

Original Article

The Impact of Technology and the Digital Economy on India's Fashion Industry

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Abstract - Digital economy is the activity that results from billions of online interactions among individuals, organizations, and gadgets. The foundation of the digital economy- hyper-connectivity -implies the developing interconnectivity of individuals and associations that emerge from the internet. [1]. As per Statista, India's apparel market made a revenue of \$96.47 million in 2023 and will grow by 3.34 % in the next 4 years. India's fashion industry is in an ardent effort to create technological methods that revolutionize the way fashion brands market themselves and how consumers purchase products. With the 'Digital India' program launch in 2015, internet users have grown from 350 million in 2015 to 692 million in 2023[2]. Leading to cost-effective marketing methods as brands sell their goods according to consumer preferences. India's e-commerce has played a role in advancing India's digital economy. With the Indian e-commerce market size growing from \$20 billion - \$74.8 billion in 2022[3], growth in e-commerce allows Indian consumers the comfort of shopping at home and Indian fashion brands to improve supply chains. This dissertation analyses India's digital economy and how technology has enhanced the marketing strategy of India's fashion brands.

Keywords - Digital economy, Digital marketing, Fashion marketing, Marketing, India fashion industry, Internet, e-commerce.

1. Introduction

The fashion industry is one of the most crucial contributors to the world's economy - valued at \$1.7 Trillion as of 2022, and the apparel industry accounts for 2% of the global GDP [1]. Despite the backlog due to COVID-19, the industry grew 7.5% from 2021 to 2022 with a revenue of \$1.84 billion in 2022 and a growth rate of 6.1% from 2022 to 2023 with a revenue of \$1.95 billion in 2023[2]. The fashion industry certainly accounts for a large portion of the Indian economy, with the industry employing about 4.5 crore workers directly and another 6 crore indirectly through federated activities [4]. India stands as the 6th largest textile and apparel exporter in the world, with a 4% share in the global trade of textiles and apparel.

India's clothing market plays a significant role in the national economy. The share of textile and apparel in India's total exports is recorded to be 11.4% in the years 2020 to 2021. The industry's uniqueness lies in its efficient hand-woven sector and capital-intensive mill sector, the second largest in the world. India's fashion industry seems to be skyrocketing as the government continues introducing initiatives and investments to improve India's digital economy, allowing brands to effectively market their goods [5]. Also, with increased research and innovation, India seems to be focusing on building its digital infrastructure through policies such as 'Digital India' and improving its e-commerce platform.[7]

The textile industry's ability to generate employment and export revenue has been supported by India's growing focus on the upgradation of technology, which has made a notable impact on marketing methods in the industry [8]. The way Indians shop has significantly changed after COVID-19. Due to an upsurge in smartphones and an increase in internet users, consumers now heavily rely on online shopping methods not only because of its focus on personalization and customer experience but also because it has encouraged a better supply chain and customer value proposition.[9]. While the size of the world e-commerce market is said to grow up to 150 billion by FY26, the fashion e-commerce market in India is estimated to grow from 10 billion in 2022 to around 30 billion by 2027.[9] With clothing brands creating a digital presence, the use of social media is set to improve digital marketing, with the online fashion market share of India said to increase by \$22.97 billion from 2022 to 2026. In addition, with over 800 D2C fashion brands in India, the government has shifted its focus on improving the country's logistical infrastructure to improve supply chains and reduce costs for firms across the country [10]. Despite the Indian government providing huge funds in schemes such as integrated textile parks (\$184.98 million), upgradation of technology (\$961.11 million), and an increase in FDI worth \$ 4.03 billion from April 2000 to June 2022, increasing productivity and employment in the textile and apparel industry,[6] existing literature discusses the growth of the significance of the Indian fashion industry and the



progression of technology however there is no significant research done on how particular advancements in technology have impacted the way Indian apparel industry markets their goods.

Therefore, the purpose of this study is to examine how advancements in technology have affected the fashion industry, discuss and analyze the growth in India's digital economy, and how this has changed the way brands digitally market their goods. In addition, this study also aims to discuss the costs and benefits of e-commerce and its impact on logistical efficiency, all of which have been impacted by technological advancements. [11]

2. Methodology

2.1. Research Design

A secondary research method approach was taken for this study. This study analyses how various Indian brands have used these advancements and propelled their marketing method. Secondary data was sourced from the Ministry of Textiles, Textile Commissioner, Indian Brand Equity Foundation, etc., giving access to public documentation and ensuring an accurate view of the manufacturing schemes. Also, collecting data from Digital Scholar emphasizes the impact of digital marketing in India. This study divides itself into an analysis of digital marketing in India and further discusses the impacts of the growing influence of e-commerce and advancements in logistical efficiency.

