ONDC
Open Network for Digital Commerce

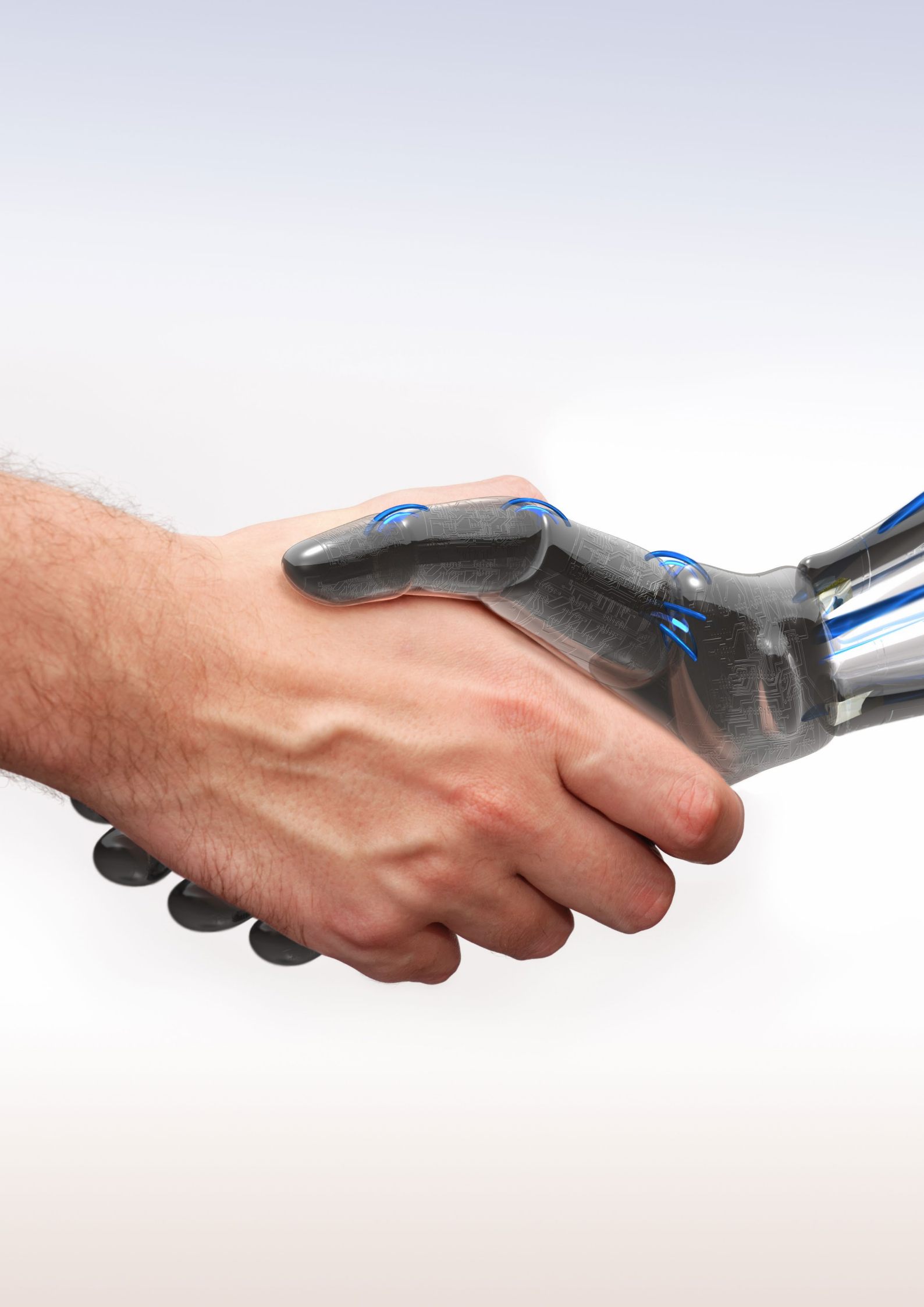
Knowledge partner
McKinsey & Company

Democratising digital commerce in India

An open network for inclusive, competitive marketplaces

May 2023

This booklet highlights the Executive Summary of the report 'Democratising Digital Commerce in India' and is based on joint research conducted by ONDC and McKinsey & Company. The complete report covers 11 sectors. To access the full report, please use the QR code provided below.



