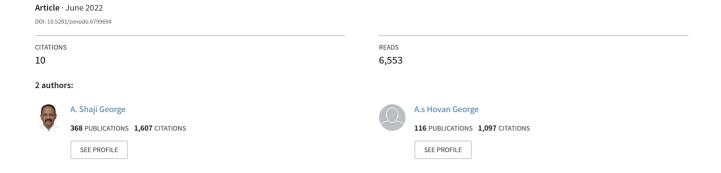
Open Network for Digital Commerce (ONDC) : Democratizing Digital Commerce and curbing digital monopolies in India



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Open Network for Digital Commerce (ONDC): Democratizing Digital Commerce and curbing digital monopolies in India

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Abstract - Global digital commerce is reshaping the global business environment and has the potential to provide a more level playing field that is more welcoming to all types of businesses. It has the potential to open up opportunities in the economy for new groups of players, particularly for smaller businesses. COVID-19 has facilitated the growth of digital commerce throughout the world. Although digital commerce in mobility and travel services declined, it grew in the retail sector, where its proportion of total retail sales has increased. The increase in sales can be attributed to an increase in business-to-consumer (B2C) sales. especially evident in sales of household essentials, medical supplies, as well as food products online. Additionally, COVID-19 resulted in increased business-to-business (B2B) digital commerce. The current version of ecommerce stifles innovation and also creates substantial barriers to access for novice players. Industry analysts have found feasible solutions for managing the bottlenecks within India's digital commerce ecosystem. Taking ideas from the presently successful model solutions such as the Internet Message Access Protocol (IMAP), Simple Mail Transfer Protocol (SMTP), HTTP (protocols for data communication and browsing), and so on, the Open Network for Digital Commerce (ONDC) has actually been developed to revolutionize digital commerce within India. It is going to be an open network developed on open protocols based on open-source standards with set registries, enabling wide-scale involvement by digital commerce ecosystem players within India

via multiple gateways. The Open Network for Digital Commerce (ONDC) project is intended to curb digital monopolies. ONDC will offer a level playing field for big and small digital commerce applications and platforms via the possibility to be ONDC permitted and make buyers and sellers registered with all of them visible as well as discoverable. ONDC aims to make e-commerce procedures open source, thus creating a platform that can be utilized by all online retailers. This paper intends to provide a summary of the context, underlying principles, as well as building blocks for the advancement and operation of ONDC. It also provides an overview of what ONDC can do to help the various players in the digital commerce ecosystem.

Keywords: Digital Commerce, ONDC- Open Network for Digital Commerce, COVID19, Business-to-Consumer (B2C), digital commerce ecosystem, ONDC network, Open network, ONDC, E-Commerce.

1.INTRODUCTION

As the world moves towards a more digital economy, businesses are seeking innovative ways to connect with consumers. A new network called ONDC is aiming to make this process easier by providing a platform for businesses of all sizes to connect with each other and conduct digital transactions. In recent years, the internet has transformed the way in which people communicate and shop. With the rise of online shopping, it is important for businesses to have a well-developed