Digital marketing, a method to improve demand, is bound to encourage technological upgradation in the marketing sector. Therefore, digital marketing should positively influence building a consumer base and brand image, which will likely boost demand. At the same time, the growing use of e-commerce has improved the way in which consumers shop, boosting their online presence. Furthermore, as demand for firms' goods rises along with lower production costs, firms may be able to create job opportunities, increasing employment. This will also allow firms to become more price competitive, consequently increasing efficiency. Lastly, firms may start using technological advancements to shift from labour to capital-intensive, growing the Indian apparel industry.

3. Discussion and Analysis

3.1. Digital Marketing

Digital marketing is the promotion of brands on an online platform, enabling them to reach consumers using the internet and other platforms of digital communication. This comprises social media, internet advertising, email, and text messages as a way of marketing[15]

The 'Digital India' program, an initiative by the Indian Prime Minister, Mr. Narendra Modi, is the development of e-services. This program focuses on 3 main areas, including

digital infrastructure as a tool accessible nationwide, on-demand governance and services, digital education, and empowerment of citizens.[16] Under this program, India's number of internet users has skyrocketed. In fact, there were 692.0 million internet users in India at the beginning of 2023, while internet penetration stood at 48.7% [12].

India comprised 467.0 million social media users in January 2023, and 1.10 billion mobiles were actively recorded in India during the start of 2023.[12] The Digital India program's progress allows India to develop, make citizens more aware, and serve as a platform for the garment industry to attract consumption[14].

Digital marketing has been and is being considered as a new form of advertising and prevailed unique opportunities for fashion brands and firms to reach out to the rising number of humans becoming more Tech savvy by the day. With increasing internet users, firms have begun to use advertising and marketing through digital channels and platforms that allow customers to engage with the products regardless of their geographical location. [25] These changing trends in fashion marketing are forcing brands to embrace internet-based advertisements and technology as a way of communication, giving producers new, creative approaches to capture the attention of larger, international markets. Through the internet, the usage of social media platforms has increased and has been acknowledged as a destination for various business activities. India's higher social media engagement has provided fashion marketers with outstanding opportunities to engage and reach out to consumers within their social communities and even personalize consumer relations. [15].

Fashion brands leverage the ways of digital marketing as it offers a much more cost-effective method of building a consumer base in comparison to traditional marketing methods, which require more money and logistical support. Digital Marketing is cost-minimizing as most marketing efforts are completed online while sitting in one place. In one go, brands are able to reach multiple customers, and personalized communications can also be sent to them. The benefits to cost ratio using Digital marketing as an approach is higher as it is more focused and optimal. With social media at the crux, the Indian fashion industry uses social media to anticipate trends and predict fashion and consumer behaviors.[22]

Raymond, a fashion and fabric retailer in India, established in 1925 by Gautam Singhania, targeted their goal of increasing in-store activity and consumer reach through various digital platforms, starting with their Facebook-led strategy. With advertisements, Raymond targeted its audience in Rajasthan and Gurugram to increase in-store sales in select stores. At the time, they targeted young men near the four selected stores with special offers using radius targeting. In

addition, they even targeted the audience who were interested in competitive brands[16].

As a part of the filtering process, Raymond filtered its audience based on age and gender. Using demographics, they targeted men working or starting a new job, ensuring their first day of work would be memorable. This resulted in an increase in sales by 78% and in-store traffic by 58%, encouraging consumers to purchase through online platforms like their website or SMS and even in-store[17].

Moreover, the government's Digital India program also helps increase customer loyalty and effective buying through online platforms. The fashion and retail industry is monopolistic in competition; this is where many firms produce similar products and services that are not identical or suitable as substitutes. Hence, brand image and production are what make various brands stand out from one another. While clothing pieces often seem and look similar, every product differs in quality and the inputs used while making the piece. The purpose of product differentiation is to market a product and produce it in a way that is more desirable and attractive to consume than its substitutes being offered in the market and one of the factors that affects a consumer's decision-making is the quality of the product. [18]

Consumers in the apparel industry often prefer purchasing the items and the comfort of their home with the reliability of the quality of the goods. Indian fashion brands are now conveying the value of their goods through digital platforms, not only providing information on their products and attracting consumption but also increasing the number of loyal customers, as customers would trust the brand to maintain its quality even if they do not physically view and purchase the goods. [20]

The figure below is a graphical representation of how digital marketing has increased revenue for India's fashion industry over the years. Standing at a total of \$3.79 billion in 2017, two years after the introduction of the 'Digital India' program, in the following years, there was an upsurge of revenue, and in 2022, India stood at \$39.42 billion.