Executive summary

In an increasingly digital world, India's rapid transformation stands out. Low data charges and 600 million smartphone subscriptions have ushered 840 million Indians into an online world of new possibilities.[1] Nearly every single adult Indian has an Aadhaar card, a digitally verifiable identification document that opens doors for digital transactions. The Unified Payments Interface (UPI) has changed the way most Indians pay. India's digital public infrastructure (DPI) is unlocking digital inclusion for the masses with innovations across banking and financial services, healthcare, logistics, transport, and much more.

The same digital inclusion remains to be seen in digital commerce, which is a mere 7 percent of the total retail market, with 165 million users.[2] Multiple challenges keep sellers and buyers from online commerce—their lack of digital ease, the trust factor in traditional shopping channels, the fears about security while transacting online, the difficulties for small businesses operating on digital trade platforms, and so forth. Only 6 percent of all MSMEs, for instance, actively sell on e-commerce platforms.[3] To boost digital commerce, we must reimagine it, with an ecosystem that eliminates or resolves challenges for stakeholders.

The stage is ready for this shift. The DPI, combined with the willingness and curiosity of Indians about what the internet can offer, could boost digital commerce.

This is the vision of ONDC: An open network for digital commerce that will establish open, inclusive, and competitive marketplaces online, creating choice and opportunity for everyone, by everyone.

India's 'tech-ade': Unlocking digital-led growth

India's internet usage numbers tell the story of a connected, young country (nearly half of the population is younger than 25 years old) hungrily adopting technology for greater convenience: 50 million merchants and 300 million users transacted $1.5 trillion worth of digital payments in 2022 alone; 96 percent of highway tolls came in as FASTag payments; Aadhaar identification covers 90 percent of India's population; and direct benefits transfers have saved Indians $25 billion in the past eight years.[4]

Five defining trends will continue to drive this growth

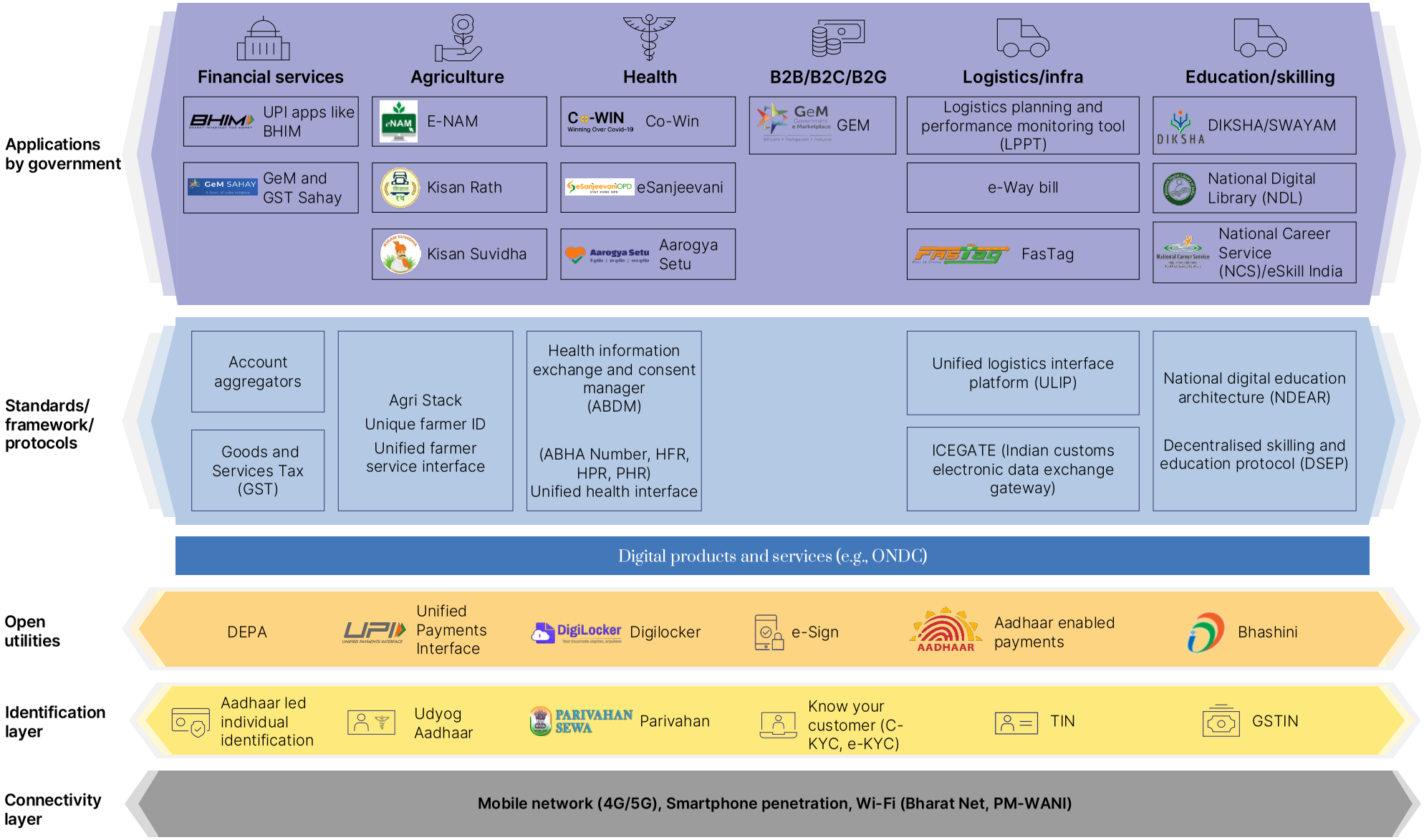
The emergence of digital public infratructure (DPI) that unlocks digital inclusion at population scale: This comprehensive infrastructure manages digital identity, payments, and data and is accessible across sectors (Exhibit E1). It is prompting innovations, and its continuous evolution could fuel broad-based, inclusive, and democratic growth. The widespread use of the Unified Payments Interface is just one success story of the DPI.

