CUTS International

Whitepaper on

Leaving No One Behind:

Fostering an Inclusive E-commerce Ecosystem in India

Table of Contents

List of Figures

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1. Introduction: Need for an Inclusive E-commerce Ecosystem

For the past several years, e-commerce in India has grown at a breakneck speed. Its market size has grown from US$20bn in 2015 to US$50bn in 2019.[1] The COVID-19 pandemic has given India an unprecedented push to e-commerce, especially in tier 2 and tier 3 cities. The overall e-commerce sales volume share grew to 46 percent from 32 percent, and value grew to 43 percent from 26 percent during 2020.[2]

Recently, LocalCircles found that around 49 percent of respondents of a nationwide survey chose e-commerce to buy goods in the last 12 months.[3] Despite the ongoing pandemic, the e-commerce market has registered a growth of 36 percent year-over-year in the last quarter of 2020.[4] The number of Active Internet Users (AIU) in India is also expected to grow to 900 million by 2025 compared to 622 million in 2020.[5]

Despite driving e-commerce, the pandemic has had an unprecedented socio-economic adverse impact in India. It has vividly exposed the already existing economic divide within the society. It has questioned our growth models and forced us to revisit our claims of inclusivity and development.

This has happened across sectors and e-commerce is no exception. The pandemic has exposed the wide chasm between the connected and the unconnected, revealing just how far behind many are in the digital uptake. For instance, the internet penetration in India managed to reach only 34 percent in 2019.[6] With the pandemic pushing millions in poverty, who are unlikely to access the internet in the near and reasonably distant future, has our e-commerce growth been inclusive?

Despite the growing demand for e-commerce during the pandemic, most Micro, Small, and Medium-sized Enterprises (MSMEs) have struggled to adapt and scale up their operations online, with women-led and home-grown MSMEs witnessing the biggest blow.[7] Can an ecosystem that does not adequately benefit MSMEs be considered sustainable?

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1 'Market size of e-commerce industry across India from 2014 to 2018', Statista, https://www.statista.com/statistics/792047/india-e-commerce-market-size/.

2 'E-commerce grows by 36% in last quarter in India: Report', The Hindu, 10 February 2021, https://www.thehindu.com/business/Industry/e-commerce-grows-by-36-in-last-quarter-in-india-report/article33799399.ece.

3 Joe C Mathew, 'COVID-19 made 49% respondents opt for e-commerce: LocalCircles survey', Business Today, 15 March 2021, https://www.businesstoday.in/current/economy-politics/covid-19-made-49-respondents-opt-for-e-commerce-localcircles-survey/story/433857.html.

4 Anshuman Rathore, 'The Rise of E-commerce in India', Gartner, 19 April 2021, https://www.gartner.com/en/marketing/insights/daily-insights/the-rise-of-e-commerce-in-india.

5 Press Trust of India, 'Active internet users in India likely to reach 900 mn by 2025: IAMAI', Business Standard, 03 June 2021, https://www.business-standard.com/article/technology/active-internet-users-in-india-likely-to-reach-900-mn-by-2025-iamai-121060300710_1.html.

6 'Individuals using the Internet (% of population) – India', World Bank, https://data.worldbank.org/indicator/IT.NET.USER.ZS?end=2019&locations=IN&start=1992&view=chart.

7 'New survey shows Covid-19's impact on e-commerce in poorer nations', UNCTAD, 23 November 2020, https://unctad.org/news/new-surveyshows-covid-19s-impact-e-commerce-poorer-nations.

Moreover, Worldpay FIS's 2021 Global Payments Report claims that India's e-commerce market will be driven primarily by mobile shopping.[8] With a yawning gap in mobile ownership between men and women in India,[9] can such progress be considered gender-sensitive? The onset of the pandemic also brought with it the usage of technologies, such as digital voice assistants like Alexa and Google Home for shopping.[10] Given that large sections of society cannot afford such technologies, is e-commerce making lives easier for most Indians? Consequently, the digitally-enabled world is indeed working – but only for some, and not all equally.

During the pandemic, millions of Indians did not have access to basic digital infrastructure, including a reliable broadband internet connection, and were cut off from what has become essential to everyday life. The pandemic has thus highlighted the agenda that India must prioritise in the wake of the 'new normal'. Without digital inclusivity measures, there is a greater risk that digital innovations, including e-commerce, will continue to increase inequality rather than advancing equity.

However, as it is said, the worst crisis also presents the best opportunities. Thus, the pandemic brings an opportunity to craft a development paradigm that results in a resilient and inclusive economy. As a result, world leaders have called for a 'Great Reset' of capitalism while acting jointly and swiftly to revamp all aspects of societies and economies, from education to social contracts and working conditions. It has been recognised that economic recovery must result in a broad and lasting rise in prosperity, especially for the poorest and most marginalised, and that we need to build back better, broader, and differently.

E-commerce will need to play an essential role in this 'reset'. Given its potential to expand the outreach of small businesses and women entrepreneurs, including exports, create jobs and income-generating opportunities for marginalised communities, it can bring in much-desired inclusivity and resilience in our economy and aid its recovery from the pandemic. It is already hoped that e-commerce will create over one million direct and indirect jobs by 2022.[11]

E-commerce also can overcome market barriers and connect consumers and businesses while empowering MSMEs to compete with large enterprises and allowing flexible and inclusive employment.[12] It can create jobs directly as well as through other processes in the e-commerce ecosystem including logistics, improve household consumption and reduce inequality by bringing to people in rural areas the convenience, variety, and low prices

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8 'Indian e-commerce to grow 84% in 4 years, helped by Covid-19 impact: Study', Business Standard, 10 March 2021, https://www.business-standard.com/article/economy-policy/indian-e-commerce-to-grow-84-in-4-years-helped-by-covid-19-impact-study-121031000846_1.html.

9 Isabelle Carboni *et al*, 'The Mobile Gender Gap Report 2021: Connected Women', GSMA, June 2021, https://www.gsma.com/r/wp-content/uploads/2021/06/The-Mobile-Gender-Gap-Report-2021.pdf.

10 *Ibid*.

11 'Propelling India towards global leadership in e-commerce', PWC, 2018, https://www.pwc.in/research-insights/2018/propelling-india-towards-global-leadership-in-e-commerce.html.

12 'Inclusive Growth and E-commerce: China's Experience', AliResearch, April 2017, https://unctad.org/system/files/non-official-document/dtl_eWeek2017c11-aliresearch_en.pdf.

enjoyed by urban dwellers, and contribute to economic growth by lowering the asymmetry of information and increasing economic efficiency.[13]

However, for this to happen, there is a need to create a roadmap to foster an inclusive e-commerce ecosystem in India that leaves no one behind. The issues of opportunity, access, knowledge, and skills in the context of the digital economy must be articulated and addressed, without which we will not be able to fully benefit from the solutions offered by the digital ecosystem.

Only if these barriers are addressed will we establish enabling and inclusive frameworks for digital services and democratise economic development in its truest sense. By making the digital ecosystem inclusive, we need to ensure that the value offered by digital services improves the lives and livelihoods of the most vulnerable.

Recognising the importance of the digital ecosystem, the Government of India has launched several initiatives, including 'Digital India', 'Atma Nirbhar Bharat', 'Vocal for Local', among others. In addition, the Indian government has supported various programmes and policies aimed at increasing access to basic digital infrastructure, thus encouraging digitisation. These include encouraging Bharat Interface for Money (BHIM), Unified Payment Interface (UPI), Bharat QR code, and RuPay cards. Schemes such as the Pradhan Mantri Gramin Digital Saksharta Abhiyaan (PMGDISHA) and Vittiya Saksharta Abhiyan (VISAKA) have also been introduced to increase digital literacy. However, it will be critical to analyse if such initiatives are making the e-commerce ecosystem in India more inclusive.

Pradhan Mantri Gramin Digital Saksharta Abhiyaan: *A Success Story*

Kunthinavalasa in ***Andhra Pradesh*** is an isolated village where access to basic amenities and products meant traumatic journey of travelling ***40 km*** to a nearby town. The very thought of buying simple goods such as groceries, animal fodder, and more was an expensive and a laborious task. ***Kolli Prasad***, one of the residents of this village joined the ***Common Service Centre (CSC) Programme for Village Level Entrepreneurs (VLEs)*.** Empowered with digital literacy and realisation about the ***importance of e-commerce***, and his innovative ideas clubbed with his sensitivity towards the hardships of his co-villagers motivated him to design his own online store, ***Meesantha in 2018***. With smart phone penetration picking up amongst the rural folk, they could then order basic products from the comfort of their homes. Prasad also trained the villagers and emphasised the importance of digital literacy. He walked the talk and hired eight beneficiaries for his e-commerce venture.

Source: Government of Andhra Pradesh
https://aphrdi.ap.gov.in/documents/Trainings@APHRDI/2016/11_Nov/TOT/ISB.pdf

[13] 'E-commerce can boost job creation and inclusive growth in developing countries', Ali Research, 19 March 2020, http://www.aliresearch.com/en/Research/Researchdetails?articleCode=21910&type=SustainableDevelopment.