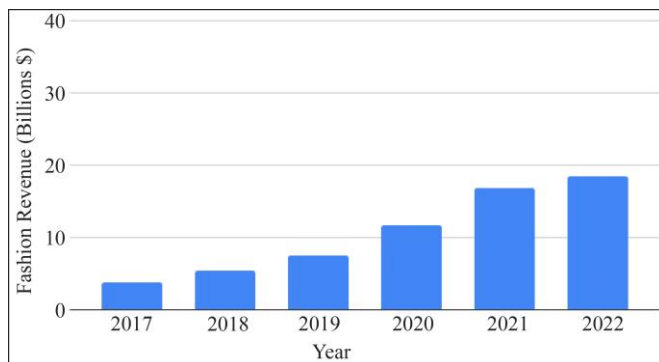


Fig. 1 Fashion revenue growth in india (Billions \$)

This further proves that the efforts by the Indian government to popularise new methods of marketing in terms of a digital platform are certainly conveying results in the fashion industry.

3.2. E-commerce

Electronic commerce, a major aspect of the information technology revolution, was extensively used in world trade, especially by the Indian economy. With such advancements, the methodology in the way businesses conduct transactions has changed, and considering India is known to adapt to changing technology rapidly, it is swift to acknowledge the current state of data exchanges and e-commerce.[28] E-commerce translates to electronic commerce and consists of the trade of goods and services through a digital medium. India is experiencing immense growth in e-commerce, and its market is estimated to pass the US in becoming the second-largest e-commerce market in the world by 2034. By 2025, India hopes to reach \$ 111.40 billion in its e-commerce sector from \$ 46.20 billion in 2020, with key growth drivers likely to be the grocery and fashion market.

Also, the recent increase in digital literacy has caused an inflow in various e-commerce firms; some note-worthy investments from large firms include Facebook, which invests in Reliance Jio. Google also recorded its first investment in Jio platforms, valued at \$ 4.5 billion.

In the last several years, India has experienced a rise in internet and smartphone usage. In 2021, the record of the number of people in India using internet connection significantly increased to 830 million, mainly steered by the 'Digital India' program. This instant increase in the number of internet and smartphone users, supported by high incomes, has assisted the growth of India's e-commerce sector. The process of conducting business in India has changed as its e-commerce platforms advanced. India has introduced models such as business-to-business (B2B), direct-to-consumer (D2C), consumer-to-consumer (C2C), and consumer-to-business (C2B). Especially companies following the D2C and B2B models have experienced growth in recent years. Overall, India's e-commerce market is estimated to hit US\$ 350 billion by 2030 and has experienced a 21.5% growth in 2022 and reached US\$ 74.8 billion. [29]

E-commerce has created a new dimension within India's fashion market and has made shopping much more convenient for consumers. Traditional offline buying customers are often left with numerous complaints along with long checkout timings which delay the payment process, cost of time and exhaustion, the effort of moving around a store to search for your desired good, and so on. Online shopping is so distinctive with its 24 x 7 enterprise hours and convenience. Therefore, a customer can avoid transport costs, spend unnecessary time searching through large stores, compare the value of various

goods with other online stores at once, and even pay for it digitally and receive the goods at their doorstep. Allowing consumers to gain the best value for their money, along with convenience, as customers now no longer have to visit stores but can browse and purchase goods in their own homes. This has been made easier with India's payment modernization due to the improvement in the infrastructure of digital payments, which is assisted by UPI and 24 x 7 NEFT. Also, The COVID-19 pandemic led to an even higher rise in digital payments as customers shifted to contactless payments and began using cards instead of cash, encouraging Indian fashion brands to shift their focus to building an online presence. Moreover, this lowers operational costs and speeds up buying processes.

With an increase in E-commerce, India has also experienced a rise in economic growth as newer, more efficient firms continue to enter the fashion market. Some notable fashion e-commerce websites launched in the past few years are Myntra, Ajio, Meesho, and others.