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digital infrastructure in order to keep up with the competition. Online digital commerce is thriving and expanding rapidly [1]. However, there is still room for improvement when it comes to the way products are sold. One solution is to create an open network that allows for more convenient and streamlined transactions. The ONDC is a group effort to build an open ecosystem for digital commerce [2]. It is also a network built on open protocols that will make it possible for any networkcompatible application to be used to find and do local business in segments like grocery, mobility, food ordering and delivery, hotel reservation, as well as travel, among other things. The platform wants to bring in new customers, stop digital monopolies, help micro, small, and medium-sized businesses, as well as small business owners, get on online platforms, and build a place where businesses of all sizes can safely and easily do business with each other and with third-party vendors [3]. The ONDC also tries to encourage innovation by letting businesses share their best ideas. This is a project of Ministry of Commerce and Industry's Department for Promotion of Industry and Internal Trade (DPIIT). The ONDC, which is an e-commerce UPI, wants to make digital or e-commerce more democratic by changing it from a platform centric model to the open network (ON). On ONDC, traders would be able to save their data in order to build credit history and reach consumers. The suggested government-supported platform aims to establish a level playing field for ecommerce. Platforms would also be compliant with the Information Technology Act, 2000 and specifically designed to comply with the emerging Personal Data Protection Bill. In the system, ONDC wants to make it possible for sellers and buyers to connect digitally and do business through an open network (ON), regardless of the platform or app they are using. It would also allow merchants and customers to create a single network by breaking down silos. This would encourage innovation and growth across all businesses, from a retail goods to food to transportation [5]. The new structure is designed to promote open networks drawn up on an opensourced methodology that uses the open specifications as well as open network protocols not dependent on any particular platform. This is expected to digitalize the whole value chain, standardize the transactions, promote integration of suppliers, obtain efficiencies for logistics and improve value for the consumer. ONDC wish would take all appropriate methods to ensure confidentiality and the privacy of network data [6]. ONDC is not going to compel participants to share any transaction level data with ONDC. It will work together with its attendees to publish anonymous aggregate metrics on network efficiency without sacrificing confidentiality and privacy. This article describes major difficulties in the market that prompted the government to launch the ONDC initiative. The ONDC promises to offer equal opportunities for small merchants. It is correct to say that Digital Commerce (DC) will shift Indian ecommerce far from the current platform-centric model overlooked by market leaders. With an open network, when the ONDC is coming in, there is a chance that even a tiny retailer will be able to be visible immediately across multiple platforms. The ONDC is a nonprofit system that the government believes is going to be a game changer. This is significant because the government wishes to disperse digital monopolies and duopolies of big technology companies. Even without all the hype, the ONDC initiative was expected to be as groundbreaking as UPI.

2.AN OVERVIEW OF DIGITAL COMMERCE IN INDIA

India has emerged as the fastest growing economy in the world and is projected to be one of the top three economies in the next 10-15 years. According to initial estimates, gross domestic product at current prices stood at Rs: 51.23 lakh crore in the 1st quarter of FY2022. India's digital commerce industry



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has evolved and gained significant momentum over the past years, which has further accelerated under the constraints of COVID-19 [7]. The digital transformation is in progress in terms of access to connectivity at an affordable cost. The increase in penetration of smartphones, and the increase in investments in the start-up ecosystem are important factors that contribute to this. India has the world's third largest buyer base, with 14 million retail buyers in 2020, second only to China and the United States. This quantity is expected to rise rapidly with the addition of 37 million Generation Z consumers who grew up in an India with ubiquitous internet, smartphones, and digital and digital consumer platforms[8]. However, the COVID-19 pandemic showed the shortcomings of India's digital commerce ecosystem when most elements of the retail chain were found to be digitally absent, and there was no complete supply chain. Around 1.2 crore kiranas account for eighty percent of the retail sector in India, with 90 percent of them being unorganized, or self-organized, and most of them digitally excluded. From September 2020, India is estimated to have (4.25 million) micro, small and medium-sized enterprises that thrive on innovative sales and marketing efforts but are not part of the digital revolution. Even from the user side, a small percentage of internet customers in India are online shoppers [7,9]. The limitations are more evident in the share of trade in the overall segment of retail India. The gross market value for retail digital commerce (DC) in the Indian market was 2.85 lakh crores in 2020, which is only 4.3% of total retail in India and well below retail penetration in countries like China, Korea, and the UK. By 2026, digital commerce in the retail sector it is expected that India will reach Rs. 15 lakh crores.

3.AN OPPORTUNITY TO TRANSFORM DIGITAL COMMERCE

Humans have operated markets and exchanged value as buyers and sellers since the beginning of

time. The interactions between a seller or provider with something to offer and a buyer or consumer make it possible to create marketplaces of varying shapes. The fragmented decentralized market makes it harder and more complicated to carry out these transactions in the larger ecosystem of commerce, across categories and locations. In recent decades, these markets have flourished digitally as a result of the internet, which has enabled providers and consumers to move their interactions online. Digital has caused a big change in how goods and services are delivered around the world. It has also changed how people interact with markets, which has upset the status many industries, such transportation, travel, and hospitality [17].