In this regard, some critical questions that will need to be answered include:

- What are the contours of an inclusive e-commerce ecosystem?
- How can inclusivity and equity in an e-commerce ecosystem be ensured?
- Which groups have been hitherto excluded from the Indian e-commerce ecosystem, and why?
- Will including such groups in the e-commerce ecosystem automatically make it inclusive and equitable, or are additional measures required in this regard?
- What are the barriers faced by MSMEs while leveraging the potential of the e-commerce ecosystem and how can they be addressed?
- What are the causes and extent of the prevailing digital divide, particularly among marginalised sections of the society, and how can these be practically addressed?

This paper is a modest attempt to delve into these questions through secondary research, consultations with experts, and interactions with key stakeholders.

2. Methodology and Approach: Need for a Bottom-up Inclusive Ecosystem Approach

In light of the background and context above, this paper attempts to explore and institutionalise 'inclusive ecosystems' in the digital transformation in India to ensure equitable distribution of benefits of such transformation to all relevant stakeholders.

The Whitepaper intends to analyse the existing e-commerce ecosystem and the policy and regulatory landscape. With the help of in-depth secondary research and stakeholder consultations, it also proposes certain actionable solutions to make the e-commerce ecosystem equitable and inclusive. To pursue this, the study was conducted using a mixed-method approach, employing anthropological, policy, and legal research methods.[14] The detailed methodology undertaken is outlined below.

a. Secondary Research: An extensive literature review was undertaken of relevant national and international literature across diverse themes, including components (processes and actors) of an e-commerce ecosystem, impact of e-commerce on the digital divide, the ability of e-commerce to foster inclusive growth, and best practices to leverage an inclusive e-commerce ecosystem. These diverse themes helped identify the contours and elements necessary to foster an 'inclusive' e-commerce ecosystem

[14] Julia Brannen and Gemma Moss, 'Critical Issues in Designing Mixed Methods Policy Research', SAGE Journals, June 2012, https://journals.sagepub.com/doi/full/10.1177/0002764211433796?casa_token=KGLniG4QkyUAAAAA%3AdBDS v1L9e5P7hxXGPfNwg2Pb_dn3TcTYu7bd5HH7kqOIJDXW4hyAFRAlwUkzoXq7CRGJQrqmOqW6HA.

while highlighting the nuanced elements of inclusivity relevant to developing countries like India.

b. Mapping the Existing E-commerce Ecosystem: The in-depth analysis of the secondary research, reports, and policy-related documents was undertaken for creating a systems landscape for e-commerce in India. This included critical mapping processes involved in the e-commerce supply-value chain and identifying key stakeholders of the e-commerce ecosystem. Understanding key processes and actors were used to envisage a functional ecosystem of e-commerce.

c. Policy and Regulatory Review: The ecosystem mapping was complemented by reviewing key policies and regulations at the central, state, and local levels that impact India's inclusive e-commerce landscape or foster it.

d. Gap Assessment: The steps mentioned above enabled assessment of the gaps in the existing landscape, which disallows or disincentivises an inclusive ecosystem and identifies priority elements and components of the ecosystem where measures to foster inclusivity must be taken.

e. Stakeholder Mapping and Consultations: Basis the gap assessment, a few key informant interviews were conducted with relevant stakeholders such as industry players, policymakers, academicians, and policy research institutions. Consultations with varied stakeholders helped in gathering wholesome and nuanced perspectives. In particular, perspectives of vulnerable groups, including women, workers, people with disabilities, migrants, LGBTQIA+ community, informal, nano, micro, and small entrepreneurs, including women and home-based entrepreneurs, were gathered for the study. In addition, interactions happened with experts in the gig economy, payment service providers, academicians studying the e-commerce ecosystem, and representatives of e-commerce platforms.

Figure 1 below highlights the key stakeholder categories interacted with, and the perspectives gathered from each. Moreover, the list of stakeholders interacted with (whoever gave permission) can be found in Appendix A.

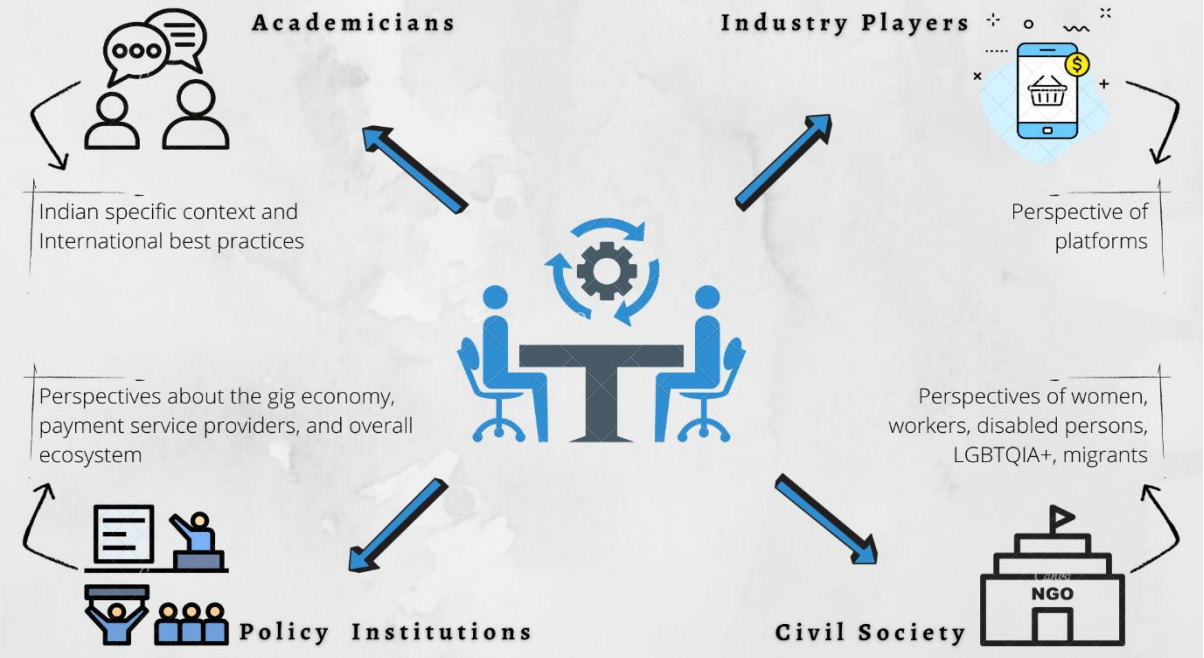

Figure 1: Categories of Stakeholders Consulted

The rest of the paper is structured as follows: the next section sets a theoretical framework of an inclusive e-commerce ecosystem, i.e., it highlights how ideally an inclusive and equitable e-commerce ecosystem should look like. Such a framework is then compared and contrasted with the existing e-commerce ecosystem in India to identify gaps. These gaps are presented in a structured manner to identify areas of improvement further. The paper concludes with suggestions to make the Indian e-commerce ecosystem inclusive and equitable.

3. Theoretical Framework: How Does an Inclusive E-commerce Ecosystem Look Like

The first step is to understand the contours of inclusivity better. The stakeholders that have been excluded until now are to recognise e-commerce as an 'ecosystem'. The increasingly dynamic and interconnected world of e-commerce requires going beyond just one entity or business, as innovative businesses can no longer evolve in a vacuum. Thus, when the business strategist James Moore imported the concept of 'ecosystem' from the natural world to the world of commerce, he wrote that, "…a company (should) be viewed not as a member of a single industry but as part of a business ecosystem that crosses a variety of industries."[15]

From an ecosystem perspective, the exclusions and inequalities can be highlighted further, as it becomes easier to see which stakeholders are part of the ecosystem and which are not. This is especially true in the context of the digital economy, including e-commerce, as companies and entities decipher their market shares and value not with singular devices, but with entire

[15] James F. Moore, 'Predators and Prey: A New Ecology of Competition', Harvard Business Review, Magazine May-June 1993, https://hbr.org/1993/05/predators-and-prey-a-new-ecology-of-competition.

ecosystems, as many boundaries blur and dissolve. There has thus been a continued rise of 'business ecosystems', driven primarily by digitalisation, connectivity, and new models of collaboration.[16]

Ecosystem thinking thus becomes imperative as it provides a new frame and mindset that captures a profound shift in the economy, society, and the business landscape. Thus, when defining and conceptualising the 'e-commerce ecosystem', it is important to go beyond the traditional view of e-commerce, being a mercantile relationship between the key actors involved. There are various other essential supporting stakeholders and processes which make part of the e-commerce ecosystem, enabling complete and successful transactions on a day-to-day basis.

For instance, affordable, reliable, and secured digital infrastructure comprising internet connectivity, mobile network and electricity supply are necessary to access the e-commerce ecosystem. In addition, availability and ability to use phones or computers are essential to benefit from such digital infrastructure.