Taking the example of Myntra, India's largest fashion e-commerce store, which was acquired by Flipkart in 2014, another one of India's leading e-commerce platforms paved the way for a more efficient online shopping method for the economy's growth. Myntra has played an immense focus on consumer experience by utilizing data to create memorable consumer interactions online. Myntra has perfected its online customer experience right from the way it markets to its website design and personalized recommendations. Specifically, Myntra's use of influencer marketing and the launch of MLive has revolutionized digital marketing and e-commerce. Myntra's 'MLive' is a live streaming and commerce section within their app, allowing consumers to purchase products in real time as the streams occur. This not only increases customer engagement and loyalty but also increases impulse buying, which benefits the company. Moreover, through 'Myntra Insider', a flagship loyalty program in which they partner with various lifestyle and dining platforms, it creates a strong brand reputation and retains customers. Myntra also rewards frequent customers with points as they shop, available for use across various brands they have partnered with. Their flagship project allows consumers to gain special offers such as discounts, access to sales, priority customer support, birthday offers, and more, considering their Insider level. Also, Myntra gives customers unique offers such as stylist sessions or even modelling for them, encouraging consumers to shop.[30] Myntra has also contributed to economic growth by creating employment. For instance, they created 27.5k third-party employment opportunities through their partners as they geared up for their 'End of Reason' sale in June 2022.[31]

Moreover, platforms such as Myntra also provide an opportunity for smaller businesses and retailers who wish to enter new markets and expand their clientele. Even though e-

commerce can pose a threat to smaller companies in terms of competition, especially if they do not own the same amount of resources as the more established and global brands, smaller brands may still consider using online platforms to build their business on a smaller scale, this not only benefits producers of small businesses as they can leverage the benefits e-commerce offers to stand out amongst other competitors but also benefits consumers as they have more to choose from.

Such benefits have only encouraged India to promote e-commerce. Some note-worthy government and private initiatives launched to promote e-commerce are

3.2.1. Udaan

Udaan is India's largest Business-to-business online e-commerce platform that aims to transform how trade is done in India. They aim to act as a middleman between small and medium-sized manufacturers, wholesalers, and online retailers. It also supplies them with efficient logistics, payments, and technology

3.2.2. E-commerce Ecosystem

The Department for Promotion of Industry and Internal Trade (DPIIT) has been reported to use the Open Network for Digital Commerce (ONDC) to create protocols for cataloguing, vendor, and price discovery.

This will provide fair opportunities to all players in the market and make the highest use of the e-commerce ecosystem in the interest of the country and its people[6].

3.2.3. National Retail Policy

This policy aims to give brick-and-mortar stores business-friendly environments, modern facilities, and easy-to-access credit. A major reason for proposing this policy is that India believes offline and e-commerce needs to be administered in an integral manner[6].

3.2.4. Consumer Protection Rules

The Consumer Protection (E-Commerce) Rules, 2020, notified by the Consumer Affairs Ministry in July, protects consumers against unfair trading systems practices by businesses. This law will ensure that e-commerce companies project the country of origin with the product listings[6].

Such initiatives have enhanced the digital and online awareness of urban and rural areas and have allowed the usage of the Digital platform by fashion brands in India to soar. On the contrary, the arrival of e-commerce has allowed customers to become used to the convenience of returning goods. This, however, poses a huge strain on the business stock as they now have to oversee the additional logistics of returns and refunds. This also increases negative externalities on the environment as often returned items go to landfills, which severely pollute the surroundings and increase social costs.[29]

Also, e-commerce has promoted healthy competition in the economy. Tentative customer tastes, and trends have made electronic retailing (e-tailing) an extremely competitive business that has led companies to spend more than they earn, also known as cash burn, with frequent promotions or sales. Such high, unsustainable discounts set by e-retailers to gain a larger consumer base have resulted in unsustainable customer expectations and losses.

3.3. Logistical Efficiency

In today's market, there has been an increase in competitiveness not only between singular firms but also within a web of linked partners, better known as supply chains.

With consumer desires and preferences constantly rotating, firms must respond speedily when consumer fashion and trends change or appear, making the competition sensitive to time. The importance of time cannot be overlooked, especially in India's apparel industry, as it serves as a determinant of the success or failure of the brand in this market.