The rise of private-sector investments boosting the economy: Entrepreneurship is booming in India. The world's third-largest start-up economy and home to 107 unicorns across digital products and services,[5] India is a choice destination for private equity and venture capital funding.

1 India Brand Equity Foundation (IBEF), Telecom Regulatory Authority of India, Comscore, Dataportal, January 2023.
2 IBEF.
3 Based on registered sellers and their activity on prominent digital platforms in India. See "Digital SMBs," Zinnov.
4 https://Direct Benefit Transfer (DBT)bharat.gov.in/; https://www.bbnl.nic.in; https://lgdirectory.gov.in/.
5 "The Indian unicorn landscape," Invest India, September 7, 2022.

Exhibit E1

Emergence of digital public infrastructure to unlock digital inclusion at population scale.



Source: Industry expert conversations.

The advent of 5G data speeds: Dropping data costs and rising data speeds over the past five years prompted an 18-fold growth in India's data consumption.[6] The arrival of 5G is likely to boost internet use, attracting customers with innovations such as video commerce, live commerce, and chat-led commerce.

Multilingual, conversational AI technologies to capture the next wave of internet users: While the first language of the internet is English, only a fraction of Indians understand it. The government is investing heavily in R&D for technologies such as AI-based language models.[7] Such advances could feed into creating vernacular, video-based content and conversational and generative AI capabilities that bring more users of regional languages into the online world.

Democratisation of data by giving data back to the individuals and businesses that generate it: Data in the physical world has traditionally been disaggregated and hard to access. But in a huge shift, individuals can now access, control, and share their personal data and verifiable credentials. Data that had previously been visible to only a few aggregators or institutions is now available to the individual who generates it, and (with their consent) can be shared with public and private institutions. A few digital public infrastructure initiatives enable this democratisation. For example, the Data Empowerment and Protection Architecture lets individuals share verifiable data with banks or other institutions for their own needs. Account aggregators allow customers to share personal financial data across financial institutions, speeding up loan approvals and enhancing wealth management.[8]

Room for growth in digital commerce

India's digital commerce journey started over a decade after the United States and China, and today digital commerce accounts for 7 percent of India's retail economy (while it is 15 percent in the US and 25 percent in China).[9] Headroom exists for massive growth in India in the years to come. There is scope for growth among the internet using population—today, 450 million of the 840 million connected Indians voraciously consume content online, but only 165 million transact for digital commerce (Exhibit E2).[10] That means around 75 percent of Indians who have internet access are not shopping online— with the right, conducive factors, this could change.

Bringing the next 500 million consumers and 100 million sellers to trade online could grow digital commerce in India. However, some barriers to adoption could stand in the way.