Another critical stakeholder group in the e-commerce ecosystem is the key actors, i.e., sellers, platforms, and buyers. However, it would be an error to consider such players as homogenous groups. The relationship between e-commerce platforms and large and small sellers can be completely different. Similarly, urban educated male consumers may navigate the e-commerce ecosystem quite differently from rural illiterate women consumers. The contours and parameters of inclusivity might differ for different stakeholders in the e-commerce ecosystem, including the vulnerable and traditionally marginalised communities often categorised as the "new and emerging players", including women, LGBTQIA+, illiterate and economically disadvantaged groups, among others. An inclusive e-commerce ecosystem treats such differently placed groups fairly and equitably and provides adequate opportunities to benefit from such an ecosystem. Such an ecosystem must also provide adequate opportunities for stakeholders to resolve disputes and redress grievances, thus going beyond simple access to the internet and digital services to access, utilisation, and receptiveness of information and communication tools.[17]

Another dimension of gauging inclusiveness is understanding various e-commerce models prevalent in the market or ecosystem. As per regulatory arrangements, all these available models fall into the marketplace and inventory models.[18] There may also be a hybrid model containing elements of the two, i.e., the e-commerce entity while being a facilitator between buyer and sellers, may also have stakes in one or more sellers on its platform. An inclusive e-

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16 'Business Ecosystems Come of Age', Deloitte University Press, 2015, https://www2.deloitte.com/content/dam/insights/us/articles/platform-strategy-new-level-business-trends/DUP_1048-Business-ecosystems-come-of-age_MASTER_FINAL.pdf.

17 Bart Pursel, 'The Digital Divide', Information, People and Technology, Penn State, https://psu.pb.unizin.org/ist110/chapter/9-3-the-digital-divide/.

18 In marketplace model an e-commerce entity provides an information technology platform to act as a facilitator between buyer and seller. The inventory-based model of e-commerce means an e-commerce activity where inventory of goods or services is owned by e-commerce entity and is sold to the consumers directly. Press Note 2 of 2018, https://dpiit.gov.in/sites/default/files/pn2_2018.pdf

commerce ecosystem would contain platforms that do not discriminate amongst onboarded sellers and treat them fairly and equitably, following the principle of 'platform neutrality'.

Be that as it may, digital infrastructure and key actors in the ecosystem are necessary but not sufficient to make an e-commerce ecosystem inclusive. Several secondary actors are required for them to function. These include payments and financial service providers, logistics service providers such as shipping, delivery, and distribution service providers, packing service providers, inventory and storage management providers, data management and analytics providers, and advertisement and marketing service providers. Fair and non-exploitative relationships between these ancillary service providers, e-commerce platforms, and sellers form the bedrock of an inclusive e-commerce ecosystem.

With the advent of the gig and sharing economy, workers of key and secondary actors in this ecosystem are increasingly being recognised as important ecosystem components. An e-commerce ecosystem can be considered inclusive only when workers are not unduly exploited, offered safe working conditions, and adequately compensated for their efforts.

However, enabling adequate access to digital infrastructure, allowing fair terms for sellers, and preventing exploitative practices against workers, is easier said than done. Consequently, responsible regulatory and governance frameworks, comprising optimal standards, practices, rules, regulations, and policies are essential to make an e-commerce ecosystem inclusive and ensure that it remains so even after stakeholders have entered the ecosystem.

Several attempts have been made to represent the functioning of an e-commerce ecosystem. One particular representation envisaged a core digital sector including the basic digital infrastructure, a narrower scope including applications of digital technologies, such as digital services, platform economy, gig economy, and sharing economy, and a broader scope of the digitalised economy which covers e-business, its subset e-commerce, algorithmic decision making in business, precision agriculture, and more.[19]

Another representation envisaged three layers (i) the core layer, which reflects the most basic components of the ecosystem, including sellers/vendors, platforms, and buyers/end consumers, (ii) the expansion layer consisting of actors who support the core layer and play an important role in the value chain, of fulfilling and completing an order, and (iii) the correlation layer which regulates both the core and expansion layer and consists of government departments, standard-setting institutions, and industrial organisations/ associations.[20]

[19] Rumana Bukht and Richard Heeks, 'Defining, Conceptualising and Measuring the Digital Economy', University of Manchester, Centre for Development Informatics, Working Paper 68, 03 August 2017, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3431732.

[20] Karina Rima Melati and Nur Komala Dewi S.P, 'Integrated E-commerce Ecosystem in China and Indonesia's Giant Market', Advances in Social Science, Education and Humanities Research, 31 March 2020, https://www.atlantis-press.com/proceedings/imc-19/125938025.

Having reviewed such attempts to demonstrate an e-commerce ecosystem, we intend to present an ecosystem same consisting of core and expanded layers of key and secondary actors, closely interacting with each other, firmly rooted on a basic layer of digital infrastructure, and overseen by regulatory and governance frameworks. Figure 2 below represents these layers to the ecosystem.

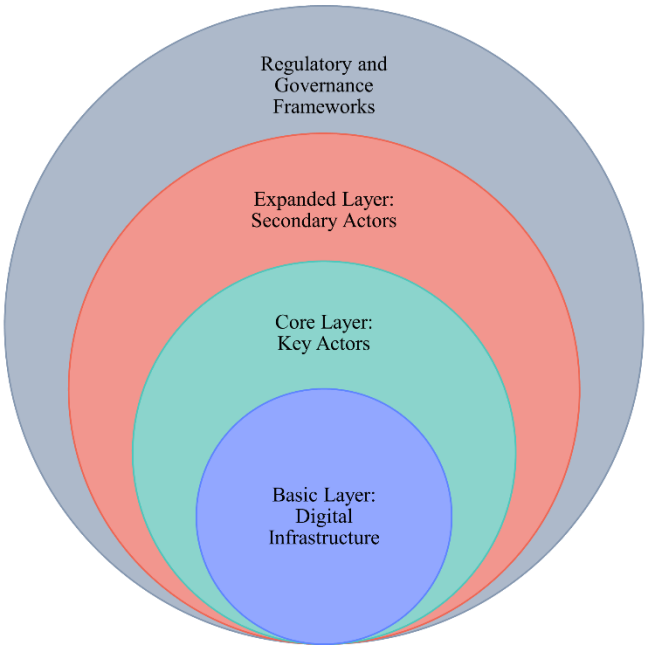

Figure 2: Layers to the E-commerce Ecosystem (Source: Author's Analysis)

As indicated earlier, clearly identifying components of an e-commerce ecosystem is necessary but insufficient to ensure its inclusivity. An e-commerce ecosystem can become inclusive only when the design of technologies and platforms considers the skills of diverse businesses and consumer groups. These groups need to be empowered in terms of capacity and ability to provide feedback on technology and platform design, navigate the ecosystem, get resolution of disputes, and redress their grievances. Such an ecosystem also needs to foster adequate innovation and competition by practicing open standards, interoperability and fostering innovation. Enabling policy and regulatory frameworks with a clear government vision of ensuring inclusivity and equity in the ecosystem are critical to ensure that the ecosystem is and remains inclusive.

The United Nations Capital Development Fund (UNCDF) has identified four building blocks for developing an inclusive digital ecosystem that makes part of the Inclusive Digital Economy Scorecard (IDES) introduced by it.[21] Figure 3 represents these four building blocks.

[21] Karima Wardak and David Mikhail, 'UNCDF Introduces the Inclusive Digital Economy Scorecard During UN General Assembly', United Nations Capital Development Fund (UNCDF), 04 October 2019, https://www.uncdf.org/article/4958/uncdf-introduces-the-inclusive-digital-economy-scorecard-during-un-general-assembly.

