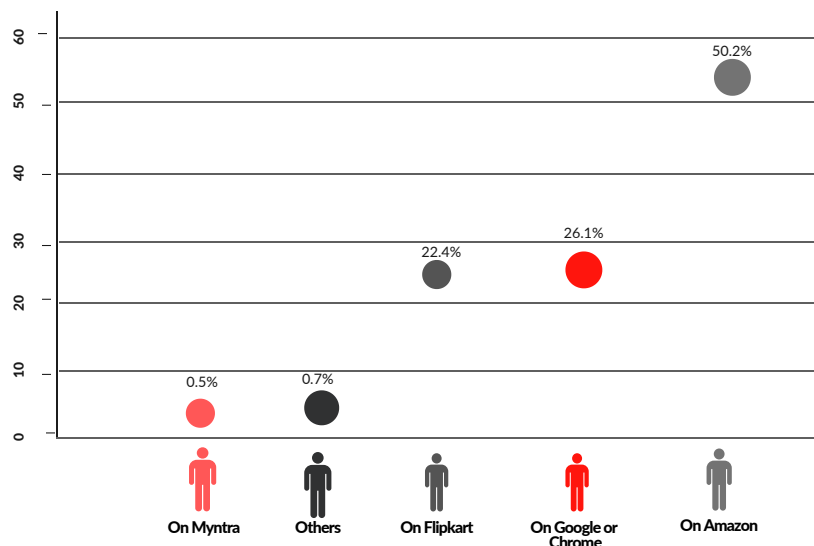
Even if privately owned marketplaces existed before e-commerce, there was never a comparable monopoly or ability to intervene in market transactions before this.



While it is true that most of our respondents used advertising services and thus may not have faced problems with ranking, we did not find a significant correlation between using advertising services and satisfaction with rankings. From our survey then, it appears that sellers on Amazon and Flipkart do not currently feel that they are discriminated against in rankings.

Nevertheless, the fact that sellers have no

visibility or control over rankings is concerning. Search rankings could become an issue of contention in the future as the market grows. The control over search results on the platform matters all the more because increasingly, a consumer's first search occurs directly on the platform rather than on an external search engine. About 73% of our respondents said that they first searched for a product on one of Amazon or Flipkart:



Graph: When you decide to buy a product online, where do you usually first search for it?

This means that the fairness of Amazon and Flipkart search rankings is not merely an internal Amazon or Flipkart issue. The market for search itself has been platformised.

Other studies have shown that apart from controlling search rankings, platforms can also redirect customers to competing products before checkout or shape interactions through cashback schemes.¹⁷

- b. **Private labels** – Khan (2017) has famously shown how Amazon exploits information collected from third-party sellers on its platform to compete with these sellers. E-commerce platforms can use sales and other data generated on their platform to introduce

their own products (private labels) for sale on the platform. As third-party sellers do not have access to all the data that the platform does, they are at a disadvantage. It is possible that the platform's private labels can easily outcompete third party sellers. From our surveys, we found that 77% of consumers had purchased Amazon-branded products and 62% had purchased Flipkart-branded products. Only 7% and 8% of consumers were unaware of the existence of Amazon and Flipkart branded products respectively.

A majority of sellers (63.1% for Amazon and 58.6% for Flipkart) said that they saw platform-branded products as competitors to their own products.

“77% of consumers had purchased Amazon-branded products and 62% had purchased Flipkart-branded products. A majority of sellers (63.1% for Amazon and 58.6% for Flipkart) said that they saw platform-branded products as competitors to their own products.”



Platformisation of logistics

In this section we propose that logistics in India is an infrastructural service that is being platformised by e-commerce through platform envelopment.

Eisenmann et. al. (2011) introduced the concept of platform envelopment – a phenomenon where a player in one platform market captures users in another platform market by bundling its services or functionalities. It is able to do this by¹⁸

gaining network effects in a new type of market with its existing user base. E-commerce providers in India use such bundling often. In fact, telecom provider Reliance Jio's bid to enter e-commerce is itself an example of an attempt at platform envelopment.

Logistics is perhaps the sector that is most vulnerable to platform envelopment from e-commerce. About 20-25% of the e-commerce

¹⁶ We asked for Chrome separately even though it means the same as the Google search bar in Chrome in order to avoid qualitative answers referring to Chrome

¹⁷ Gurumurthy, A., & Bhartur, D. (2020, March). pp. 20, Techno-disruptions and travel: Examining the impact of platformisation in the Indian tourism sector (Rep. No. 129 700 620). Retrieved [https://itforchange.net/sites/default/files/add/Report: Techno-disruptions and travel.pdf](https://itforchange.net/sites/default/files/add/Report%20Techno-disruptions%20and%20travel.pdf)

¹⁸ Eisenmann, T., Parker, G., & Van Alstyne, M. (2011). Platform envelopment. *Strategic Management Journal*, 32(12), 1270-1285.

logistics market is controlled by e-commerce firms' own entities. Amazon Transportation Services, in particular, has a strong presence in the sector.¹⁹ In 2018, KPMG estimated that 70% of the deliveries of large e-commerce platforms were made by their in-house delivery arms.

