

Empowering Indian E-Commerce through ONDC: A Study on Competitive Dynamics and Sustainable Development Goals

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Abstract

Purpose-Open Network for Digital Commerce (ONDC) has paved the way for an inclusive ecosystem that amplifies choices for consumers and facilitates collaboration among sellers, dealers, and delivery partners. Thus, this paper scrutinizes ONDC's impact on e-commerce competition in India and examines its alignment with the Sustainable Development Goals (SDGs) outlined by the United Nations.

Design/methodology/approach-To fulfill the objectives of this study, the SWOT (strengths, weaknesses, opportunities, and threats) analysis framework and Porter's five forces model were applied.

Findings-The findings from both analyses provide valuable insights into market entry and expansion strategies for ONDC and underscore ONDC's potential to disrupt the Indian e-commerce landscape by empowering small and medium enterprises (SMEs) and enriching consumer choices. Furthermore, the discussion elucidates how ONDC intersects with several SDGs, particularly those related to economic growth, industry innovation, and inclusive access to digital technologies.

Originality-To the best of my knowledge, none of the previous studies has employed SWOT framework and Porter's five forces model for understanding the implications of open network for digital commerce (ONDC) on the competition in e-commerce sector in India. Furthermore, its sustainability implications have not been explored yet. So, this study adds a new finding to the existing body of knowledge.

Policy Implications-Establish mechanisms for monitoring compliance with ONDC regulations and guidelines, as well as mechanisms for addressing complaints and enforcing penalties for non-compliance. This will help maintain the integrity and credibility of the platform.

Limitations-This study is restricted to impact of ONDC on the competition and SDGs only. Thus, further analysis is required on how ONDC can tailor its expansion effort to target the untapped opportunities in rural markets, cross-border trade, and MSME development effectively.

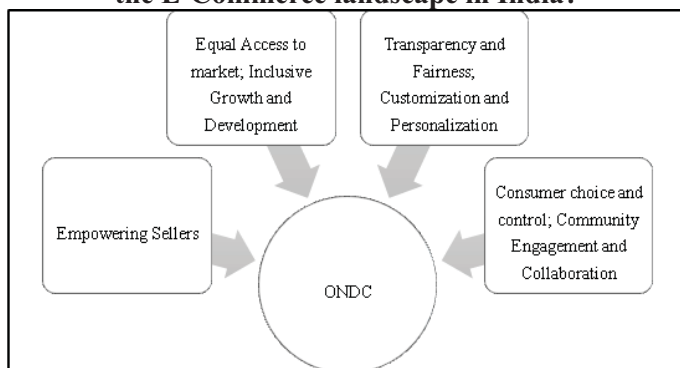
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JEL Classification Codes: L81, L25, Q01

Introduction

The significant growth has been witnessed in the Indian e-commerce industry, driven largely by the widespread adoption of mobile phones. With over 1143 million mobile connections as of October 31, 2022, including 625 million in urban areas and 518 million in rural regions, mobile commerce has become a dominant force in shaping the trajectory of e-commerce in India. The online retail market is expected to reach 37 percent by 2030 and constitutes 25 percent of the total organized retail market. Additionally, social commerce GMV is anticipated to reach \$20 billion by 2026 and potentially \$70 billion by 2030 (Indian Retailer Bureau, 2023). However, the sector initially faced challenges such as low internet penetration and limited online payment options. The turning point came with the proliferation of the internet and the surge in online users. While Amazon and Flipkart have historically dominated the market, new entrants like Meesho, Nykaa, and Indian conglomerates like Tata Group and Reliance Industries are intensifying competition. Flipkart, founded in 2007, emerged as a key player, initially focusing on online book sales before expanding into various product categories. One noteworthy initiative in this space is the Open Network for Digital Commerce (ONDC) which is aimed at decentralizing the e-commerce marketplace, ONDC strives to create a level playing field for all sellers, irrespective of their size.

Figure 1. How ONDC will democratize the E-Commerce landscape in India?