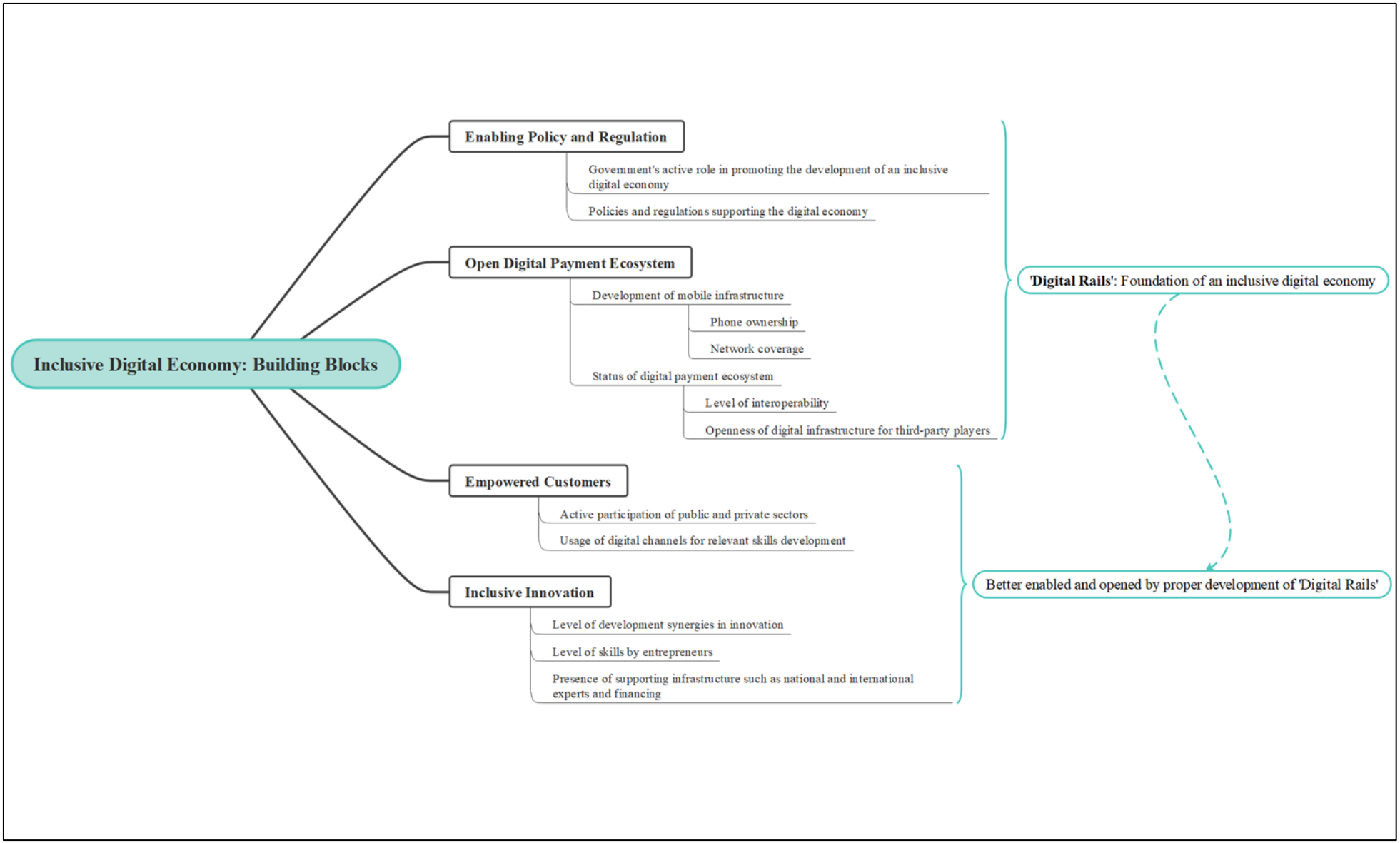

Figure 3: The Building Blocks for an Inclusive Digital Economy (Source: Author's Analysis Inspired by the UNCDF's IDES).

The IDES measures the inclusiveness of the digital economy through a qualitative assessment of public and private sector efforts to include specific population segments in the expansion of the digital economy.[22] To ensure an inclusive ecosystem, it will be essential to strengthen the 'digital rails' (as shown in Figure 3), which essentially mean having an enabling policy and regulatory framework coupled with an open digital payment ecosystem, which would require addressing the basic digital infrastructure issues such as phone ownership and network coverage. However, it is equally important to ensure the optimal quality of such digital infrastructure along with internet access and coverage.

Such tools can help better explore and map the existing e-commerce ecosystem. Such mapping can then enable an extensive review of gaps in the existing e-commerce ecosystem, which must be addressed to make it inclusive and equitable. This would require targeting and applying the inclusivity measures differently for each critical ecosystem layer. Each has different categories of stakeholders and processes, which might need differing nature and extent of inclusivity measures. Such measures can better represent vulnerable and marginalised communities, thus inching closer to an inclusive and equitable e-commerce ecosystem.

This has been attempted in subsequent sections. Having explored the theoretical framework of an inclusive e-commerce ecosystem, the subsequent sections analyse the prevailing e-commerce ecosystem in India, determine its level of inclusivity, highlight the gaps, and provide recommendations for making the ecosystem more inclusive and equitable.

4. Mapping the Existing E-commerce Ecosystem and Highlighting Gaps

Against the theoretical framework set out in the previous section, this section intends to compare and map the existing e-commerce ecosystem, highlighting the gaps that hinder inclusivity and equitability. In that endeavour, basis rigorous secondary research and interactions with key stakeholders, Figure 4 maps the existing e-commerce ecosystem and envisages three critical layers to the ecosystem - the *basic layer* of digital infrastructure, the *core layer* consisting of the key actors, and the *expanded layer* consisting of the secondary actors – as set out in the theoretical framework.

The *basic layer* is at the bedrock of the entire ecosystem, without which the core and expanded layer cannot exist and function at their optimal level. For instance, without internet access and network coverage, the key actors as envisaged in the core layer will most likely not have a correlated relationship. It is essential to have constant and adequate power and electricity supply to ensure constant and reliable internet connectivity. Access to the internet will be even more complex and might not be a policy priority.

Similarly, while the *core layer* consists of the key actors, the mercantile transactions between them cannot be completed without the support of the secondary actors in the *expanded layer*. For instance, if reliable and secure payment and financial service providers were missing from the ecosystem, most transactions would not be successfully completed. Every platform and seller might not offer payment methods such as cash-on-delivery at every location.

[22] *Ibid*.

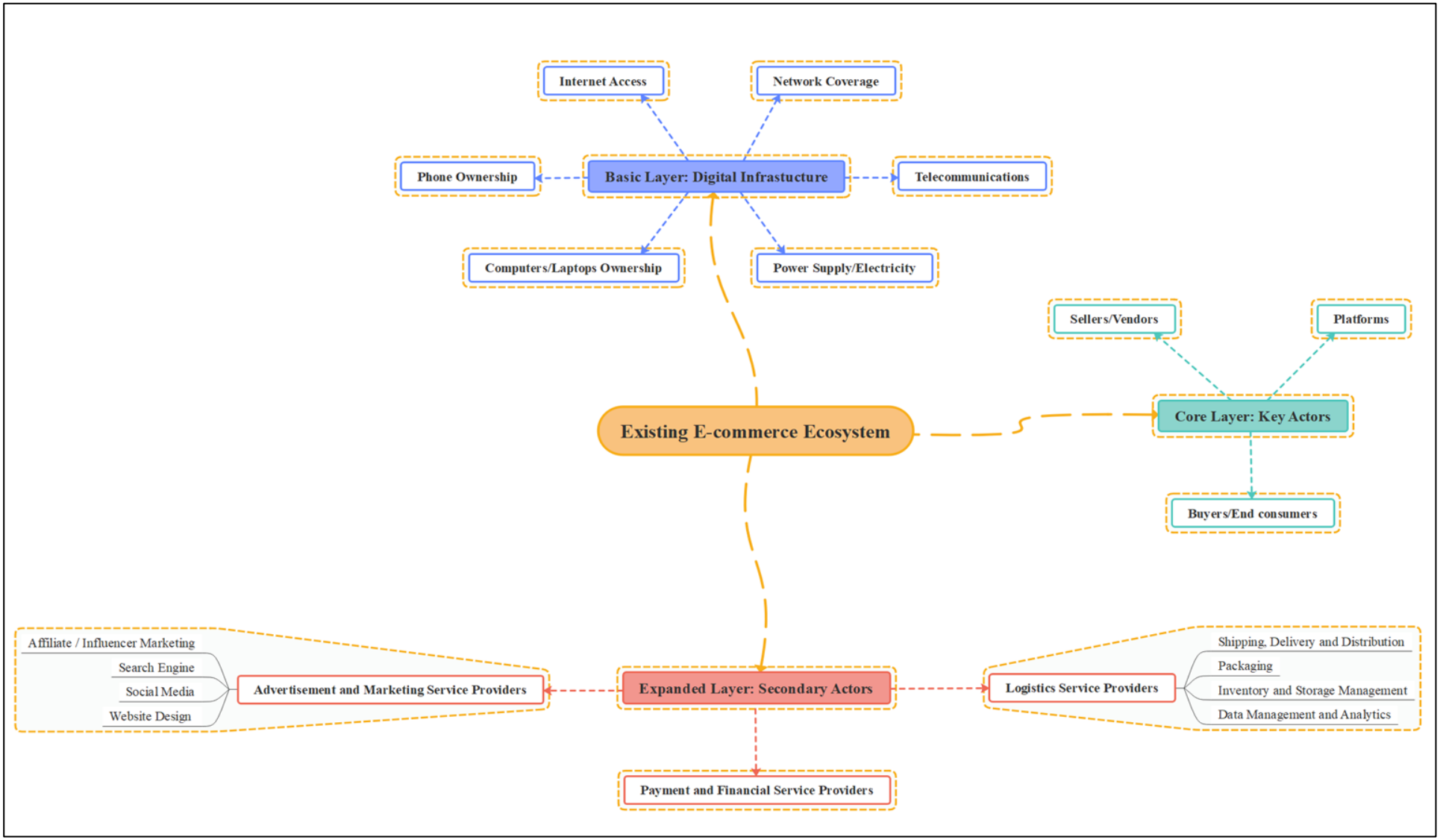

Figure 4: Existing E-commerce Ecosystem (Source: Author's Analysis).

The existing e-commerce ecosystem, when mapped and compared against the theoretical framework, it was found that while the existing ecosystem has opened a gateway of new opportunities for technology-savvy consumers and sellers, it still excludes or lacks space for multiple stakeholders which affects the entire value chain of e-commerce. On the far side of the optimistic picture of the growing e-commerce ecosystem, there are challenges and significant barriers for these stakeholders to optimally access and use basic digital services, let alone e-commerce services.

Most of these stakeholders are missing from both the sellers' and buyers' perspectives due to lack of awareness, access, affordability, ability, and agency. This is further hindered due to the socio-political and psychological norms and narratives at play in society. At the same time, it is being witnessed that the existing e-commerce ecosystem has not done enough to address artificial barriers to entry into the market, consequently making it difficult for potential sellers to enter the ecosystem. In contrast, the existing players find it difficult to sustain. These sellers largely consist of informal, nano, micro, small, home-based, and women enterprises.

Thus, the existing e-commerce ecosystem in India is not yet inclusive and equitable for the vulnerable and traditionally marginalised communities (from both supply and demand-side) such as women, rural inhabitants, migrants, people with disabilities, disadvantaged groups, MSMEs), and general populations in developing countries or the "last mile". Consequently, while e-commerce has opened a gateway of new opportunities for various stakeholders, its inequitable advent has also further disadvantaged stakeholder categories, as highlighted in Figure 5.