In the digital world, platforms allowing digital marketplaces for buyers as well as sellers evolving into large, combined solutions that link the seller and the buyer with combined services such as logistics, warehousing, payment, etc. under one service provider. The rapid expansion of these platforms has hampered the ability of new online sellers to compete unless they are affiliated with an established end-to-end service provider. Even though more platforms can and do come online, the number of attendees is limited by the amount of money needed to set up such integrated solutions [18]. The buyers and sellers face the concentration risk of the platforms as the size of the platforms increases. Even if the platform is run by the government, consolidating the majority of digital commerce trades onto a single platform increases risk and creates a single point of failure. With this faculty concentration, the freedoms of exclusion and discretionary behavior begin to emerge. So, the platforms become "operators" on the market, and small and medium-sized businesses lose the option and freedom to participate on their own terms [19]. This also takes the key issue of portability of trust. The platforms enable the providers and consumers to create a credibility via the dealings allowed through their platforms, which has considerable value. However, if a seller is eager to port its hard-



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earned credibility or reputation (trust) to an additional platform or its very own applications independent of the initial platform, it is not in a position to do so even though it is its own data as well as its credentials. If, thanks to misalignment of the incentive, any of users in the platform like to stop using the present platform they are linked to, they must forfeit all such values built up on a platform. They cannot carry or move in the same way. Therefore, this pattern of value creation and the exchange converts platforms into the most important stores or keepers of value, that locks the sellers into a particular system (Figure 1). Its store of value concept has affected the large, unimpeded, free-to-scale stream of value that a fair and effective market should possess.

The digital marketplace model of commerce

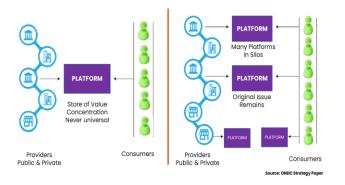


Fig -1: The digital marketplace model of commerce

Such a market structure can lead to numerous challenges. In the event that sellers desire to be on various platforms, they are needed by platforms to keep separate infrastructure as well as processes, which increases their cost and also restricts their involvement. Every platform will have their own terms and conditions which restrict the flexibility of vendors, and with so much restricted flexibility, the scope and diversity of involvement could be constrained. Additionally, the seller and buyer must be on the same platform in order to find one another. Such gaps result in restricted choice and search capabilities within the disjointed collection of platforms. Purchasing from a close inventory online

at the neighborhood Kirana store to get to know that someone is looking for something from the store remains a digital vacuum despite the apparently rapid progress of many digital platforms as well as the pervasiveness of phones and the internet. The pandemic has only heightened such a challenge.

The Indian digital commerce ecosystem, which is still in the middle of its evolution, is not an exception to the preceding drawbacks. Because of the immensity and diversity of its territory, the problem is also compounded in the ecosystem of the country. Several market participants are involved in efforts to deal with these issues, including initiatives focused on digitization and onboarding of small and medium-sized companies. These challenges, however, can be addressed only by using a coordinated strategy at a local scale. There is a need to transform the digital commerce approach of scaling what works to a new approach of what works at scale [20]. In light of the digital India initiative of the government, the vibrant nature of the information technology (IT) sector, as well as the urgency of the current pandemic, it seems appropriate to establish and promote an alternate model of digital commerce through the digital inclusion of a wide range of cross-sectional businesses. The goal of this strategy is to make it possible for MSMEs and a wide range of buyers to use digital technology and do business online. Even earlier, India has demonstrated that it can transform huge-scale projects with the ability to essentially disturb and democratize markets, like UPI- Unified Payment Interface, and UIDAI-Unique Identification Authority of India-Aadhaar, and more recently, the GSTN-Goods and Services Tax Network, and the ABDM-Ayushman Bharat Digital Mission. The Unified Payment Interface helped unify India's business transactions so that all Indians should have the ability to make use of digital commerce to buy or sell goods or services.

4.THE MAJOR OBJECTIVIES OF ONDC

The major objectives are as follows:



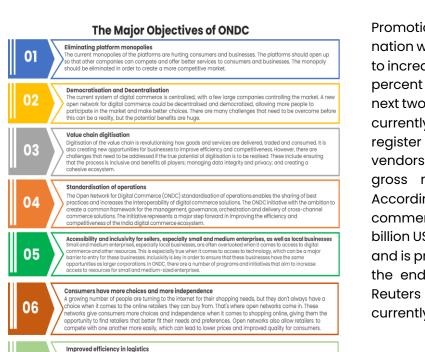
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There has been a significant increase in the efficiency of logistics in recent years. As technologies such as artificial intelligence and machine learning have progressed, digital commerce has allowed terms to be moved between locations in a shorter amount of time. This has led to significant economic benefits for businesses and has made it easier for customers to get their products to market quickly. While there is still room for improvement, these advances are likely to continue to make logistics more efficient over the next decade.