Source: Own compilation

ONDC's vision constitutes bringing together the diverse e-commerce platforms through interoperability and standardization which goes beyond mere inclusion and aims to democratize digital commerce in India. This provides consumers with a wider range of choices and enables sellers, dealers, and delivery partners to collaborate and thrive (Mahajan, 2023). McKinsey expects India's digital commerce with ONDC to surge five times to around \$340 billion by 2030 (Bhatt, 2024). With its utilization of blockchain and artificial intelligence, ONDC not only empowering the small businesses but also sets the stage for a technological revolution that offers enhanced customer protection and streamlined dispute resolution mechanisms. Such technological advancements boost trust and confidence in the digital marketplace and pave the way for future innovations in e-commerce. Therefore, this paper delves deeper into how ONDC impacts the competition in the e-commerce industry in India and also discusses the implications of this initiative in achieving the SDGs. The rest of this paper is organised as follows: section 2 reviews the extent literature, section 3 discusses the data and methodology, section 4 represents the findings of the study and section 5 concludes the paper.

Literature Review

E-commerce has altered how India shops, particularly with the rapid rise in digital public infrastructure. Additionally, the pandemic-induced change in consumer buying behavior and the rise of organized retail sectors laid the groundwork for e-commerce's success in the market. There are over 1.4 billion people and a fast-growing economy, thus online consumers are expected to reach 427 million by 2027. Thus, by 2030, the burgeoning e-commerce business might be valued at over 350 billion U.S. dollars (Statista, 2023). Additionally, as ONDC (2022) stated that open network for digital commerce presents a lucrative potential to stimulate the growth of the digital commerce industry and provide substantial economic benefits, particularly in terms of employment, livelihood generation, supply chain optimization, and other related areas. From a data perspective, only the individuals involved in the transaction (buyer and seller app) can access it. Furthermore, ONDC will not store or see any transaction data, creating a network

that is genuinely democratized, allowing users to have ownership over their data and the insights derived from it (ONDC, 2022).

Saha et al. (2023) examination of secondary data about ONDC revealed that it facilitates the democratization and promotion of inclusive development by assisting smaller local companies, applications, social media platforms, payment systems, logistical services, large-scale technology-driven e-commerce, and small and medium-sized enterprises (SMEs). The data indicates that E-commerce start-ups have secured venture capital and private equity investment. Further, this study stated that BNLP, B2B, and open network technologies provide significant opportunities for technology adoption, supported by the Digital India movement.

Meanwhile, the mechanics of an open digital commerce network and its potential to foster a more inclusive digital commerce system across many sectors and countries were elucidated by George & George (2022). The authors emphasized the significant growth of digital commerce, mostly fuelled by the COVID-19 pandemic, and stated ONDC's strategic approach to cultivating a more inclusive and participatory economic environment. Furthermore, this study examined the concept of Business-to-Consumer (B2C) e-commerce, the digital commerce landscape, the ONDC network as a medium for economic transactions between businesses and consumers, and the significance of open networks in promoting equity and preventing monopolistic practices. Singh & Kumar (2023) examined the ONDC and its potential advantages for consumers, sellers, and technology platforms. They described how ONDC, a government-mandated platform, wants to alter India's e-commerce market by allowing interaction between consumers and sellers regardless of whatever app or platform they use.

Dash et al. (2022) stated the evolution of e-commerce and how the market grew opaque as a result of the monopolistic actions of some of the world's top e-commerce corporations. It explains how ONDC, a novel idea devised by the Indian government, intends to safeguard merchants and purchasers. While Kumari & Sharma (2022) found through a meta-analysis that small and medium-sized

businesses are likely to increase their market presence, currently, the open digital commerce initiative is still in its early stages. Girdhar (2023) offered a critical examination of India's open digital commerce network, suggesting that it could be a boon for local economic growth in the coming years.

Perumal (2021) argued that an open network marketplace has the potential to break down the dominance of established corporations by offering a diverse range of products and services, thereby enhancing the competitive edge of MSMEs in the digital market. As Mahajan (2023) also noted this model is beneficial for small and medium businesses and supports user-friendly business models similar to UPI (Unified Payment Interface). Walia et al. (2023) conducted an exploratory study that indicated that consumers prioritize security when purchasing through ONDC.