Digital commerce is just getting started

Location and preferences dictate online shopping statistics. Of the 165 million consumers who already use digital commerce, a much smaller number (about 10 million to 15 million) are power users. They typically live in urban areas and shop across sectors. These power users drive high penetration figures in sectors such as electronics (35 percent) and fashion (11 percent).[11] Even here, consumers often shy away from digital commerce, due to a lack of comfort or trust with online shopping English-first platforms. This is especially true of the grocery sector—only 1 to 2 percent of the country's largest consumption category is online.[12]

Less than 5 million of 100 million MSMEs are registered to sell on e-commerce platforms

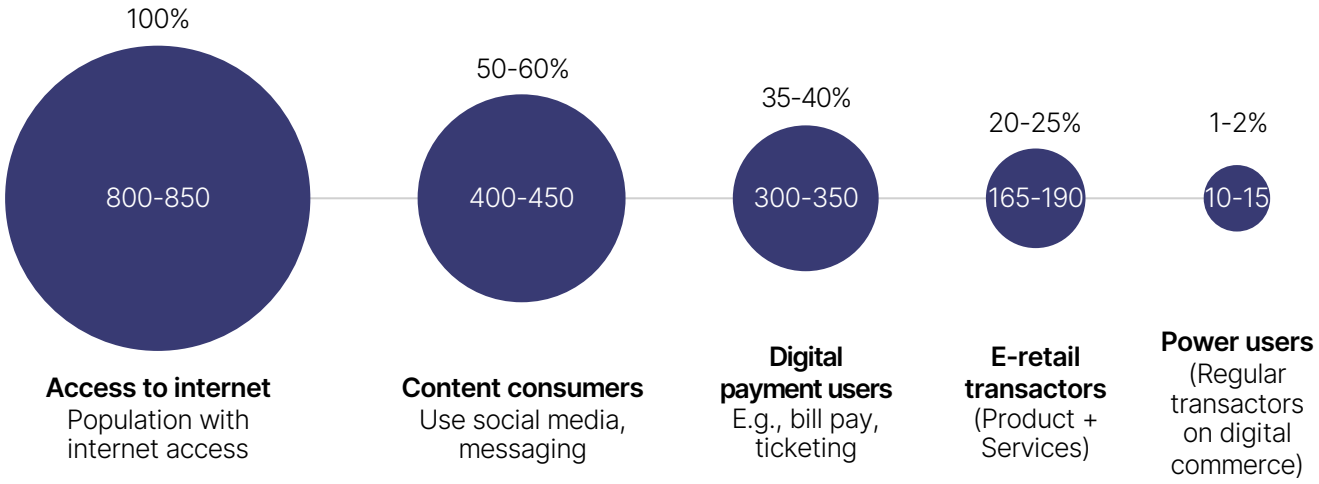
The seller space in digital commerce is consolidated: less than 5 million MSMEs are registered to sell online, with an even smaller number getting meaningful business from the large commerce platforms.[13] They lack either digital access or the money and confidence to operate via digital trade platforms.

6 IBEF, Telecom Regulatory Authority of India, Comscore, Dataportal, January 2023.
7 Bhashini, Indian Ministry of Electronics and Information Technology, accessed April 12, 2023.
8 Industry expert conversations.
9 Statista, Quarterly retail e-commerce sales: 4th quarter 2022, US Census Bureau, February 17, 2023.
10 India Brand Equity Foundation; Telecom Regulatory Authority of India.
11 Syndicated McKinsey research.
12 Ibid.
13 Based on registered sellers and their activity on prominent digital platforms in India. See "Digital SMBs," Zinnov.

Exhibit E2

India has demonstrated digital adoption across payments and content consumption; digital commerce has considerable scope for growth.

India online consumers funnel 2022, million



Source: IBEF, TRAI

Indian business-to-business (B2B) sellers lag behind the global average, too: their digital commerce penetration is 1 to 1.5 percent, far behind the world average of 20 percent.[14] The largely unorganised products and services sector often has sellers that are a party of one, with limited reach and visibility online. India's eight million independent professionals offering skilled services are largely absent from digital commerce platforms. Of the 200 million-plus unorganised labour force across sectors, only eight to ten million are digitally discoverable through digital commerce platforms.

Digital commerce unit economics remain a challenge

Despite the massive scale of a population like India's, unit economics remains a challenge in multiple sectors.

Consumers have shown neither the ability nor the willingness to absorb supply chain costs (30 to 100 rupees per order), especially for smaller orders. The multiplicative scale of e-commerce can happen only if the digital commerce supply chain integrates with India's incredibly efficient, disaggregated, and, in some cases, informal supply chains (distributors, wholesale, shop-led delivery, and the like).

These barriers to a vibrant digital commerce ecosystem could fall. Faster internet, multilingual and AI-powered conversational interfaces, and private investment in digital infrastructure are already set to unlock higher volumes of digital commerce.
An open network could be a further catalyst. It would allow access to network participants regardless of the platforms and applications used by the buyers or sellers, making room for multiple customer preferences and for sellers big and small.