Supply chain management plays a vital role in the workings of e-commerce. It centres around attaining raw materials, manufacturing, and distributing goods at the correct time. Supply chains also consist of managing supply and demand, warehouses, inventory tracking, order management, distribution, and customer delivery.[33]

Through the arrival of e-commerce, the fashion market is diverging from traditional marketing and management strategies and is experiencing a revolution. After the introduction of e-commerce, fashion brands are using the internet to minimize costs related to purchasing, tracking supplier status, smoothing inventory and logistics, and forming strategic assets.

E-commerce encourages companies to refine the communication method within the supply chain and magnify service offerings, creating opportunities for competitive differentiation. [34]

Google's Year in Search Report 2021 suggests that the rise in the number of people using the internet has led to a substantial surge in daily searches over the last two years. Thus, Businesses will have to alter and modify to cater to the evolving client behavior.

The Indian actor of the American multinational technology company has noticed a rise in the popularity of online buying and direct-to-consumer (D2C) brands due to the effects of COVID-19. According to Statista, India's D2C market is expected to expand more than 15-fold by 2025 from 2015. In 2020, The D2C market was valued at \$33.1 billion

and is anticipated to triple by 2025, reaching \$100 billion, with fashion and textiles being one of India's top D2C segments.

A direct-to-consumer (D2C) brand refers to one that manages, advertises, and distributes its own products without intermediaries. Indian fashion brands are adopting the D2C model as it allows them to communicate directly with various stakeholders. This direct communication enables businesses to mould their business strategy and encourage innovation and creation by leveraging real-time consumer insights. Using the D2C e-commerce model allows brands to make fair business decisions and increase customer trust, resulting in enhanced consumer loyalty. By utilizing such insights, a company can effectively address the customer's wants.

Giving importance to brand-building efforts can create an advantage in the long run. Not only is it more efficient, but it can also increase the success of performance marketing. Nevertheless, it is crucial to acknowledge the fact that not all forms of brand recognition are equal in value, especially in a saturated market such as this. Brands that focus and invest in creating relationships with their target audience rather than pursuing short-term benefits and rewards will do well in the long term.

Bewakoof, founded in 2012 by Prabhkiran Singh and Siddharth Munot, is an Indian-based apparel brand that recorded a logistic cost of INR38.6 crore in FY20. In the years after 2022, the brand is in the works of expediting its growth trajectory. They plan to achieve this through marketing and branding strategies as well as making use of technology with an aim to earn INR1,000 crores in four years. Bewakoof specializes in producing knitted garments, namely t-shirts. It primarily sources its materials from Tirupur and Ludhiana, notorious as the two 'Knitwear Cities' of India, allowing for efficient procurement of raw materials. In an interview with Apparel Resources (AR), Prabhkiran Singh, Founder and CEO of the company, highlighted the significance of creating a strong sourcing base for the company and mentioned how the sourcing team takes a proactive approach as they lead vendors rather than waiting for them. This ensures smooth and cost-effective sourcing. [35]

A factor of the D2C model is strengthening relations with vendors, also known as 'vendor-managed inventory'. This practice prevents confusion or delay of decisions in the customer purchasing process, as suppliers can react directly to demand.

The benefit of this is the logistical control over shipment and catalogue, reducing the variations that arise from merchandising. However, challenges may arise due to unpredictable order patterns and required reparation for singular retail stores. Thus, some retailers may hesitate to share POS data and sometimes refrain from using it themselves.

With Bewakoof implementing such time-efficient practices, they further streamline their supply chain. Moreover, the Udaipur-based fashion e-commerce brand 'Beyoung' is an example of when logistics not planned and used properly can rapidly cause a burden to costs. In 2015, At the initial stages of the company, the company produced a modest volume of 1000 t-shirts every month and relied on various delivery services for orders. However, the start-up soon collided with the stock administration issue. Its major fear revolved around the significant number of returns and non-delivery reports leading to unused stock, inadequate inventory control, and difficulties retrieving undelivered packages.

The brand soon recognized the issue and realized they required a more efficient process to monitor orders and secure lower return-freight prices for undelivered shipments. While the brand employed multiple courier services, enabling them to connect to a range of pin codes, each courier service would require the firm to spend time and effort to communicate and coordinate with them separately with differences in prices, resulting in an increase in employment to manage these tasks and higher prices for deliveries as there was no price standardization.