Evaluation of Literature

After going through this extant literature, it was found that none of the previous studies have conducted the SWOT analysis of ONDC and utilised porters five forces analysis for analysing the impact of ONDC on the competition in the e-commerce sector in India. Therefore, this paper illuminates ONDC's pivotal role in reshaping e-commerce dynamics in India while elucidating its contributions to advancing sustainable development objectives on both economic and social fronts.

Data & Methodology

Data

This paper utilizes ancillary data and insights about ONDC, as documented in scholarly publications, media reports, and the official website of ONDC.

Methodology

SWOT Analysis

With the help of SWOT (strengths, weaknesses, opportunities, and threats) framework, strategic managers have systematically understood a situation since the 1960s (Kolter, 1988; Wheelen & Hunger, 1995). Benzaghta et al. (2021) note that SWOT analysis has become an essential tool for strategic company planning, in addition to its

widespread acceptance by industry, commerce, and philanthropic and volunteer organizations (Sarsby, 2016). Planners may get a better understanding of how to realize new possibilities by identifying internal and external favorable and unfavourable situations in the four quadrants of a SWOT analysis grid. They can also see how weaknesses might hinder development or increase organizational dangers.

Porter's Five Forces analysis

Porter (1980, 1985) and Porter & Millar (1985) state that a company creates business strategies to get a financial edge over its rivals. The five main factors it responds to are new entrants, competition among existing enterprises in an industry, alternative products/services, supplier negotiating strength, and buyer bargaining power. After assessing these five competitive factors in an industry, a corporation develops the market where they are weak (Porter, 1979). Porter (2001) reemphasized the necessity of understanding the five competing factors in designing competitive advantage strategies.

Findings

SWOT Analysis of existing E-commerce giants (Amazon and Flipkart) and ONDC

With its roots in the early 1950s, SWOT analysis has stood the test of time and is now considered the gold standard of current strategy tools. According to MEID (2011) and Management Study Guide (2012), the primary goal of a SWOT analysis is to identify the strategies that would allow a company to best use its resources while also meeting the challenges posed by its operational environment. The method of mapping and determining the essential aspects that a corporation must take into consideration is the SWOT analysis (Christensen, 1997). Thus, to better understand the business environment of Indian e-commerce sector, the table 1 analyses the duopoly of Amazon and Flipkart, and ONDC using the SWOT analysis framework:

Table 1. SWOT Analysis

Amazon
<i>1. Strengths:</i>
- Established brand recognition and global presence.
- Diverse product offerings and extensive seller base.
- Advanced logistics infrastructure and fulfillment services.
- Strong focus on customer experience and loyalty programs like Amazon Prime.
<i>2. Weaknesses:</i>
- Reliance on third-party sellers exposes vulnerability to inventory management issues and counterfeit products.
- Regulatory scrutiny and antitrust concerns in various markets.
- High operational costs due to investments in technology and infrastructure.
- Dependency on international markets for revenue growth, which can expose the company to geopolitical risks.
<i>3. Opportunities:</i>
- Expansion into emerging markets and untapped segments like healthcare and fintech.
- Growth potential in cloud computing services through Amazon Web Services (AWS).
- Innovation in areas such as artificial intelligence, voice technology, and drone delivery.
- Integration of sustainability practices to appeal to environmentally conscious consumers.
<i>4. Threats:</i>
- Intense competition from rivals like Alibaba, Walmart, and local players in various markets.
- Increasing regulatory scrutiny and potential fines for antitrust violations.
- Disruption from emerging technologies and business models.
- Challenges in maintaining profitability amidst price wars and thin margins in certain product categories.