Over half (63.1% for Amazon and 53.4% Flipkart) the sellers we surveyed said that one of the reasons they sold online is because shipping was taken care of by the platform. This indicates that the infrastructure of shipping (a subset of logistics) is being platformised to some extent by e-commerce companies.

E-commerce platforms provide third-party sellers different tiers of service. The highest tier usually includes an end-to-end logistics solution, early delivery guarantees and/or platform "assurance" branding. For Amazon this tier is called "Fulfilled by Amazon" and for Flipkart it is called "Flipkart Fulfilment". The majority of sellers (67.7% for Amazon and 70.7% for Flipkart) chose to use the highest tier of service, indicating that online marketplace and logistics services are efficient when bundled. Most sellers said that they chose to use the highest tier because it helped to plan inventory and financing better. Most sellers on Flipkart also said that they used the highest tier because customers are more likely to buy products with the "Flipkart Assured" badge.

Service tiers for sellers are in some ways tied to service tiers for consumers. A platform is able to provide assured early delivery times and quality guarantees for consumers when sellers use a premium tier of service. 75% of Amazon customers and 72% of Flipkart customers we surveyed used the premium tiers of service for consumers, that is, Amazon Prime Delivery and Flipkart Plus respectively. Most Amazon customers chose the tier for quick delivery, while most Flipkart users chose it for Flipkart's rewards programme.

It thus appears that bundled and platform-assured services are preferable to both sellers and consumers. In this limited sense of seller and consumer welfare, the platformisation of logistics is a welfare improving outcome. However, welfare with a 1.6% retail market share is not the same as welfare with a higher market share. What will India's logistics sector look like when more of it is controlled by e-commerce firms? With a higher retail market share for e-commerce, such bundling will mean that the majority of business-to-consumer logistics will be controlled by e-commerce firms. E-commerce firms are already known to have the buying power in the logistics market. Besides, logistics service providers in India are not as of yet focusing on the model of pick-up and delivery through local shops. This model will likely be led by e-commerce firms themselves. All these indicate that we could see monopolistic markets in logistics, and therefore a great deal of caution and careful regulation are required if we allow New Retail to flourish in India.



Policy implications:

- **Data policy:** Existing Indian policy mandates some separation between platform activities and selling activities. According to Press Note 2 of 2018 issued by the Department for Promotion of Industry and International Trade, 100% Foreign Direct Investment under the automatic route in e-commerce is permitted only in platforms that intermediate, not in platforms that own their inventory. "Ownership of inventory" means that more than 25% of purchases from a vendor are from the e-commerce entity or its group companies.²⁰ This is a way to prevent platforms from selling private labels. After this Press Note, e-commerce platforms have entered into partnerships with other companies to keep their ownership of their retail arms below 25%. For example, Amazon's erstwhile retail arm Cloudtail Ventures is now owned jointly by Catamaran Ventures and Amazon, with Catamaran Ventures owning 76% of the

¹⁹ Author's interview with the office-bearers of a logistics industry association in India.

²⁰ Government of India, Department for Promotion of Industry and Internal Trade. (2018). Press Note 2 [Press release]. Retrieved from <https://dipp.gov.in/whats-new/press-note-2-2018>

shares.²¹ Cloudtail India is the largest seller on Amazon, and Flipkart's own brands contribute to about 10-12% of inventory.²²

Platforms' entry into selling their own brands is very clearly linked to the data they collect. In the words of Flipkart's Vice President (Private Labels) Adarsh Menon:

*"By developing in-house algorithms, we are able to look at customer feedback in lakhs of quantity to design and develop our products. We can include specifications that customers want and omit those that they don't want as brands necessarily put them as per their global template. Hence, the right price and the right specifications products are made."*²³

From our survey, however, it appears as though sellers do not link competition from platform brands to the platform's data accumulation. Or to put it more accurately, most sellers do not want more data from the platforms than they already receive. These positions are mutually compatible. Sellers do not have the resources or skills to produce or procure based on sophisticated data analytics, and neither is too much of their own sales data useful to them in isolation. The policy implication goes against the idea of individual data ownership for third party sellers. These results point towards a need for mechanisms for sellers and other entities to be able to use platform data effectively. This can include mandated non-personal data sharing with adequate privacy safeguards and a system of

third-party data intermediaries. Only then can the data advantage of the platformised marketplace be neutralised. Additionally, the separation of intermediation and sale has to be imposed on domestic e-commerce entities in multi-brand retail above a certain market share as well, as they are equally capable of monopolising the market with private labels.