ONDC: A pioneering initiative to boost digital commerce

ONDC presents an alternative to the existing platform-centric model. Moving the diverse Indian bazaar of goods and services online democratises digital commerce for buyers and sellers. Buyers can tap into it using any participating app to launch a search for an item. The network makes it possible for them to connect with thousands of sellers across the country who sell on ONDC via their preferred seller app. Within seconds, the customer sees a set of choices at a range of price points, along with transparent options for delivery modes, times, and costs provided by a choice of logistics operators.

[14] Inc 42 "State of Indian Ecommerce Report Q1, 2022"; 2020 China Industrial eCommerce Market Data Report; Share of US B2B Sales via E-commerce 2019-2023 by Statista; Europe B2B E-Commerce Market (2022-28) report.

While the early ONDC pilots have focused on a few use cases such as hyperlocal grocery and online food delivery, some interesting innovations highlight the diversity of what the network could offer. Namma Yatri allows commuters in Bengaluru to directly book an auto-rickshaw and pay its driver the entire fare. More than 47,000 registered drivers have completed over six lakh trips. Another player, Unified Energy Interface, empowers electronic vehicle owners to locate, access, and pay for the use of charging networks hosted by seven providers, both big and small, across 14,000 charging stations.

ONDC could enable economic growth by helping buyers and sellers overcome the challenges to digital commerce through the following three core attributes:

— **It is interoperable.** Network participants work together without being configured to any single platform. That means users can tap into the network through any buyer or seller app for digital commerce.

— **It is unbundled.** ONDC breaks down complex systems into granular activities or micro services. For example, in an e-commerce transaction, the seller-side, logistics, payments, and buyer-side activities can be handled by different entities.

— **It is decentralised.** Data availability and control over a transaction lie at both the buyer and seller ends.

Across the digital commerce ecosystem, consumers, providers, and buyer and seller apps could benefit from access to such a network.

The ONDC lens: Reimagining digital commerce

While India has the scope and space for all kinds of commerce to coexist, ONDC could expand opportunities across the landscape. Any seller—big or small, digitally savvy or not—could participate in an open network without needing to build the entire ecosystem on their own. With unbundling making it possible to offer discrete micro services, ONDC could also enable specialisation, allowing each participant to operate from a position of strength, innovation, and uniqueness.

In the fullness of time, the open network could unleash ten kinds of use cases, as follows:

1. **Boosting the direct-to-consumer (D2C) ecosystem.** With the reduced cost of customer acquisition and reduced buyer and seller app fee, sellers could find it financially attractive to build D2C brands.
2. **Putting self-employed professionals on the map.** Self-employed people could more easily promote themselves on an open, inclusive marketplace, attracting attention and business from consumers.
3. **Digitalising B2B commerce.** Retailers could access a wider distribution network to save time and costs, while direct linkages between retailers and manufacturers could improve margins in sectors such as agriculture and construction.
4. **Amplifying hyperlocal goods and omnichannel convenience.** Digital channels would take the neighbourhood market online to serve hyperlocal demand, while consumers could use omnichannel availability to order from home after checking out a product in a store.
5. **Bringing hyperlocal services within reach.** Consumers across India could find the full range of services on the network.
6. **Taking financial services further.** ONDC's transaction-based data could support innovative new offerings to provide businesses with greater access to credit.
7. **Growing peer-to-peer commerce.** The decentralised network would enable peer-to-peer commerce among consumers, peer sellers, and self-employed professionals.
8. **Empowering more people with education and skills.** More learners and workers could access skills-based education, vocational training, career counselling, and career opportunities, which could engender a more equitable, skills-driven labour market in India.
9. **Making logistics efficient.** Once digitalised, the entire supply chain could improve price visibility, and higher delivery volumes could bring down logistics costs.

10. **Taking India to the world.** India's digital commerce infrastructure could promote cross-border trade via marketplaces, helping MSMEs become discoverable by global consumers and businesses.

A combinatorial explosion of possibilities

Over time, ONDC could power India's digital economy to emerge as a vibrant digital commerce universe - making it meaningfully **bigger, broader and more inclusive.**[15]

India could see digital consumption surge fivefold to reach $340 billion by 2030, with 500 million digitally transacting consumers.

The network could be broader, with digital penetration across B2B companies growing to 8 to 10 percent.

It could emerge as a more inclusive network with the scope to connect around 80 to 90 million self-employed workers with demand, and bring six to seven times more MSMEs into a buzzing, diverse ecosystem.

ONDC could emerge as a network of networks, setting off a combinatorial explosion (Exhibit E3). The innumerable permutations and combinations enabled by such an interconnected network could unleash possibilities that are hard to imagine.