Flipkart
<i>1. Strengths:</i>
- Leading e-commerce player in the Indian market with strong brand recognition.
- Large customer base and extensive seller network.
- Tailored offerings and services for the Indian consumer market.
- Investments in technology, logistics, and supply chain infrastructure.
<i>2. Weaknesses:</i>
- Relatively high reliance on discounts and promotions to drive sales.
- Operational challenges in last-mile delivery and logistics infrastructure in certain regions.
- Vulnerability to regulatory changes and compliance issues in India.
- Competition from international players and domestic rivals like Amazon.
<i>3. Opportunities:</i>
- Diversification into adjacent sectors such as digital payments, grocery delivery, and online healthcare.
- Capture untapped market potential by expansion into Tier II and Tier III cities.
- Strategic partnerships and acquisitions to enhance offerings and strengthen market position.
- Innovation in supply chain management and customer experience to differentiate from competitors.
<i>4. Threats:</i>
- Intense competition from Amazon and other e-commerce players in India.
- Regulatory challenges and compliance requirements in a rapidly evolving regulatory environment.
- Disruption from emerging technologies and changing consumer preferences.
- Agile startups and new entrants can pose a threat to their market share thus risk of losing market share arises.
ONDC (Open Network for Digital Commerce)
<i>1. Strengths:</i>
- Democratized model of e-commerce, allowing buyers and sellers to formulate their own rules.
- Potential to empower MSMEs and smaller players by reducing entry barriers and fostering collaboration.
- Integration with existing e-commerce platforms and systems to leverage existing infrastructure.
- Emphasis on consumer protection, data privacy, and regulatory compliance.
- Enhances consumer welfare by providing a wider range of choices and stopping exploitation by large e-commerce platforms.
- Facilitates global e-commerce by promoting cross-border trade opportunities for Indian sellers.
<i>2. Weaknesses:</i>
- Potential resistance from established e-commerce players who may perceive ONDC as a threat to their dominance.
- Challenges in ensuring regulatory compliance and addressing concerns related to data privacy and security.
- Initial adoption hurdles and resistance from sellers accustomed to existing e-commerce platforms.
- Dependence on effective implementation and adoption by stakeholders to realize its potential benefits fully.
- Risks of marketplace fragmentation and complexity due to the diverse rules and processes formulated by individual buyers and sellers.
<i>3. Opportunities:</i>
- Untapped potential in rural markets and smaller towns, providing a significant growth opportunity for MSMEs.
- Expansion into cross-border e-commerce, leveraging India's growing reputation as a global sourcing hub.
- Collaboration opportunities with government initiatives aimed at promoting digital inclusion and MSME development.
- Potential to drive innovation and create new business models that prioritize fairness, transparency, and consumer welfare.
- Possibility of becoming a key player in shaping the future of e-commerce in India and beyond.

4. Threats:
- Resistance from entrenched e-commerce players and vested interests (seeking to maintain their dominance in the market).
- Regulatory hurdles and legal challenges that may arise from the implementation of new policies and regulations governing e-commerce.
- Competition from other emerging platforms or disruptive technologies that offer similar solutions to address the same market needs.
- Risks of market saturation and price wars as more sellers join the platform, leading to potential margin pressures.
- External factors could impact the growth and viability of the e-commerce industry as a whole such as economic downturns, geopolitical tensions, or technological disruptions.

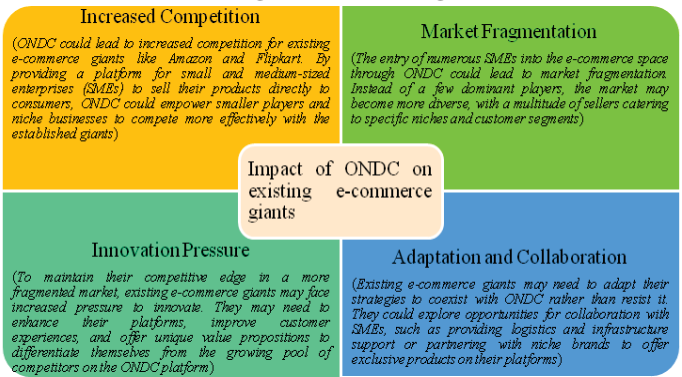
Source: Own compilation, 2024

In summary, each e-commerce model has its strengths, weaknesses, opportunities, and threats. Amazon and Flipkart operate as traditional e-commerce platforms with global and local focuses, respectively, while ONDC represents a government-led initiative aimed at fostering a more inclusive and transparent digital commerce ecosystem in India.

