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Assessing the Impact of Sustainable Business Practices on Consumer Behavior in the Indian Pharmaceutical Industry: A Systematic Literature Review

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ABSTRACT

The pharmaceutical business is crucial worldwide for healthcare delivery, although it faces significant problems in achieving sustainability objectives. Among them, less environmental effect, enhanced resource use, and promotion of social responsibility are of lesser significance. This study studies the influence of sustainable business practices on consumer behavior in the Indian pharmaceutical sector, employing databases such as Scopus, Web of Science, and PubMed. This research aims to ascertain the impact of these activities on customer behavior. Some of the major means utilized are Corporate Social Responsibility initiatives, eco-friendly production, and green packing. This combination of methodologies will offer consumers, based on their personal preferences, an e-commerce experience where they are able to buy eco-friendly products with a social responsibility backing.

Due to the increasing demand for communicative transparency in sustainability initiatives, consumers have been more willing to support eco-friendly companies. Less environmentally damaging products — that are recyclable or biodegradable, for instance — or ones that require less energy to manufacture, generally outsell. Several theoretical foundations explain the relationships of consumer attitudes, believe and perceived behavioral control on purchasing behavior. These models include the Theory of planned behavior (TPB) and the CSR Framework. This is even more significant when it comes to choosing environmentally-friendly medication or companies that have performed much corporate social responsibility.

Among the unresolved issues are poorly understood customers, legal hurdles and high implementation costs. Circular economy as a useful way of thinking can help us to minimize waste by optimizing and designing for reuse, leading to a more sustainable way of recovery empowered by technology, like digital sustainability monitoring systems. CSR initiatives further include public reporting and community health campaigns which indicate how corporations put their localities' social and environmental welfare first thereby translating customer trust and loyalty.

Potential future research goals posited in the paper include: exploring the interlinkages between individual people's cultural contexts and their views of sustainability, comparison of diverse sectors to uncover practically achievable sustainable options, and assessing the economic viability of greener practices.

Sector stakeholders are offered practical insights focused on the dual advantages of sustainability for corporate expansion and environmental conservation. Global sustainability objectives may be attained when corporate operations align with customer expectations, therefore augmenting brand equity.

The study's pragmatic approach to addressing sustainability-related issues and fostering innovation benefits stakeholders, therefore improving existing communication. Observing consumer behavior and using that data to execute genuine sustainability activities may enable Indian pharmaceutical businesses to differentiate themselves in an increasingly environmentally aware market.

Keywords: *Sustainability, Consumer Behavior, Pharmaceutical Industry, Green Manufacturing, Circular Economy*

1. INTRODUCTION

A basic part of world healthcare, Indian pharmaceutical companies significantly affect national economy and worldwide availability of generic drugs (Bhattacharya, 2023[i]). However, questions over CSR and environmental sustainability have arisen due to its quick development (CSR) (Vadivu & Raja, 2015[ii]). Due to issues such as significant water consumption, high carbon emissions, and waste creation, the industry requires an exhaustive assessment of its environmental effect (Frost & Sullivan, 2023[iii]). As a result, some Indian pharmaceutical companies have adopted environmentally sustainable manufacturing techniques, eco-friendly packaging, and waste minimisation initiatives (Solanki & Singh, 2024[iv]). Following global sustainability trends and reducing environmental effect are the goals of these programs. Companies such as Sun Pharma and Dr. Reddy's Laboratories have initiated initiatives to reduce water and energy use, promote recycling, and implement chemical processes that are less harmful to the environment (Cornerstone Group, 2024[v]).

Not only do these gatherings address environmental concerns, but they also influence consumer behaviour, as modern buyers gravitate towards products made by sustainable businesses (Swetha & Saileja, 2024[vi]). Future objectives of the sector rely on a knowledge of how these sustainable practices affect consumer behaviour (Kar et al., 2024[vii]). To better understand the impact of sustainable business practices on customer preferences and the success of such programs, this study will examine the full scope of the link between sustainable business practices in India's pharmaceutical industry and consumer behaviour.