With ONDC, India could exceed expectations for the growth and possibilities of digital commerce. The network effect could give rise to a nerve centre of new connections sparking continuous innovation and advances.

Building trust and scale

A high-trust environment and widespread adoption could make all the difference between potential and reality for this pioneering initiative. This will be the key for ONDC to work in an impatient digital world.

Fostering an environment of mutual trust: The willingness of consumers to use ONDC-linked buyer apps will depend on their experience with the network.

A core characteristic of the open network is that it unbundles a series of services that would otherwise be unified on a single platform. Multiple participants deliver their respective components in the value chain. While allowing for individual margins and profitability, each of these participants needs to deliver to a high standard.

In an unbundled environment where no one player controls the end-to-end value chain, multiple challenges affect the customer journey, from search and discovery and order placement and fulfilment to payments, returns, and grievances. ONDC, along with a posse of technology service providers, is looking to address these concerns with a mix of clear network policies, enhanced and optimised API definitions, and innovations in third-party tools and solutions.

Building scale: Having sufficient participants on the network could help to unlock benefits such as simplified, efficient logistics and lower customer acquisition costs. It could also encourage providers to invest in the capabilities required (such as inventory digitalisation).

ONDC would play a market-making role, facilitating multiple other participants to scale up. It could build a mix of shapers who invest in developing the ecosystem, which may include large, influential companies as well as innovative young organisations that can push the boundaries of possibility and create new business models. And finally, a select few use cases could scale up, establishing what might be possible with this network. This could encourage more participants to join the market, creating a virtuous cycle of participation.

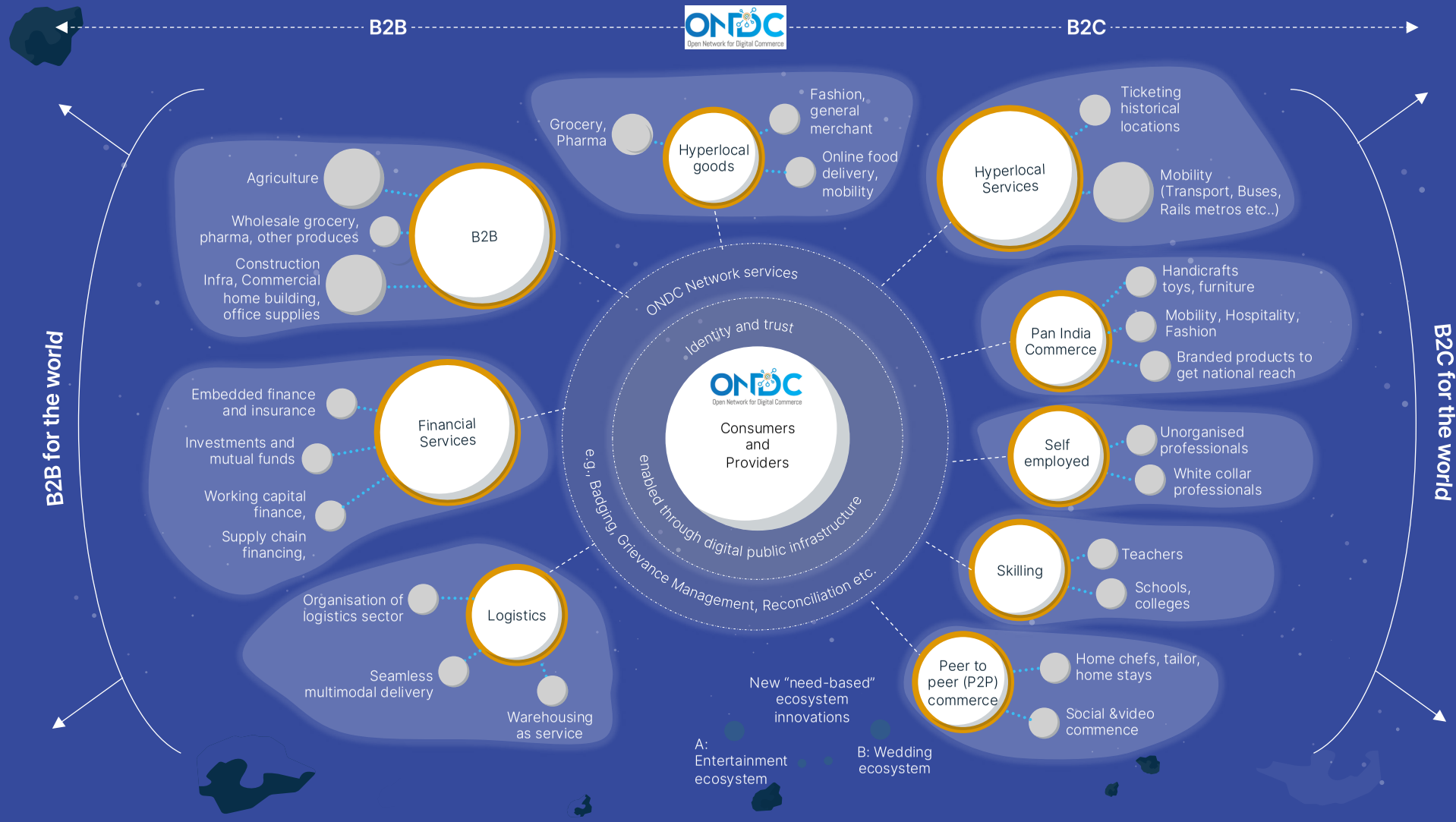
A seismic shift: Transforming digital commerce in sectors