Ensured data privacy and confidentiality
The emergence of the internet has led to a new era of digital commerce. With so much information being shared online, there is no increasing demand for digital commerce and the security of data is important for both merchants.

The emergence of the internet has led to a new era of digital commerce. With so much information being shared natine, there is an increasing demand for digital commerce and the security of data is important for both merchants and consumers. It is essential that data privacy and confidentiality are maintained. This where ONDC come into play, An ONDC has been established to ensure the privacy and confidentiality of data, while enabling efficient transaction processing.

Reduced operational costs

With the advent of ONDC, it is anticipated that the cost of operating a digital commerce business will decrease. In addition, ONDC will provide merchants with the ability to serve a wider range of customers and consumers with greater convenience. Merchants can use upcoming open network systems to manage their businesses, and consumers have more apportunities to purchase products from across midal with their choice. These benefits have consumers have more apportunities to purchase products from across midal with their choice. These benefits have

Fig -2: Objective of ONDC

led to an increase in the use of ONDC digital commerce platforms.

It will compare with Unified Payments Interface (UPI)-ONDC, which unites several digital commerce features, seamless routing, and online shopping features into a single, unified application. The ONDC is a platform that provides easy access to online shopping for consumers as well as a selling platform for small and medium-sized business owners in India [14,15].

5.THE AIM OF ONDC

This ONDC platform aims to create new opportunities, decrease digital monopolies, as well as enable micro, small, and medium-sized businesses and small traders by making them online. It is the creation of the MCI-Ministry of Commerce and Industry's DPIIT- Department for

Promotion of Industry and Internal Trade [10]. In a nation with a population of 1.35 billion, ONDC intends to increase e-commerce penetration to twenty-five percent of all consumer purchases made during the next two years, up from approximately eight percent currently [11]. Within the next 5 years, it is likely to register 900 million customers and 1.2 million vendors on a common network. This will result in a gross merchandise value of USD 48 billion. According to government figures, India's ecommerce business was estimated at over 55 billion USD in gross merchandise value(GMV) in 2021 and is projected to expand to USD 350 billion before the end of the current decade. According to a Reuters estimate, Amazon and Walmart's Flipkart currently hold more than 60 percent of the market.

6.THE ONDC STRUCTURE

The ONDC uses free-software approach, open network protocols and open specifications. In ONDC, customers as well as merchants can transact goods and services individually of any application or platform [14]. Beckn will offer technology and specification layer that ONDC is going to design the network trust, network policies, network grievance management, and network credibility systems [14]. ONDC plans to implement a more dynamic pricing model, digitalized inventory monitoring, and distribution cost optimization to assist lower the cost of conducting business for every person on the platform. ONDC will operate on a hyper-local search-engine model based upon the GPS proximity data as default setting [16]. The customer can separately choose the seller and the logistics partner to finish the order.

7.DESCRIPTION OF OPEN NETWORK

The Open Network surpasses the present platform-centric model, in which both buyer and seller should be part of the same platform or application to facilitate transactions. Instead, in an open network, buyers and sellers can do business regardless of the platform or application they use to be digitally



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visible or available [17]. This allows for the free flow of information and value, as shown in fig. 3:

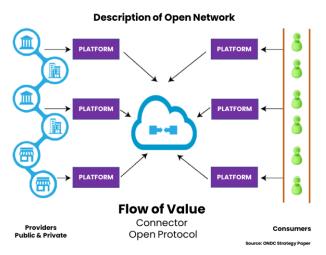


Fig -3: Description of Open Network

An open network based on an open protocol will allow any network-enabled application to discover and engage in location-aware, local commerce across industries. As the IMAP- Internet Message Access Protocol and SMTP-Simple Mail Transfer Protocol are for email, the Hypertext Transfer Protocol (HTTP) is for the World Wide Web, and the Unified Payment Interface (UPI) is for payment systems, the Open Network concept was created to change digital commerce in India. The open network is prefaced on the fundamental ideas of decentralization, openness, and increased user utility. By using these ideas, the network will speed up the adoption of technology stacks and tools like artificial intelligence, machine learning, blockchain, etc. through innovation and experimentation at each node.