- **Algorithmic regulation:** Most sellers did not find issues with search rankings. Even with this small survey, this is perhaps an indication that rules prescribing ranking algorithm standards are premature now. The policy implication is that we first need a certain minimum level of transparency about how algorithms rank results on e-commerce sites. Standards for fairness may or may not evolve at a later stage. The EU Regulation on Platform-to-Business Relations is a good example of standards for transparency and accountability for platforms.²⁴
- **Broader economic effects:** The logistics sector was granted infrastructure status in 2017. This means that investments in logistics can avail loans more easily and from a larger variety of sources, including from pension funds.²⁵ In the logistics sector, e-commerce companies engage in not only transportation but also warehousing activities. Lending rules in the logistics sector must take into account the platformisation of infrastructure that e-commerce firms are causing in this sector, and of how much of the logistics market they are capturing.

²¹ [www.ETRetail.com. \(2019, December 29\). Tough 2020 awaits Amazon, Flipkart as Reliance firms' up plans - ET Retail. Retrieved from https://retail.economictimes.indiatimes.com/news/e-commerce/e-tailing/tough-2020-awaits-amazon-flipkart-as-reliance-firms-up-plans/73014505](https://retail.economictimes.indiatimes.com/news/e-commerce/e-tailing/tough-2020-awaits-amazon-flipkart-as-reliance-firms-up-plans/73014505)

²² Soni, S. (2019, July 22). Interview: 12% share in our 300 categories comes from Flipkart's private brands: Adarsh Menon. Retrieved from <https://www.financialexpress.com/industry/sme/interview-12-of-flipkarts-business-comes-from-private-labels-adarsh-menon/1651615/>

²³ Soni, S. (2019, July 22). Interview: 12% share in our 300 categories comes from Flipkart's private brands: Adarsh Menon. Retrieved from <https://www.financialexpress.com/industry/sme/interview-12-of-flipkarts-business-comes-from-private-labels-adarsh-menon/1651615/>

²⁴ Lucasge. (2020, July 15). Platform-to-business trading practices. Retrieved from <https://ec.europa.eu/digital-single-market/en/business-business-trading-practices>

²⁵ (n.d.). Retrieved from <https://www.makeinindia.com/logistics-sector>

Summary of Recommendations

Key Findings

1. The sharing economy creates value for third party sellers and consumers on e-commerce websites: access to new markets, low prices and better price discovery, new brand discovery, and the ability to make better purchasing choices through customer reviews.
2. The sharing economy has the following pitfalls:
 - a. It creates dependence on the platform through business process changes, revenue dependence and lifestyle changes.
 - b. It privatises and fragments infrastructure like the marketplace and logistics, increasing platform power over other actors in the economy.

Policy Recommendations

Policy measures must preserve the value-adds of e-commerce while minimising its ill effects:

1. The Ministry of Commerce and Industry must evaluate new partnerships that seek to fuse online and offline retail by digitalising small shops on the basis of value additions and dependence for sellers and consumers as enumerated above.
2. The Ministry of Commerce and Industry, if it seeks to allow such partnerships, must institute standards for safety, reliability, and interoperability in e-commerce platforms to shield sellers and consumers from the effects of a breakdown.
3. Again, if the Ministry of Commerce and Industry seeks to allow such partnerships, it must mandate mechanisms whereby changes in identified important platform policies will involve participation from third party sellers and consumers or their representatives.
4. The Ministry of Commerce and Industry must consider the relative merits and demerits of public ownership or control over the e-commerce layer as an alternative to the above.
5. The Ministry of Commerce and Industry must consider that lax lending rules in the logistics sector might allow for e-commerce firms' domination of this sector.
6. The Competition Commission of India must act pre-emptively to prevent monopolisation of the e-commerce market in this phase of its growth.
7. The Competition Commission of India must also prevent e-commerce platforms over a certain size, both domestic and foreign, from selling their own goods (i.e., private labels) on their own platforms.
8. Alternatively, the Ministry of Electronics and Information Technology, to neutralise the data advantage of platforms using private labels, must institute mechanisms for sharing anonymised non-personal sales data at a platform level with third-party sellers or their appointees.
9. The Ministry of Electronics and Information Technology must institute standards for algorithmic transparency in e-commerce so that manipulation and bias in markets can be ruled out.

The sharing economy is no longer a fringe addition to the rest of the economy. It increasingly drives value creation and determines value distribution in the mainstream. E-commerce platforms are a significant part of the sharing economy. With the upcoming fusion of online and offline retail, e-commerce may end up dominating nearly the entire retail market in India. This would make the platforms that facilitate e-commerce akin to infrastructure. This report finds that such infrastructuralisation means that policymakers will be compelled to make decisions on choice and control in e-commerce platforms while balancing the value-adds that e-commerce brings to both consumers and sellers. It also finds that e-commerce is platformising existing infrastructure, i.e., the marketplace and logistics. This means that regulation would need to address fairness and accountability in e-commerce markets just as they would address fairness and accountability in markets and logistics in general.

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