In order to better the logistics cost, in 2016, BeYoung collaborated with Pickrr. Pickrr, a third-party logistics company, utilized its connections and courier services network to enable timely deliveries. Moreover, 'Beyoung' was able to reduce return-to-origin and reduce non-deliveries by making use of Pickrr's order tracking and inventory management systems. This resulted in a sharp 20% reduction in logistical costs as prices became standardized and consequently expanded its service regions to 27,000 pin codes, enabling a significant increase in order volume from 1,000 to 60,000 orders per month. [36]

While fashion brands are finding ways around logistics inefficiencies, it is a more deeply rooted issue across India. With India's poor infrastructure, transportation roadblocks are a significant issue brands face. Firms face many difficulties in deliveries due to the country being subjected to various terrains and environmental conditions, making the transport industry heavily unreliable even if the deliveries are scheduled on time. Such issues in logistics make companies lose money and time. The obstacles associated with tracking deliveries include the record of orders in transit, the location of the shipments and the status of the shipment arrival, and the cost of moving the deliveries from one location to another. This only poses an additional burden on the brand's production costs with a surplus of inventory and disruptions in sales channels. These bottlenecks can be avoided through effective logistic management, which includes aspects like quick transportation, warehousing, condition of materials, and packaging. Implementing a well-organized logistics method guarantees prompt product delivery and ensures the

synchronized movement of goods through the supply chain.

The state of India's warehousing facilities is also something to note. Indian cargo is often a resource that is poorly utilized and often suffers damage due to insect-infested warehouses, minimal storage area, and destruction as a result of leakages. This only leads to waste clothing products as they are perishable goods.[37] Moreover, The logistics industry in India has witnessed rapid growth on account of the betterment of structure, technological advances, and the emergence of several types of providers of services that are reducing logistics costs and providing effective service. In 2022, The National Logistics Policy was launched with the aim of establishing an advanced technological infrastructure that would also be cost-effective, sustainable, and have a trust-worthy logistic system to prompt inclusivity and growth in India. This policy is likely to integrate transportation modes and address issues faced by the sector. It is estimated that this policy will contribute to increasing the growth of the Indian logistics market from \$250 billion in 2021 to \$380 billion by 2025. India hopes to establish technologically driven logistic solutions for the future of India. In recent years, reforms in the economic structure have promoted logistical efficiency in the nation. Currently, prominent contributors in the logistics sector are benefiting from the Internet of Things (IoT), advanced/big data analysis, artificial intelligence, robotics, automation, blockchain technology, and cloud computing, all of which are implemented to reduce the turnaround time in the in-house logistic systems. To effectively serve customized demands from consumers, in the last few years, the economy has witnessed the rise of third-party (3PL) and fourth-party (4PL) logistics services to control supply chain difficulties, which may be complex. Furthermore, technologically driven platforms are likely to impact optimizing the logistics sector majorly. The platform will improve the turnover time for each task by easing manual duties such as shipment organization, tracking of containers, and customs clearance. The digital platforms will improve efficiencies by process automation and auto-process validations among multiple stakeholders and stages and hence expedite the process with minimal effort and time

The growing logistic sector of India has been assisted by several initiatives. The Government of India has launched support for this development. A few note-worthy policies are The government's National Logistics Policy, which develops infrastructure, and FDI reform are among the integral reasons the sector has grown. In addition, initiatives such as 'Make in India' and 'Digital India' are predicted to improve the logistics sector in India. [38]

4. Conclusion

The Indian Apparel and Garment industry is a swiftly changing and rapidly growing market. The growing usage and promotion of Digital platforms have allowed Indian fashion

brands to leverage the growth of internet users and the consumption ability of the users to market and supply their goods efficiently. This secondary- research dissertation aims to analyze the growth in India's digital economy and several Initiatives such as 'Digital India', which have been launched to encourage a digitally connected country and improve the social and economic conditions of people as well as fashion brands and revolutionize the way in which brands market their goods. Such policies have simultaneously created winners and losers in the economy.

As India continuously advances the digital economy, it has led to an uprise in digital marketing, allowing fashion brands to increase their consumer visibility and reach through a cost-minimizing method. More importantly, firms are

maximizing the benefits of e-commerce to market their goods, allowing consumers to shop in the comfort of their homes with 24 x 7 payment services provided by India's government. In contrast, e-commerce has also led to a rise in returns of goods, posing an inefficiency in a firm's production processes. The digital economy also aims to focus on back-end logistical efficiency. While India continues to find solutions through tech-based innovations, fashion brands are yet to find a suitable supply chain method.

With technology advancing daily, the fashion industry will soon be taken over digitally, with new and upcoming AI transformation and the current use of technology upgrades such as blockchain and computers.

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