It is anticipated that the open network protocol will act as a force multiplier for various segments, including businesses, consumers, application developers, governments, and other relevant participants, by creating an interoperable and open playing field for these segments to operate and compete. This open network will disaggregate the supply chain, shifting the balance of power from the intermediaries to the end users, merchants, and

providers of support services. This will have the most effect on small businesses that want to use digital commerce to boost innovation and grow. The open network concept is not limited to the retail industry; its use cases and advantages can be extended to every digital commerce domain, such as wholesale, mobility, food delivery, logistics, travel, urban services, etc.—any digital transaction between a buyer and seller for goods or services. It has the ability to revolutionize both business-to-consumer and business-to-business transactions [21].

8.ABOUT THE BECKN PROTOCOL

The Beckn Protocol, an open and interoperable protocol for decentralized digital commerce, is used to construct the ONDC's backend. Beckn Gateways provide aggregated, anonymized generated data[22,23]. Interoperability is achieved by decoupling the packet transmission layer from the experience layer in order to standardize the core of commercial transactions, such as discovery, order booking, payment, delivery, and fulfillment. By taking a modular approach, it can be tailored to the needs of both the customer and the provider [22]. The Beckn Foundation is now supporting the undertaking. It facilitates the digital transaction layer, the third layer of public digital infrastructure in an open digital ecosystem. This aids in fostering market competition and regulating anticompetitive conduct. The development happened because of the failure of US standard bodies to establish new standards, leaving the issue to be resolved by large technology companies [24]. The Beckn Protocol is a substitute for and is compatible with similar USdeveloped protocols used globally for computer transactions and the transmission of data. The success of UPI led to the creation of more opensource ecosystems across the country in other fields.

9.IMPLEMENTATION OF OPEN PROTOCOLS

Despite the rapid expansion of Indian e-commerce, the ONDC will be able to assist smaller companies, which will benefit their business. The ONDC will also help to democratize e-commerce in India so that



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small pop-up stores and retailers do not suffer the same fate as they do in the West. On the other hand, the ONDC will enable small retailers to continue to exist in the larger e-commerce market because large e-commerce companies are continuously engaging in unusual practices and are under constant examination. Through an open platform, the ONDC gives small businesses and entrepreneurs the chance to connect directly with customers.

10. GUIDELINES FOR DEVELOPING AN ALTERNATIVE STRATEGY

Solutions designed to support the rapid expansion of digital marketplaces across sectors and regions must be fundamentally inclusive. As depicted in Figure 4, the plan for such a population-scale initiative should be based on a solid foundation

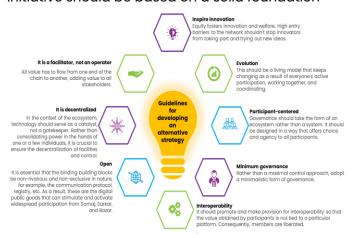


Fig -4: Guidelines for developing an alternative strategy

11.ONDC BUILDING BLOCKS

An overview of technology components

The technology components consist of the various network components, like the registry, gateway, buyer and seller applications, and the building blocks, like adapter interfaces, which can be used to generate these network components [25].

Adaptor Interfaces: Adaptor interfaces are the open APIs created in accordance with the open-source

interoperable specification of the Beckn protocol. These interfaces' documentation is available at www.ondc.org. These APIs will allow sharing of information for the implementation of transactions, allowing all network participants to communicate and integrate via interfaces certified by the ONDC.

Gateway: Application that ensures search capabilities of all sellers in the network by broadcasting search requests from buyer applications to all seller applications, by criteria such as location, readiness, and other customer preferences. To launch the operations, ONDC plans to provide a Gateway through its technology partners initially. With increased volume of transactions, it is anticipated that multiple gateway providers will emerge with independent service offerings in the network.