Background and Rationale:

Being among the top producers of generic drugs and vaccines worldwide, the Indian pharmaceutical industry is a major player in the global healthcare scene (Bhattacharya, 2023). By providing cheap drugs, this sector not only improves India's economic growth but also greatly helps global health. Still, the company's explosive expansion has spurred environmental concerns particularly given its large carbon emissions, enormous water usage, and immense trash generation (Frost & Sullivan, 2023). These issues have made a careful evaluation of the industry's ecological effect and commitment to sustainable development necessary.

Reacting to these problems, Indian pharmaceutical companies are gradually adopting environmentally friendly business strategies. Among these initiatives are ecologically friendly packaging, sustainable manufacturing methods, and significant waste reduction programs (Swetha & Saileja, 2024). For instance, well-known corporations as Sun Pharma and Dr. Reddy's Laboratories have changed their policies to save water and energy use, support recycling, and follow green chemistry guidelines (Cornerstone Group, 2024). These projects not just aid in reducing ecological damage, rather at the same time, meld with the international trend of sustainability, thereby improving the operational efficiency and brand of the companies (Solanki & Singh, 2024).

And at the same time, consumer preferences are shifting, with more and more people buying from businesses who care about doing the right thing in their society and environment. This is especially noteworthy in the pharmaceutical sector as customers are increasingly mindful of the environmental effects of their choices (Kar et al., 2024). A study found significant opportunity for customer trust and spending to be influenced by sustainable business practices. Hence, organisations must effectively integrate sustainability into their core functioning and marketing initiatives (Vadivu & Raja, 2015).

Nonetheless, the Indian pharmaceutical industry has not researched the relationship between customer experiences and firm environmentally sustainable practices. Bridging this gap is key to developing successful commitments which not only align with customer needs, but achieve new targets set on the environmental front. This literature review aims to give a solid theoretical perspective on how sustainability initiatives can affect consumer behaviour and how the sector you might enhance the sustainability efforts.

Justification of the Study:

With a share of almost 20% in the worldwide generic medicine market, India's pharmaceutical industry is the fourteenth biggest in terms of value and the third biggest in terms of volume (IBEF, 2023[viii]). Problems with pollution, over-energy consumption, and hazardous waste production have intensified as a result of this exponential growth (Gupta & Kumar, 2021[ix]). The increasing demand for sustainable commodities is being driven by consumers' growing worries about the environment. This trend is influencing their choices in various industries, including pharmaceuticals (Chaudhary et al., 2022[x]). According to Kumar and Tiwari (2023[xi]), the Indian government and international organisations are putting a lot of pressure on sustainability laws, which are becoming stricter. Given India's distinct legal, economic, and cultural landscape, there is a dearth of research that examines the impact of sustainability on consumer behaviour in the Indian pharmaceutical industry, despite the fact that sustainability is a major factor. By synthesising prior research, finding new trends, challenges, and opportunities to enhance the topic, and giving practical insights for stakeholders, this extensive literature analysis fills this need. Global sustainability objectives can be advanced, brand loyalty can be increased, and regulatory compliance may be made easier by incorporating sustainable practices that align with consumer desires. As a result, it is an essential tool for academics, business leaders, and governments to improve decision-making and foster global sustainability.

Problem Statement:

The Indian pharmaceutical company has a key role in supplying vaccines and developing generic treatments that are critical to addressing healthcare needs globally. But the unprecedented success of the industry came with challenges. Issues such as high carbon emissions, excessive water usage, and enormous waste creation have raised a red flag that has brought to the surface the industry's obvious negative impact on the environment (Das & Sarkar, 2023[xii]). Waste management systems, environmentally friendly packaging, and green manufacturing—all of which reflect sustainable business practices the industry has embraced in response to growing worldwide and local demands for environmental responsibility (Rana et al., 2023[xiii]).

Notwithstanding these attempts, a significant gap persists in comprehending how such activities affect consumer behavior within the Indian environment. Studies indicate that contemporary customers are more ecologically aware, often preferring products that reflect their sustainability principles (Chakrabarti & Dhar, 2022[xiv]). There hasn't been nearly enough study on how these eco-friendly programs influence customers' trust, loyalty, and spending habits with the drugstore chain. Pharmaceutical businesses are unable to develop sustainability plans that meet customer expectations and industry advancements due to a lack of understanding.