Thus, the existing e-commerce ecosystem gaps must be analysed from the stakeholders' perspective, which does not make an effective part of the ecosystem. Subsequently, understanding why and what barriers they face must be addressed.

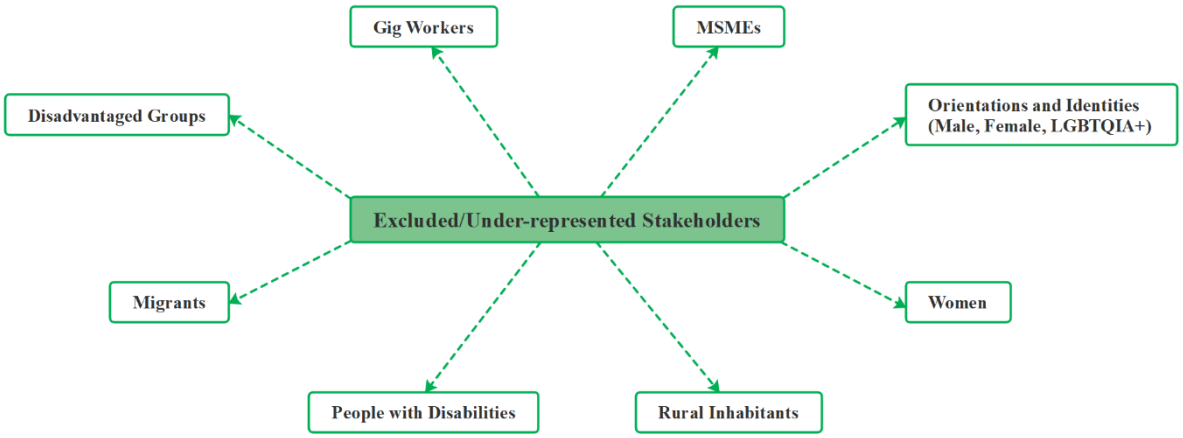

Figure 5: Excluded or Under-represented Stakeholders in the Existing E-commerce Ecosystem (Source: Author's Analysis).

In an endeavour to highlight such challenges and barriers – which essentially are gaps in the existing e-commerce ecosystem – a wide spectrum of multi-stakeholder consultations as well as an extensive literature review was conducted. This gap identification, set against the theoretical framework, has enabled visualising how and in what ways the existing e-commerce ecosystem is not inclusive or equitable and measures required to address these challenges. These gaps are organised in accordance with the critical layers of an inclusive e-commerce ecosystem as outlined in the theoretical framework.

4.1.Basic Layer: Digital Infrastructure

a. Data Divide: One of the bigger and common challenges in fostering inclusivity in the digital ecosystem is the fundamental issue of making sure that the data collection is representative of all relevant populations.[23]

   In general, data collection with the digital economy is especially sparse, and more so in developing countries. This lack of data acts as a huge barrier to assessing and measuring inclusivity in the first place or even understanding the entire ecosystem at play, as it is further exacerbated with respect to vulnerable and traditionally marginalised communities.[24] The absence of robust periodic data collection practices results in handicapping the policy-making process wherein unfounded assumptions (of inclusivity) tend to replace evidence to the contrary.

b. Asymmetric Availability of Basic Infrastructure: The infrastructural backbone to the digital economy – and by extension to the e-commerce ecosystem – consists of access mechanisms such as phones and computers and enablers of access such as broadband and cellular data connectivity and constant and reliable power supply. Vulnerable communities, particularly women, people with disabilities, disadvantaged groups, informal and nano entrepreneurs, do not have equitable access to modes of e-commerce connectivity.

   Without internet access and connectivity, digital and e-commerce services just cannot work for these populations. Even when they have access to phones or computers, rural and distant communities often suffer from what is known as the "last mile" problem (which, however, is the 'first-mile' problem for such communities) of unreliable and erratic power and network connectivity. This lack of access to basic digital infrastructure becomes the primary hurdle for communities who may want to enter the ecosystem, thus creating bottlenecks for the inclusive development of e-commerce.

   While the government has introduced several schemes to digitally connect rural India (such as the National Broadband Mission and the BharatNet project), it is also a frontrunner in shutting the internet down in the pretext of maintaining law and order

[23] Rich Bryson, '3 Ways to Make Digital Health Services Work for Everyone', ICT Works, 17 June 2021, https://www.ictworks.org/digital-health-services-work-everyone/#.YPaVfugzbIU.

[24] Amrita Choudhury, 'Building a Measurement Tool that Drives the Development of an Inclusive Digital Economy', DigWatch, 30 April 2020, https://dig.watch/sessions/building-measurement-tool-drives-development-inclusive-digital-economy.

through executive orders. Such actions do not inspire confidence in claims of an uninterrupted supply of digital infrastructure.

c. Inability to Afford Digital Infrastructure: In large parts of the country, internet and e-commerce connectivity is expensive. Users are expected to visit community centres to access reliable digital infrastructure. They have to pay for access to digital infrastructure and have to incur transportation costs and lose a day's income, which they otherwise would have earned if internet connectivity had been available within their vicinity. While the government and service providers have been pushing to adopt multiple new digital technologies, it is not being ensured that the basic digital infrastructure is affordable for all, consequently widening the digital divide. These gaps are intensified based on income levels, age, gender, or whether people live in urban or rural areas.

d. Lack of Awareness and Literacy to Use Digital Infrastructure: Availability and affordability of digital infrastructure are necessary but insufficient to ensure its uptake and usage. Are underprivileged, vulnerable, and uneducated communities aware of digital infrastructure, its potential, modes, and mechanisms of its usage? Similarly, do they possess the necessary skills to navigate the digital infrastructure? In recent years, while awareness, literacy, and skills concerning internet access have undoubtedly increased, educated urban stakeholders have disproportionately benefited. A lot of ground still needs to be covered to include disadvantaged stakeholders effectively.

   At the same time, the lack of digital literacy can also be – more often than not – traced back to the lack of traditional literacy. Hence, the vulnerable and marginalised populations such as women, rural inhabitants, disadvantaged groups, elderly people, among others, face a bigger problem when understanding the digital world as their lack of digital literacy is greater. It is also important to highlight that digital literacy must be viewed as more than simply technological know-how. It includes various ethical, social, and reflective practices essential to developing online resilience and ensuring sustained usage.[25]

   For instance, simply because a woman has access to a smartphone, does it mean she can independently operate it to explore the internet? Do the vulnerable and marginalised communities have regular access, which translates to sustained usage, or is it mediated through the better-off populations of the society? Are nano, micro, small, and home-based entrepreneurs aware of the scope and potential of the digital ecosystem?

   These are questions that need to be answered while addressing the digital divide, hence moving beyond only data for penetration of the internet and accessibility of smartphones (according to which the digital divide is getting smaller, with the active

[25] Kara Brisson-Boivin and Samantha McAleese, 'How digital literacy can help close the digital divide', Policy Options, 13 April 2021, https://policyoptions.irpp.org/magazines/april-2021/how-digital-literacy-can-help-close-the-digital-divide/.

internet users (AIU) in India expected to grow to 900 million by 2025), to quality of such accessibility, and whether it is sustained and inclusive even after access or not.[26]

4.2. Core Layer: Key Actors

a. Limited Ability and Skills to Navigate the E-commerce Ecosystem: For the majority of stakeholders, simply having access to the basic digital infrastructure does not guarantee their usage of the e-commerce ecosystem. This is mainly because such stakeholders lack skills to navigate such an ecosystem despite being aware of and having access to basic digital infrastructure.

   While programmes have been launched to improve stakeholders' access to e-commerce, these might not have desired impacts given e-commerce illiteracy among vulnerable groups is often linked with basic digital literacy and skillsets. Such lack of comprehensive digital literacy and consequent upskilling became evident amongst MSMEs during the COVID-19 pandemic, as lacking necessary skills, most MSMEs were unable to leverage the potential of the e-commerce ecosystem and had to experience adverse impacts of the COVID-19 pandemic.[27]

   Thus, the gap for these stakeholders increased between accessibility and maximum utilisation of the internet for economic activities and gains, thus not being able to benefit from the full potential of the e-commerce ecosystem. Consequently, to enhance adoption and usage of the e-commerce ecosystem, a comprehensive package may be necessary that first targets digital blind stops and then introduces stakeholders to the e-commerce ecosystem.

b. Lack or Decline of Digital Trust: While the stakeholders in the core layer of the ecosystem have essentially already entered the e-commerce ecosystem, various factors determine whether they will continue to be a part of the ecosystem. One such critical factor is how much the stakeholders feel safe in the digital space and how much they trust the stakeholders and processes they are taking part in? While a safe and secure digital space has been touted as a 'public good', achieving the same has been trickier and complex. While consumers trust the products and services offered by the e-commerce platforms more than before, they do not necessarily trust the after-sale, refunds, dispute resolution or grievance redress processes. The level of trust in the e-commerce ecosystem is also inversely proportional to the increase in cyberattacks and fraudulent activities.

   Such a lack of trust is heightened when stakeholders are subjected to abusive and harmful content, making the ecosystem unsafe. Given that vulnerable groups, being digital novices, are more often than not subject to such cyberattacks and fraudulent

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[26] Bart Pursel, 'The Digital Divide', Information, People and Technology, Penn State, https://psu.pb.unizin.org/ist110/chapter/9-3-the-digital-divide/.