Open Registries: Applications that keeps the corresponding list of participants that take part in ONDC, the catalog of network policies, etc.

Buyer and Seller Edge Applications: These applications will allow end-users and sellers or service providers to conduct business on the ONDC network. To encourage initial participation, ONDC may roll out reference buyer and seller edge applications directly or via its technology partners. Open-source reference applications will also be made available for service providers to adopt and build upon in order to join the ONDC network [26].

- i) ONDC Network (at its core) consists of network attendees who sign up ONDC as buyer side apps, seller side apps, or gateways to form the open network.
- ii) ONDC Network services (on the right) displays the CNS-common network services that will allow network attendees to perform on the network and will form the ONDC digital infrastructure.
- iii) Other networks (on the left) displays other open networks (ON) in other domains, such as the OCEN-Open Credit Enablement Network, with which it can interface seamlessly [25].



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Figure 5 demonstrates the Open Network components enabled by ONDC and how they interact with other networks.

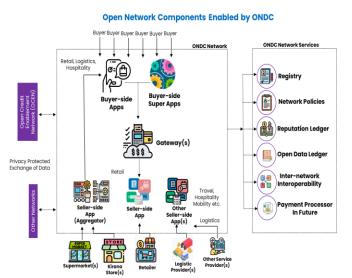


Fig -5: Open Network Components enabled by ONDC

12. VISION OF ONDC TO MAKE E-COMMERCE MORE ACCESSIBLE TO CONSUMERS

Most likely, an open network for digital commerce will make e-commerce more accessible and inclusive for consumers [22]. Consumers can locate any seller, product, or service using an ONDCcompatible application or platform Additionally, the platform will assist consumers in matching demand with the nearest available supply, and that this platform will allow consumers to choose their preferred local businesses, standardize operations, drive efficiencies as well as logistics, and increase customer value [24]. Small ONDC-compatible businesses can utilize applications as opposed to platform-specific policies. This will facilitate their discoverability and business operations.

13.HOW DIGITAL INFRASTRUCTURE WILL UNLOCK INDIA'S POTENTIAL

is becoming a worldwide economic powerhouse and a market leader in not only technology but also in developing governance and economic models that are different from both the western and east-Asian models. In the age of digital diplomacy, India is a world leader in constructing digital infrastructures for public benefit. The success and significant influence of initiatives such as the India Stack and JAM have demonstrated exactly how public digital infrastructure, utilizing an opensource codebase as well as an inclusive ecosystem to collaborate with Indian businesses, could unlock huge potential, activate service delivery on a large scale, and affect the lives of a billion people. Ecommerce in India has drastically changed the way Indians do business and live their lives, creating wealth, jobs, and a higher quality of life. So far, the impact of the COVID-19 pandemic has thrown into sudden relief both the value and constraints of the existing model of e-commerce [12]. For example, ecommerce accounts for less than 4% of the entire retail commerce in India, while Kiranas, which are hyperlocal neighbourhood provision stores, make up 80% of the retail sector and have been largely barred from digital commerce [13]. Despite the fact that the increase in access to the internet and smartphone access is **Furthering** diaital transformation in the nation, what India requires is to shift towards an all-encompassing digital commerce that opens up innovation, democratizes value chains, improves efficiency and responsiveness, and enables both merchants as well as consumers.

14.TECHNOLOGICAL FACILITATION OF TRADE

An ONDC could be a significant development for the e-commerce industry in India because it will allow businesses to compete directly without the need for intermediaries. This could be a significant boon for small businesses in India, as they will no longer be reliant on traditional e-commerce platforms that primarily benefit large businesses. It will provide technological solutions to facilitate trade, and its benefits include Access to the expansion of digital



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commerce via seller-and buyer-side applications will provide new opportunities for startups to promote innovation in various network segments. It will be possible to achieve a shorter time to market and time to scale. Focus on specialized features that will enable other partners to focus on other aspects.