Analysing the Impact of ONDC on the Competition in the Indian E-Commerce

ONDC leads to increased competition, market fragmentation, innovation pressure, and strategies adaptation and collaboration opportunities with SMEs which will reduce the dominance of big players in the Indian e-commerce industry. Consequently, this will push democratization of the digital commerce in India.

Figure 2.Impact of ONDC on existing e-commerce giants



Source: Own compilation, 2024

Force analysis reveals an industry's intrinsic appeal, the determinants of average industry profitability, and how profitability will change in the future (Porter, 2001).This section analyses its impact on competition in the e-commerce industry using Porter's Five Forces framework:

Table 2. ONDC impact on competition using Porter's five forces model

1. Threat of New Entrants:
- With the ONDC initiative, barriers to entry into the e-commerce market stand to decrease, as smaller businesses can reach a wider audience without significant upfront investment in technology infrastructure.
- This could lead to increased competition from new entrants, putting pressure on established players to innovate and improve their offerings to retain market share.
2. Bargaining Power of Buyers:
- ONDC's focus on empowering small and medium-sized enterprises (SMEs) could enhance the bargaining power of buyers by providing them with a diverse and wide range of options and potentially lower prices due to increased competition.
- Consumers may also benefit from improved transparency and access to information, leading to better decision -making.
3. Bargaining Power of Suppliers:
- ONDC might reduce the bargaining power of suppliers, particularly large suppliers who have traditionally held significant leverage over e-commerce platforms.
- SMEs could now have access to a broader market through ONDC, reducing their dependency on a few large suppliers and potentially enabling them to negotiate better terms.

4. Threat of Substitute Products or Services:
- ONDC may reduce the threat of substitute products or services by providing a platform for a diverse range of sellers, thereby offering consumers a wider selection of products and services within the e-commerce ecosystem.
- However, traditional brick-and-mortar retailers could still pose a threat, especially if they adapt their strategies to integrate online and offline channels effectively.
5. Intensity of Competitive Rivalry:
- The ONDC initiative could increase the intensity of competitive rivalry within the e-commerce industry, as it encourages more players to enter the market and compete for market share.
- Established e-commerce giants may face increased competition from smaller players and new entrants, leading to price wars, innovation, and differentiation strategies to maintain or grow their market positions.

Source: Own compilation, 2024

Overall, the ONDC initiative has the potential to disrupt the e-commerce landscape in India by fostering competition, empowering SMEs, and providing consumers with more choices. However, the effective implementation, regulatory support, and adaptation by existing players to the changing dynamics of the industry will determine its success.

How ONDC can help in achieving the Sustainable Development Goals (SDGs)?

ONDC (Open Network for Digital Commerce) has the potential to contribute significantly to the achievement of several Sustainable Development Goals (SDGs) set forth by the United Nations (United Nations, 2015). This Table 3 discusses how ONDC can lead to the attainment of these goals:

Table 3. Role of ONDC in achieving SDGs

SDGs	Implications
SDG 1: No Poverty	ONDC can help alleviate poverty by providing economic opportunities to small businesses, entrepreneurs, and individuals, particularly in rural and underserved areas. By enabling them to access the e-commerce market and sell their products and services, ONDC empowers them to improve their livelihoods and generate income.
SDG 8: Decent Work and Economic Growth	ONDC promotes inclusive economic growth by providing MSMEs with a platform to reach customers and expand their businesses, ONDC creates opportunities for job creation, entrepreneurship, and sustainable economic development.
SDG 9: Industry, Innovation, and Infrastructure	ONDC fosters innovation and entrepreneurship by providing a platform for small businesses and entrepreneurs to showcase their products and services. By promoting technological advancements, digital literacy, and access to infrastructure, ONDC contributes to the growth and development of the digital economy.
SDG 10: Reduced Inequalities	ONDC promotes equality and inclusivity by democratizing access to the e-commerce market. By providing equal opportunities for sellers of all sizes, including MSMEs and small retailers, ONDC helps reduce inequalities and empower marginalized communities to participate in the digital economy.
SDG 11: Sustainable Cities and Communities	ONDC supports sustainable urbanization by enabling small businesses and entrepreneurs in urban areas to reach customers nationwide and beyond. By reducing the need for physical storefronts and enabling digital transactions, ONDC contributes to the creation of sustainable and resilient communities.
SDG 12: Responsible Consumption and Production	ONDC promotes responsible consumption and production by encouraging sustainable business practices among sellers. By providing consumers with access to product information, transparency in pricing, and environmentally friendly options, ONDC empowers them to make informed and sustainable purchasing decisions.
SDG 17: Partnerships for the Goals	ONDC facilitates collaboration and partnerships between government agencies, industry stakeholders, and technology providers to achieve common goals. By fostering public-private partnerships and knowledge sharing, ONDC contributes to the implementation of sustainable development initiatives and the attainment of SDGs on a global scale.