[27] Nittin Dutt, 'Covid and its impact on economy and MSMEs', LiveMint, 25 October 2020, https://www.livemint.com/opinion/online-views/opinion-covid-and-its-impact-on-economy-and-msmes-11603604611652.html.

activities, they find it extremely difficult to repose faith in the ecosystem. At the same time, high information asymmetry and sub-optimal disclosures by sellers and platforms have increased the trust deficit of consumers. Thus, while e-commerce has multiple benefits, it is not (yet) adequately safe and secure, particularly for vulnerable stakeholders, thus discouraging them from sustaining their existence in the ecosystem.

c. Exclusionary and Inaccessible Design: The stakeholder consultations also revealed that the platforms and interfaces remain largely homogenous for a country with such cultural diversity. This means that the overall user experience for marginalised communities such as persons with disabilities, illiterates, and migrants is largely not accounted for when designing the interface of the e-commerce platforms. Inadequacy of inclusive features such as voice user interface, more graphics and images, videos, screen readers, labels, local languages, and providing alt-text, among many others, shows sub-optimal attention to measures that can make the platforms easier use for people with disabilities and illiteracy. This breeds reluctance in using e-commerce platforms and services by minorities and underrepresented communities.

   The pre-set notions of a particular standard regarding promotion and presentation of products also act as a hurdle for MSMEs. They lack the resources to meet those standards, such as top fashion models, innovative photography and editing skills and softwares.

d. E-Commerce Model: The inclusivity quotient tends to be higher in a marketplace model of e-commerce as it adheres to platform neutrality and treats all onboarded sellers fairly and equitably. In contrast, an inventory-based model of e-commerce, including a hybrid model, is likely to default on platform neutrality. This is because while providing platform services, the entity is also a competitor to the onboarded sellers, which may induce preferential treatment to own stakes. Taking genesis from the marketplace model, the social e-commerce model provides easy marketing avenues to our artisans, handicrafts, produce of women clusters, especially in rural and tribal areas, creating immense jobs and market opportunities, adding to inclusive growth.[28]

e. Disproportionate Representation: The exponential growth of e-commerce can bridge the gender gaps by opening more market opportunities. However, advances in technologies do not always translate into advances in gender equality due to the number of socio-economic and cultural barriers attached. Thus, representation of women, socio-economically backward communities, and other marginalised groups become essential to make the e-commerce ecosystem more inclusive. Apart from the inadequacy of female representation, e-commerce ecosystems also lack representation of buyers and sellers' participation from vulnerable and marginalised communities,

[28] 'E-commerce policy: Needed for speedy, inclusive growth', Financial Express, 2021, https://www.financialexpress.com/opinion/e-commerce-policy-needed-for-speedy-inclusive-growth/2226729/

LGBTQIA+ community, and sex workers, hence perhaps inadvertently furthering exclusivity rather than inclusivity.

4.3. Expanded Layer: Secondary Actors

a. Lack of Financial Agency: Lack of financial agency among stakeholders further pushes them out of the e-commerce ecosystem. This is especially true for women, as highlighted through stakeholder consultations, as they are expected to be financially dependent on the male family member, thus reducing or diminishing their financial agency and independence. Moreover, the vulnerable and marginalised groups also lack the skills and resources required to engage with secondary actors such as digital payments platforms, digital marketing services, packaging and delivery services, which further disincentive MSMEs to onboard their businesses on e-commerce platforms.

b. Inadequate Infrastructure: The costs for setting up logistical service centres – such as warehousing units or micro-fulfillment centres for storage and delivery – are relatively higher in developing countries and more so in rural areas, hindering smooth e-commerce transactions, especially for rural inhabitants and MSMEs. The lack of proper infrastructure (such as road and air connectivity) also serves as a hurdle as it adds up to the cost of delivery for the 'last mile'. Moreover, the fact that Indian consumers return a greater number of products makes continuous and efficient deliveries difficult for sellers and logistic service providers.[29]

   Another key infrastructure, the unavailability of which acts as a barrier, is the lack of access to digital financial services, which is important for stakeholders to sustain in the e-commerce ecosystem, both as sellers and consumers. Such access is further hindered for sellers who want to onboard the e-commerce ecosystem. It is especially difficult for them to access credit, given their inability to produce collateral. Such lack of access to finance is greater for the rural masses and marginalised communities, especially the LGBTQIA+ population.

   One of the reasons for the unavailability of sufficient Digital Financial Services (DFS) and payment options is the lack of optimal competition in the sector. The sector is tilted towards incumbent and government-supported DFS platforms and regulations, which act as a barrier for new players to enter and operate in the sector. This eventually acts as a hindrance for vulnerable and marginalised communities from benefiting from the e-commerce ecosystem.

4.4. Regulatory and Governance Frameworks

a. Regulatory Vacuum: While it is important to ensure that overregulation of the ecosystem does not require throttle innovation and competition in the economy, it is also crucial that the rights of all stakeholders are protected in the ecosystem. Hence,

[29] 'E-commerce retail logistics in India: Driving the change', KPMG, May 2018, https://assets.kpmg/content/dam/kpmg/in/pdf/2018/05/e-commerce-retail-logistics.pdf.

insights from stakeholder consultations revealed that perhaps a regulatory agency would be better suited for these purposes in addition to coded laws. For the regulators to deal with dynamic and evolving market trends, the laws should have flexibilities that do not tend to micro-manage either market functionaries or the regulators. However, establishing another regulator runs the risk of regulatory overlap and complexity.

b. Compliance Burden: While platforms have easy access to finance and legal remedies to ensure that they meet all regulatory and compliance requirements, startups and MSMEs often face the brunt of excessive compliance requirements in terms of launching their platforms and getting associated with existing platforms in different capacities. Associated costs and navigating the complexities of excessive bureaucracy often discourage such businesses from expanding to the digital ecosystem.

These gaps at each layer of the existing e-commerce ecosystem have led to varied exclusions of stakeholders, which are essential and cannot be ignored or overlooked. The power of such digital ecosystems is in their universality. Access by everyone regardless of gender, identity, disability, economic and social strata, or business size is an essential aspect to uphold and maintain that universality.

5. Recommendations for Fostering an Inclusive E-commerce Ecosystem

Despite the inherent inclusiveness and universality of e-commerce, the existing e-commerce ecosystem seemingly does not make it easy to access and use for every stakeholder. There is thus a pressing need to revamp and relook at the existing ecosystem and bring about sustainable changes to make it inclusive and equitable. On those lines, this section puts forth certain recommendations according to the layers of the ecosystem. However, it is first important to highlight an overarching recommendation that must be kept in mind and viewed as constant along with the other recommendations.

The space of technology and digital platforms is ever-evolving, dynamic and interconnected in more ways than one. It is thus essential to institutionalise a *community driven approach to recognise and protect the interests of all stakeholders*. Such an approach is especially important to have a continued understanding of the problems, many times exclusionary, faced by the vulnerable and marginalised communities. It is vital to undertake a bottom-up, community-driven approach with civil society to enable the e-commerce ecosystem to onboard the most far flung and hitherto ignored communities. This would ensure that the unheard voices are heard and afforded necessary representation.

A prominent example of such an approach for building an inclusive digital economy has been adopted in Uganda, where the UNCDF uses the Digital Community Entrepreneur (DCE)

model.[30] DCEs are individuals who promote the adoption and usage of digital products and services and skills needed to use them on a door-to-door basis in the communities where they live and work. The model is designed so that at least 50 percent of DCEs are women. Similarly, the UNCDF has designed and developed, in consultation with refugee and humanitarian organisations, a financial literacy training toolkit customised to meet the needs and realities of refugees in Uganda.[31]

A similar approach can be taken in India by enlisting the help of community leaders or through extensive engagement with civil society that has a grassroots presence. A community-based approach can make the existing e-commerce ecosystem inclusive and equitable in all ways and at all layers.

5.1. Basic Layer: Digital Infrastructure

a. Robust Mechanisms for Accurate and Complete Data Collection: One of the first steps in increasing access to the basic digital infrastructure could be accurate and complete data collection with respect to the digital economy. This includes internet penetration and mobile ownership and the extent of usage of internet services by citizens. Such data collection must ensure the representation of vulnerable and marginalised communities to enable the existing stakeholders in the ecosystem to explore and recognise the extent of exclusion in the ecosystem. At the same time, the potential biases and gaps in the data collected should be addressed and data quality checks should be performed. Principles of transparency must be followed, ensuring strong documentation behind data collection and adopting privacy and data protection practices.[32]

b. Moving from Quantity of Users to Quality of User Experience: While the digital divide in India is getting narrower each day from the perspective of several AIUs, and the extent of mobile ownership, the patterns of data consumption remain asynchronous. This is mainly attributed to the lack of good quality internet services, especially in terms of speed and broadband access and lack of agency among women to use phones, among other issues. It is thus important to move beyond only the quantity of users to the quality of their experience, as the latter will determine their sustained usage of the digital ecosystem.