15.THE E-COMMERCE REVOLUTION WITH ONDC IN INDIA

To facilitate small and medium-sized businesses' access to online platforms, the ONDC intends to create new opportunities and eliminate digital monopolies. This could be a game-changer for the e-commerce industry, particularly in India. It will compete with major players and make it easier for businesses to purchase, sell, and exchange goods and services. Small and medium-sized businesses will also be able to bypass the conventional ecommerce platforms that favor larger corporations. This government bank platform will level the playing field for e-commerce titans such as Flipkart and Amazon, as well as small offline merchants, the backbone of the Indian retail industry. Small business owners have always been dissatisfied with the business practices of larger corporations such as Amazon and Flipkart. A revolution will occur if the government's plan is successful. Millions of small businesses will be able to go online.

16.ONDC AND THE CURBING OF DIGITAL MONOPOLIES

It is anticipated that the Indian e-commerce market will grow to be a \$200 billion industry . However, the government must confront numerous challenges and develop strategies to address them. Small- to medium-sized players have a bright future. More people will spend money on products that reflect their culture and identity, resulting in more alterations to their habits and way of life. As the Indian economy grows, it is inevitable that more of these goods will be consumed. Consequently, the retail e-commerce industry will expand as a result. This will bring an end to digital monopolies in the e-commerce industry.

17.ONDC IMPLEMENTATION METHODOLOGY

Taking into account the variety of use cases and ecosystem participants, implementing ONDC on a large scale to make it a public utility is a long-term endeavor. Given the transformational change that ONDC will bring to how the digital commerce industry works today, it will face difficulties in establishing trust among small and large digital commerce companies, managing expectations, and addressing customer and seller fraud issues. Therefore, the initial phase of the ONDC must be implemented rapidly in order to gain acceptance and identify practical considerations for implementing it on a larger scale. The strategy for executing the ONDC has been designed to emphasize three major aspects: technology, business, and institution-building.

18. THE CHALLENGES OF ONDC

What is the likelihood of large e-commerce companies joining ONDC: Large e-commerce companies have protested because they have already made substantial investments in R&D and the deployment of their own processes and technologies. Through aggressive discounts and the promotion of preferred sellers, Amazon and Flipkart have invested a combined total of US \$24 billion to capture 80% of the Indian e-commerce market. Indian retail giants Tata as well as Reliance have also made retail platforms, shopping applications, and super applications [27].

Existing Data Privacy Concerns: If the ONDC functions as advertised, it will manage vast quantities of highly sensitive personal and commercial data, making data security an absolute necessity. The sections on data privacy are vague and require immediate clarification, especially in light of the pending data protection legislation. The strategy document states that transaction data will only reside within the applications of the buyer and seller and will not be visible to the ONDC. The ONDC will not store or view transaction information. The data policies will be "consent-based and constrained by purpose limitation." The ONDC will



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ensure the data security of transactions and protect the personally identifiable information of users and "trade-critical seller data" from unauthorized access by third parties. The manner in which the ONDC ensures this level of security is crucial to the network's credibility and, consequently, the adoption of this system [27].

19. CONCLUSIONS

ONDC aims to be a community-led initiative and to democratize the Indian e-commerce market by creating a level playing field for all businesses. It is being launched in response to concerns stated by market bodies, merchants, and sellers about the growing dominance of large corporations in India's digital commerce sector. An ONDC is a government initiative that promotes open networks for the exchange of all digital goods and services. Currently, a consumer who is only connected to one portal can only make purchases on that site. On this network, users are able to buy products and services from any company without having to navigate to e-commerce platform. introduction of ONDC, it is hoped that all online businesses will have equal exposure and access to development opportunities. There are significant difficulties to the broader adoption and penetration of digital commerce that have not been addressed in the article. Platform to Network focuses on rethinking digital commerce for the next decade and introducing a new way of thinking about digital commerce that promises to be more inclusive and drive wider adoption. There are few growing pains that should be anticipated and planned for in the process of expanding the network. ONDC may not solve all the issues that currently function as obstacles to the adoption and penetration of digital commerce on both the buyer and seller sides, but it goes a long way toward addressing some of the segment's most pressing issues. ONDC is a marketcreating opportunity that will not only contribute to the expansion of the digital commerce market but will also have a substantial impact on the economy, including employment, the creation of livelihoods, and supply chain efficiencies, among other things. The main and most crucial goal of this platform is to defend government rules and regulations while also keeping an eye on all aspects of e-commerce company growth.

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