This report considers the potential of ONDC to transform digital commerce through a sectoral lens. Each sector deep-dive begins with an overview of the present landscape of digital commerce for that sector. It goes on to outline the challenges or barriers restricting various stakeholders from participating in digital commerce. It then envisions the possibilities ONDC could unlock for the sector. It ends with a set of considerations—shifts that could shape and unleash the power of digital commerce in the sector.

While digital commerce could permeate

[15] Syndicated McKinsey Research.

Over time, as ONDC scales, it could unleash a combinatorial explosion through network of networks the impact of which could transform the Indian economy.



every sector, this report focuses on seven of the largest sectors in B2C trade (by total spending): grocery, fashion and lifestyle, electronics, online food delivery, pharmaceuticals, mobility, and hospitality.

Digitalisation and the open network could make an immense difference to B2B enterprises in India. In particular, it could benefit small businesses: MSME-to-MSME commerce is the most underserved type of transaction for multiple reasons and could receive a vital boost on the open network. The report focuses on ONDC's potential to transform two core sectors in B2B trade—construction and agriculture. In construction and real estate, contractors procure cement, bricks, tiles, and other building materials in bulk. Agriculture depends on retailers purchasing inputs (such as fertilisers and pesticides) from manufacturers before selling the products to farmers.

The report then lays out the potential for cross-cutting sectors—financial services and logistics—where digital commerce could unlock a new paradigm of possibilities for stakeholders across sectors.

ONDC could take financial services deeper into the ecosystem, delivering credit and insurance to consumers and businesses who sorely need it, powering seller growth, and boosting investments. The open network could connect more than a billion consumers seeking financial services and 90 million MSMEs eager to scale up their operations, customer base, and offerings.[16] The analysis of financial services takes stock of the rapidly evolving landscape, opportunities for further growth (including credit lending, insurance, and mutual fund and investment products), and how ONDC could accelerate digital adoption.

India's logistics sector is constrained by infrastructure challenges and higher logistics costs (11 percent) than in several countries, such as the BRICS economies.[17] ONDC could play a vital role in digitalisation that increases visibility across the logistics value chain and makes processes more efficient. In-depth analysis of the road transportation industry reveals how ONDC could directly address barriers to digital adoption, unlock value, and support additional business-building opportunities. Beyond these specific sectors, ONDC's unbundling of discrete services creates opportunities for incumbent companies and new entrants to shape their participation on the open network.

ONDC for the world

While ONDC is being tested in India, the problems it seeks to solve are truly global in nature. Despite the rise in internet connectivity around the world, cross-border trade and digital commerce remain beyond the reach of many companies, especially small sellers, as well as billions of consumers. As the network grows, it could influence digital commerce on a global scale in two primary ways: by promoting cross-border trade and by accelerating and democratising digital commerce across markets.

For ONDC to transform digital commerce beyond the borders of India, four key enablers should ideally be in place: seamless cross-border payment settlements, stringent grievance redressal systems, a globalised taxonomy, and global cooperation to support digital commerce.

Getting on board with ONDC

ONDC holds the potential to create open, inclusive, and competitive marketplaces in the virtual world. It will be important for companies to carefully evaluate the options available to them as they consider entering this space.