   This, however, does not negate the fact that there is still a need to build the necessary digital infrastructure in many parts of India as the *first* step. In that context, initiatives to connect rural communities to both power grids and the internet need to be fast-tracked, especially after the pandemic has exposed all the faults and broken nodes in

30 'Digital Community Entrepreneurs – Going the Extra Mile to Close to the Digital Gap in Rural Uganda', United Nations Capital Development Fund (UNCDF), 20 January 2021, https://www.uncdf.org/article/6446/digital-community-entrepreneurs---going-the-extra-mile-to-close-the-digital-gap-in-rural-uganda.

31 'Building an Inclusive Digital Economy in Uganda: Looking Back at 2020', United Nations Capital Development Fund (UNCDF), https://spark.adobe.com/page/hPyAtk6DubFYK/.

32 'Principles for Digital Development', https://digitalprinciples.org/.

the vast network. Alternatives like microgrids, low latency satellite connectivity, leveraging the potential of renewable energy – particularly solar energy – and making these affordable through models like Pay-As-You-Go (PAYGO) could also be explored to connect far-flung communities to the e-commerce ecosystem.

c. Need for Free or Inexpensive Digital Infrastructure: One of the ways to mitigate the financial burden on stakeholders to access basic digital infrastructure could be to introduce more public access points of WiFi. That could be achieved by unbundling WiFi networks as was done for the payments space with the introduction of UPI while taking adequate privacy and data protection measures. The Prime Minister Wi-Fi Access Network Interface (PM-WANI), an initiative introduced in late-2020, could help radically change the way data services are delivered if implemented after thorough stakeholder consultations and the adoption of privacy and data protection measures.[33]

   The initiative provides public WiFi hotspots through Public Data Offices (PDO), including private establishments such as Kirana stores, roadside shops, and tea stalls. This would enable consumers to access internet services and smaller businesses that could then perhaps move to the digital ecosystem.

5.2. Core Layer: Key Actors

a. Building Trust and Confidence: To ensure greater and sustained usage of e-commerce services, it is essential to introduce mechanisms and features which can instill trust and confidence in users, throughout the process of a complete and successful transaction. This would include ensuring the quality and genuineness of products while ensuring a robust and active after-sale grievance redressal mechanism. Moreover, it is important to ensure safe and secure payment systems. Additionally, mechanisms to establish trust will also have to be tailored as per stakeholder category. While financial security will be important across all stakeholders, the quality of products and a robust grievance system might be more important for consumers than sellers.

   On the other hand, it might be more important for MSMEs to display and represent their products equally compared to the bigger players or sellers. Effective dispute resolution mechanisms are in place. Hence, tailoring initiatives per category of vulnerable and marginalised stakeholders can enable building trust and confidence, which can be sustainable. This could also have a ripple effect, wherein consumers and sellers would also encourage their counterparts to onboard the e-commerce ecosystem.

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[33] 'Prime Minister Wi-Fi Access Network Interface | PM-WANI | Framework and Guidelines for Registration', Department of Telecommunications, Ministry of Communications, Government of India, https://dot.gov.in/dataservices/prime-minister-wi-fi-access-network-interface-pm-wani-framework-and-guidelines.

It is also equally important to ensure safety and security of users' data on e-commerce platforms. The success of the digital world depends greatly on the extent of the users' trust and protection of employees and businesses from security threats. With the continuous and exponential growth of digital technologies, e-commerce platforms have been an easy target for cyberattacks, serving as treasure troves of personal and financial data of consumers. Data handling and governance practices must be put in place to foster an inclusive e-commerce ecosystem and enable users to utilise and reap benefits to the fullest potential.

b. Increasing Awareness and Providing Upskilling and Reskilling Opportunities: The skills required for the digital economy are vastly different and unique from the traditional skills individuals and businesses acquire, so stakeholders must be given timely and adequate opportunities to acquire such skills. Such skills would enable both consumers and sellers to better navigate through the e-commerce ecosystem. Various platforms have been known to provide necessary skilling workshops and assistance to MSMEs with digitisation, which has enabled them to enter the ecosystem. However, the impact of such initiatives should be periodically reviewed to enable fine-tuning of such initiatives.

   Such assistance and awareness/skill generation will also allow stakeholders to recognise the importance and usage of the internet for business purposes, which is still lacking to a great extent. For instance, women have been found to have internalised the perception that smartphones are solely for entertainment and social media, causing them to self-restrict their desire for phones and use of the internet.[34] At the same time, such skilling and reskilling opportunities are essential for workers and employees in the face of growing digitisation.

   In the aftermath of the COVID-19 pandemic, UNCDF partnered with SafeBoda – an app-based ride-hailing service company – provided an e-commerce platform to connect market vendors to consumers during the lockdowns and beyond in Uganda.[35] As part of the partnership, UNCDF provided technical and financial support for the design, rollout and implementation of the e-commerce platform. This partnership also helped maintain the livelihoods of close to 18,000 SafeBoda riders whose source of income has been affected by the ban on public transport. Such initiatives exemplify innovative business models that can help economies again access to and usage of digital platforms and services.

c. Inclusive Design for Scale: As highlighted in the gaps in the previous section, there is a need for an inclusive and representative design of platforms, products, and services.

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[34] Roopa Kudva *et al*, 'Innovating for the Next Half Billion', Omidyar Network, https://www.omidyarnetwork.in/wp-content/uploads/pdfs/Innovating-for-Next-Half-Billion.pdf.

[35] Rachael Kentenyingi, 'UNCDF and Sida Partnership Looks to Support Last-Mile Digital Inclusion Beyond Covid-19', United Nations Capital Development Fund (UNCDF), 27 May 2020, https://www.uncdf.org/article/5664/uncdf-and-safeboda-partnership-looks-to-support-last-mile-finance-beyond-covid-19.

This would mean ensuring that the user interfaces and experiences are relevant to all stakeholders' life experiences, social context, and cultural norms. For instance, most e-commerce sites use the “shopping cart” symbol and “proceed to checkout” language. However, for many stakeholders, their shopping experience does not include such self-service features – rather, they usually walk up to a counter at a store and are served by the shop assistants who will actively help them decide what to buy. Even though these shopping practices might be slowly diminishing, they are still very prevalent in most parts of India. Then, the shopping cart symbol or the checkout process means very little to most stakeholders and can be intimidating.

There is a need to institutionalise gender-inclusive design features in the user interface. For instance, most e-commerce platforms do not offer the option of choosing a gender beyond male and female when signing in or registering on the platforms. Moreover, the categorisation and placement of products is also made in gender binaries. While for the former, the platforms must start giving the option of choosing other orientations and identities or not wanting to disclose. For the latter, sellers can give the same option when they register on the platforms in terms of what category their products will fit in. Thus, there is a pressing need to break the binary to make e-commerce platforms accessible for the LGBTQIA+ community from consumers' and sellers’ perspectives.

Along with the gender-inclusive design, it is also imperative to ensure that the e-commerce ecosystem is easy to use and accessible for people with disabilities. In that regard, features such as a voice user interface, more graphics and images, screen readers, and providing alt-text must be added.

Another exclusionary feature of almost all e-commerce sites is the requirement of an email address to log in or register on such sites. This feature fails to recognise that the average consumer rarely has an email address. However, given the increase in mobile and internet penetration, the requirement of an email address could perhaps be made optional against a mobile phone number for registration purposes.

Another such exclusionary feature inherent to the e-commerce ecosystem is the requirement of a permanent address, which might stifle entry of migrants to the ecosystem, especially for sellers. Changing or modifying their addresses after every relocation due to frequent migration might also not be very conducive, which might disincentive them from onboarding the ecosystem. Moreover, while the concept of last-mile delivery has gained traction, it is equally important to think about last-mile pick-up. Without that, many MSMEs and home-grown businesses, especially in remote areas, will not onboard the e-commerce platforms.

In this regard, it is pertinent to mention that the Department for Promotion of Industry and Internal Trade (DPIIT) has initiated a project on Open Network for Digital Commerce (ONDC) which aims at promoting open networks developed on open-sourced methodology, using open specifications and open network protocols

independent of any specific platform. ONDC is expected to digitise the entire value chain, standardise operations, promote inclusion of suppliers, derive efficiencies in logistics and enhance value for consumers.[36] By giving special attention to help onboarded small players, the ONDC may do wonders for platform neutrality and effective competition in the market.

d. Need to Promote Marketplace E-Commerce model: Promotion of marketplace models will result in the inclusivity of small players in an e-commerce ecosystem. Simultaneously, regulations can be put in place to curtail the proliferation of inventory models. Per the present Indian regulation, no FDI is allowed in an inventory model of e-commerce related to multi-brand retail trading (MBRT).[37] Therefore, there is a vast scope for reducing proliferation of inventory models in the e-commerce ecosystem in India. For instance, the said FDI rules do not apply to the domestic market and the non-MBRT players.

5.3. Expanded Layer: Secondary Actors

a. Increasing Access to Financial Services and Financial Literacy: Access to financial services needs to be prioritised for the vulnerable and marginalised communities, aligned with initiatives to increase financial literacy. Despite the prevalence of cash-on-delivery, the e-commerce ecosystem largely relies on digital financial services. Therefore, to enable excluded or underrepresented stakeholders like women, rural inhabitants, and disadvantaged groups, it is essential to provide access to banking services and easier lending and credit opportunities. The absence of credit often forces small entrepreneurs to borrow money through informal channels, pushing them into a debt cycle. This would, *inter alia*, require adopting competition and regulatory reforms in the DFS ecosystem.