Source: Own compilation, 2024

Conclusion

This study analysed the implications of ONDC for the competition in the e-commerce sector and achieving SDGs. For this purpose, the secondary resources are utilised and analysed with the help of SWOT framework and Porter's five forces model. The SWOT framework analysis revealed that although ONDC holds significant potential to transform the Indian e-commerce landscape, its success will depend on addressing weaknesses, capitalizing on opportunities, and effectively managing threats through strategic planning and collaboration among stakeholders. In summary, Amazon and Flipkart operate in highly competitive markets with established players and face threats from new entrants, substitutes, and bargaining power from buyers and suppliers. ONDC, on the other hand, aims to disrupt the e-commerce landscape by increasing competition and choice, potentially impacting the competitive dynamics within the ecosystem. Additionally, Porter's Five Forces analysis identified the competitive dynamics within the e-commerce industry and the factors influencing ONDC's competitive positioning. This analysis revealed that understanding the bargaining power of buyers, suppliers, and competitors helps ONDC determine its market position and develop strategies to differentiate itself from competitors.

In a nutshell, while Amazon and Flipkart operate as traditional e-commerce platforms with a focus on driving sales and revenue, ONDC represents a government-led initiative aimed at fostering a more open and inclusive digital commerce ecosystem in India. The implications of the SWOT and Porter's Five Forces analyses for ONDC are significant and can inform strategic decision-making and implementation strategies.

Furthermore, the analysis confirmed that ONDC's inclusive and innovative approach to e-commerce aligns with the principles and objectives of the Sustainable Development Goals by promoting economic empowerment, inclusivity, innovation, and sustainability. Thus, it can be concluded that ONDC plays a crucial role in advancing the SDGs and creating a more prosperous and equitable world for all.

Recommendations:

For ONDC

- Engage with a diverse range of stakeholders, including government agencies, industry associations, consumer groups, and technology providers, to build consensus, address concerns, and foster collaboration in the implementation of ONDC.
- Establish mechanisms for monitoring compliance with ONDC regulations and guidelines, as well as mechanisms for addressing complaints and enforcing penalties for non-compliance. This will help maintain the integrity and credibility of the platform.
- Foster innovation and entrepreneurship within the ONDC ecosystem by supporting the development of new business models, technologies, and solutions that drive inclusive growth and address emerging challenges in the e-commerce sector.

For Policymakers

- Develop and implement a robust regulatory framework that ensures transparency, fairness, and accountability in e-commerce operations. This framework should address issues such as data privacy, consumer protection, competition, and intellectual property rights.
- Invest in upgrading digital infrastructure, expanding internet connectivity, and enhancing technological capabilities, particularly in rural and underserved areas.

Limitations of the study

Although this study provides valuable insights into market entry and expansion strategies for ONDC. However, further analysis is required on how ONDC can tailor its expansion effort to target the untapped opportunities in rural markets, cross-border trade, and MSME development effectively.

Authors Contribution

Annu Kumari was involved in conceptualizing and designing this manuscript. She collected the data and contributed to the analysis and interpretation of the data. Prof. Ashwani Mahajan and Prof. Phool Chand contributed significantly to drafting the manuscript and revising it critically for important intellectual content. All authors read and approved the final manuscript.

Conflict of Interest

The authors declare no competing interest. They certify no affiliations or involvement in any entity with any kind of interest in this manuscript.

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