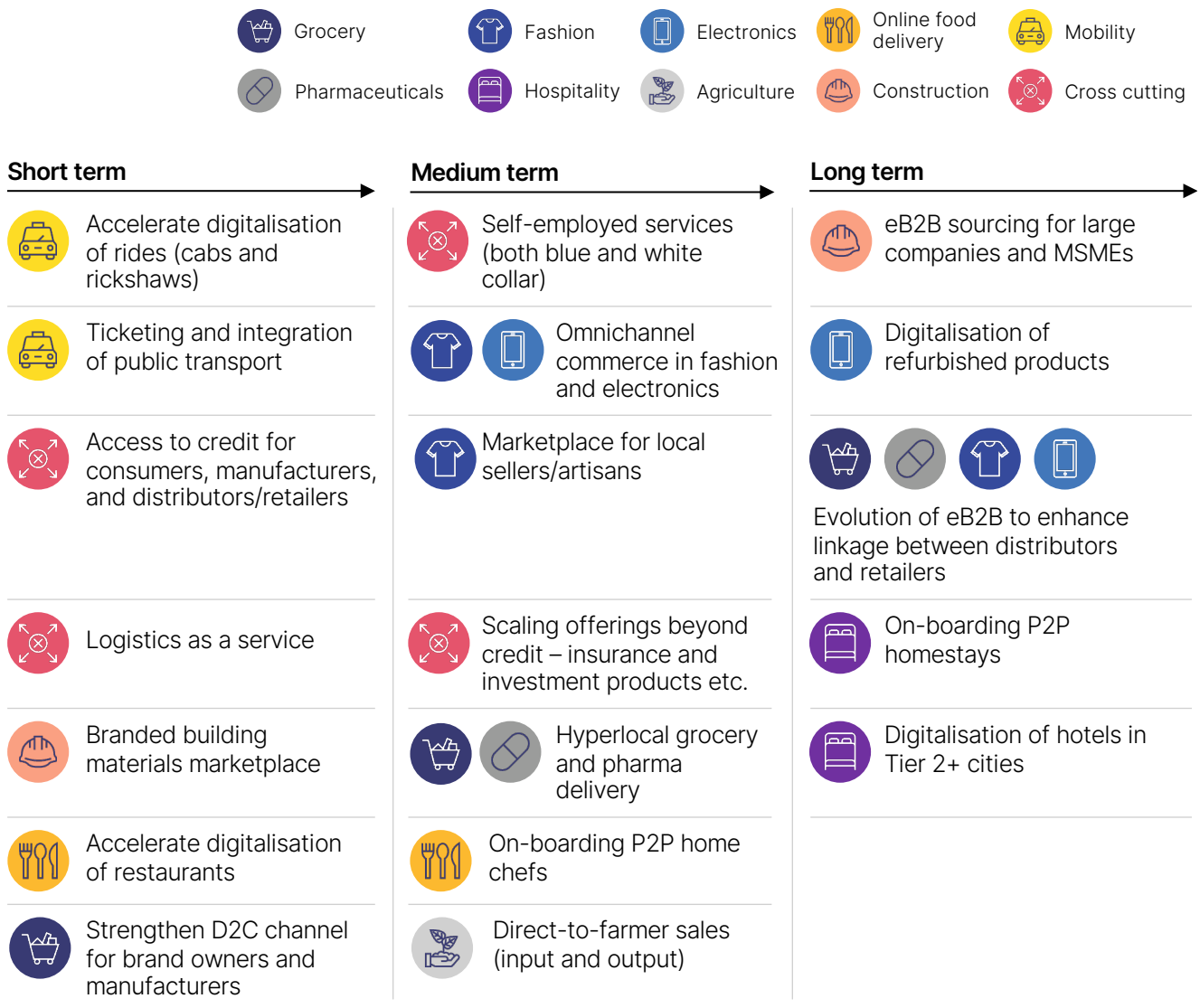
As company leaders explore the possibilities ahead, they could consider two horizons—short-term use cases that can help their companies to participate in the open network, and a more medium- to long-term transformation agenda that could help them innovate and move forward (Exhibit E4). Companies that follow this path could make the most relevant investments to achieve their strategic objectives.

[16] Syndicated McKinsey research.
[17] Indian Foundation of Transport Research and Training (IFTRT), https://timesofindia.indiatimes.com/business/india-business/indias-logistic-costs-higher-than-bricnations/articleshow/14151707.cms

Exhibit E4

Use cases in the short term could prove the most beneficial for driving early adoption and scale.

Not exhaustive



ONDC presents a unique avenue for India to revolutionise its digital commerce landscape and set an example for the world, much as India did with the UPI. With vast potential for a robust buyer and seller ecosystem, ONDC is a rare opportunity that arises once in a decade. Stakeholders—the government, industry players, and consumers—can determine how they seize this 'tech-ade', putting their best, most innovative selves forward to democratise digital commerce for all.

Notes

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