The concern of gender exclusions in financial services was recently studied in Mexico with respect to women entrepreneurs. It was found that despite 94.2% of MSMEs being microenterprises, and over half of these being women-owned or women-led, the majority of MSMEs transactions are still cash-based.[38] To ensure gender-inclusivity in access to and usage of financial services, mobile-based payments specifically can be advocated as they promise that they can meet the needs of women in the segment that currently are financially excluded.

b. Ensuring 'Last Mile Delivery' and Not Simply 'Delivery to All Pin Codes': Besides access, availability and affordability of financial services, it is also imperative to ensure that the logistic service providers – especially delivery and pick up of products

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36 PIB, Ministry of Commerce d Industry, 'Setting up of Advisory Council for Open Network for Digital Commerce (ONDC)', 5 July 2021, https://pib.gov.in/PressReleasePage.aspx?PRID=1732949

37 Press Note 2, 2018

38 Jaime Edelshein, 'Designing Digital Payments for Mexican Women Entrepreneurs', Women's World Banking, Insight Note 105, June 2021, https://www.womensworldbanking.org/wp-content/uploads/2021/06/2021_Designing_Digital_Payments_English.pdf.

– is not limited to covering only the majority pin codes, but majority houses in each pin code. Thus, the issue of last-mile delivery and pick-up becomes pertinent, as, without that, most stakeholders are excluded from buying and selling products in the e-commerce ecosystem. One way to fulfill wide and full delivery coverage in India could be to build warehouses and micro-fulfilment centres in remote areas, thus enabling faster pick-up and delivery. Leveraging the potential of India Post could be crucial in this regard.

5.4. Regulatory and Governance Frameworks

a. Simplifying the Legal and Regulatory Hurdles: The legal framework and policies should be designed to provide a level playing field and equal opportunities for all stakeholders in the ecosystem. The policies should be coherent, and their objectives should be well integrated with the broader economic and social objectives, such as improved competitiveness and inclusive development. Effective dialogue with all relevant stakeholders while designing the strategy will also help maximise benefits and create a more inclusive ecosystem. Given that several regulators and government departments currently enforce policies related to e-commerce, it will be important to ensure clarity in the roles of different regulators, preventing over-regulation and regulatory complexity, by mandating policy convergence and coordination among regulators.

b. Periodic Review of Digital Inclusiveness: An essential step in ensuring sustained inclusivity in the e-commerce ecosystem could be to undertake a periodic review of the level and extent of such inclusiveness. There are various tools, similar to the IDES by UNCDF as highlighted in the theoretical framework, which has been developed to enable measuring inclusivity parameters in the digital ecosystem.[39] Thus, a similar tool can be designed and developed in the Indian context. Some of the parameters could include connectivity, digital skills, use of internet services by citizens, integration of digital technology by businesses, digital public services and research and development. Stakeholder-specific indices can also be designed, for instance, for women and people with disabilities.[40]

   While the existing tools and indices measure inclusivity mainly from the lens of 'entering' the ecosystem and the challenges which hinder that, it is now important to also measure inclusivity in terms of 'sustaining' in the ecosystem. This would entail a deeper understanding of how different categories of stakeholders are treated once they are part of the ecosystem and whether such treatment is then inclusive and equitable or not.

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39 'The Digital Economy and Society Index (DESI), European Commission, https://digital-strategy.ec.europa.eu/en/policies/desi; 'Fast-tracking Implementation of eTrade Readiness Assessments', United Nations Conference on Trade and Development (UNCTAD), https://unctad.org/webflyer/fast-tracking-implementation-etrade-readiness-assessments.

40 'Women in Digital Scorecard 2020', European Commission, https://digital-strategy.ec.europa.eu/en/library/women-digital-scoreboard-2020.

If implemented against the existing e-commerce ecosystem, these recommendations can act as enablers to foster inclusivity, considering the hitherto excluded or underrepresented stakeholders, as envisioned in Figure 6.

These enablers can open the doors for the stakeholders to enter the e-commerce ecosystem and reap benefits at all layers while working towards a common sustainable goal. The inclusivity debate must be extended beyond simply access and usage to sustainable and continued usage and existence in the e-commerce ecosystem, as has been highlighted at various places in this paper. It must be ensured that inclusion in the digital ecosystems – and the e-commerce ecosystem – does not increase inequalities since the end goal is not for the ecosystem to be *only* inclusive but sustainably inclusive and equitable.

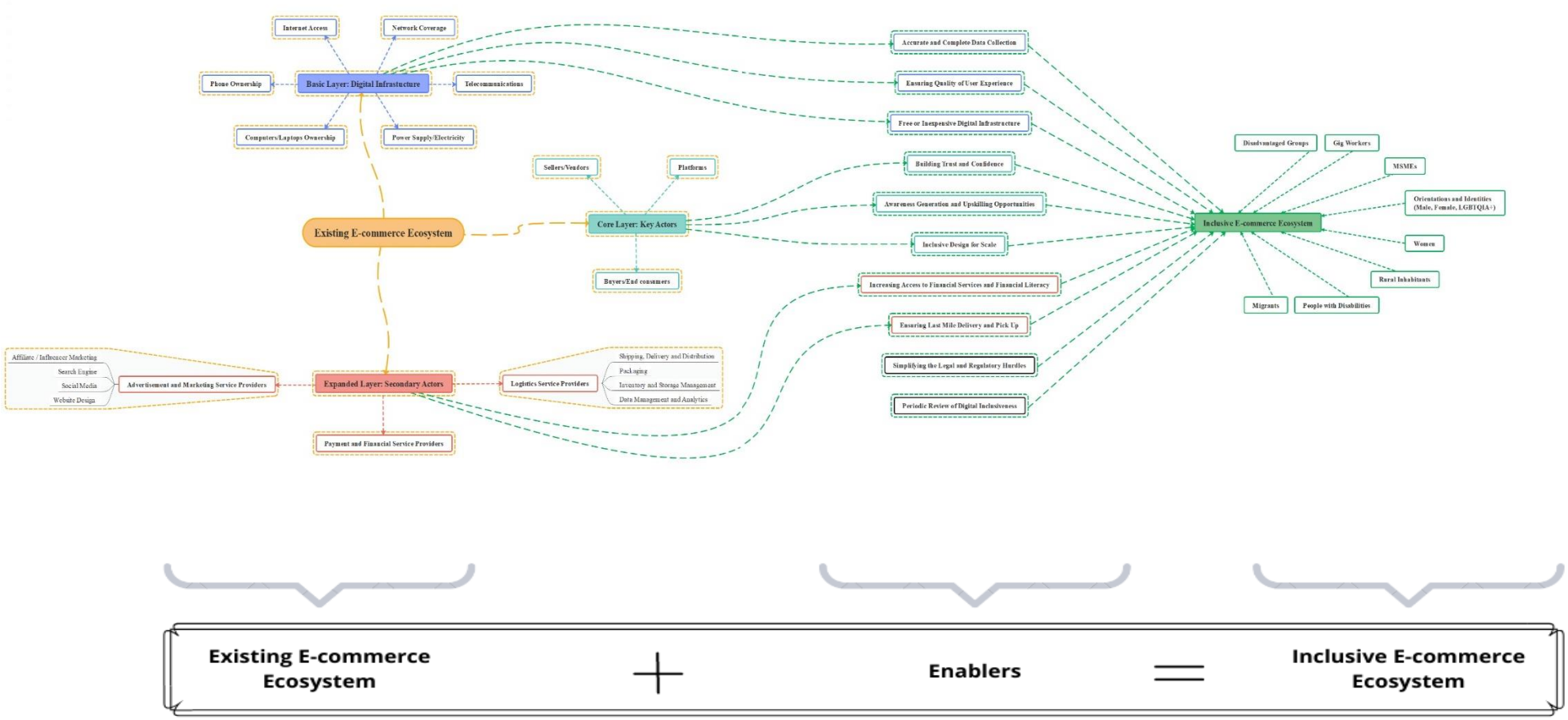

Figure 6: Functional Inclusive E-commerce Ecosystem (Source: Author's Analysis).

Appendix A: List of Stakeholders

SN	Name	Organisational Affiliation	Stakeholder Category
1	Ambika Tandon	Senior Policy Officer, Centre for Internet and Society	Policy Institution
2	Arpita Chakraborty	Point of View	Civil Society Organisation
3	Bishakha Datta	Executive Director, Point of View	Civil Society Organisation
4	Debarati Das	Project Anchor, Point of View	Civil Society Organisation
5	Didar Singh	Distinguished Fellow, CUTS International	Policy Institution
6	Pralok Gupta	Associate Professor, Indian Institute of Foreign Trade	Academician
7	Richard Heeks	Director, Centre for Digital Development, University of Manchester	Academician
8	Smita Bhatnagar	Consultant, Self Employed Women's Association (SEWA)	Civil Society Organisation
9	Subhashish Bhadra	Principal, Omidyar Network India	Policy Institution
10	Tarun Pratap	Research and Advocacy Officer, Digital Empowerment Foundation	Civil Society Organisation
11	Vikas Kathuria	Associate Professor, BML Munjal Law School (then: Fellow, Observer Research Foundation)	Academician (then: Policy Institution)

Note: We also interacted with other stakeholders, including think tanks and public policy institutions and industry players, leading to 12 stakeholder consultations. However, we did not get permission from everybody, and we sincerely respect their choice to stay anonymous and not be part of this list.