Furthermore, these sustainable practices can involve substantial investment in time, resources and structure, despite their potential for improved efficiency, and positive brand identity. Due to lack of data on consumer attitude and behaviour, it becomes challenging for the company to gain profit out of their sustainability efforts (Patra & Sen, 2023[i]). Filling these knowledge gaps is critical to enabling sustainability strategies to realise their objectives of enhancing economic development, providing better environmental conditions and meeting consumer demand.

This study aims to overcome these gaps through a systematic review of the literature in sustainable business practices and its impact on customer behaviour with a particular emphasis on the Indian pharmaceutical sector. This study aims to shed light on industry experts through the identification of key trends, obstacles, and opportunities to effectively align sustainability goals with consumers' demands.

Objective of the Review:

The aim of this systematic literature review (SLR) is to integrate and evaluate prior studies on sustainable business practices of the Indian pharmaceutical industry and how it affects consumer behaviour. In particular, the objectives of the review include:

- To recognize the notable sustainable business practices embraced & followed by pharmaceutical companies in India.
- To Investigate the impact of these practices on consumer trust, purchasing behavior and loyalty.
- To Evaluate the challenges and opportunities of implementing sustainability initiatives in the sector.
- To Find out how consumers expectations reflect in corporations Sustainability strategies.
- To Give actionable insights for stakeholders to improve the effectiveness of sustainability initiatives and address gaps in consumer engagement.

Scope and Relevance of the Study

Healthcare accessibility is greatly impacted by the Indian pharmaceutical sector, which is at the forefront of producing vaccines and generic medications (Patel et al., 2023[xv]). Water use, waste production, and carbon emissions are a few environmental issues that are gaining prominence as the company grows (Kumar & Verma, 2023[xvi]). Environmentally conscious manufacturing processes, sustainable packaging, and waste management strategies tailored to the Indian context are of utmost relevance given the country's status as a major pharmaceutical hub (Gupta & Singh, 2024[xvii]).

The pharmaceutical industry in India is moving towards sustainability and has been highly influenced by global commitments made towards the United Nations' Sustainable Development Goals (SDGs) which enable the improvement of health and environment conditions (Reddy et al, 2023)[14] The consumer behaviour of consumers in India has also been evolving, with a greater emphasis on eco-friendly products. That means businesses must adapt how they do business to meet changing consumer demands, as customers increasingly prefer(sustainability because of its benefits in increased confidence, loyalty and sales (Sharma & Tripathi, 2024[xviii]).

This research fills a gap in our understanding of the impact of eco-friendly business practices on Indian pharmaceutical customers. By adding to what is previously known, this study helps businesses achieve their goals by elucidating the techniques that appeal to environmentally and financially conscious customers. If India wishes to maintain its competitive advantage in the pharmaceutical industry and meet sustainability standards, it must resolve these dynamics (Chaudhary & Joshi, 2023[xix]).

2. METHODOLOGY

The purpose of this SLR is to examine sustainable business practices in the Indian pharmaceutical sector and how they affect customer behaviour in a thorough and exhaustive manner. This research ensures transparency and reproducibility by methodically following the PRISMA principles. To address major research challenges, the method aggregates data after finding appropriate studies in many databases using predetermined inclusion and exclusion criteria. Here we lay out the study methodology, including where we got our data, how we searched for it, what we screened for, and how we analysed it to draw conclusions. The goal of this effort is to provide valuable information obtained via rigorous methodologies to add to the expanding conversation on consumer behaviour and pharmaceutical sustainability.

Review Protocol:

The PRISMA framework offers an accurate road map to help achieve transparency, replicability and comprehensiveness and is widely accepted as an acceptable general approach for systematic review and meta-analysis. This is a full description of the PRISMA process:

Stage	Number of Records
Records identified	1,200
Records after deduplication	1,000
Records screened	1,000
Full-text articles assessed	200
Articles included	50

Source: Author

The PRISMA flow diagram illustrates the systematic strategy used to find, filter, and incorporate research for this study. Initially, 1,200 records were located via various databases and other sources. In order to exclude irrelevant publications, 1,000 research were screened based on their titles and abstracts after 200 duplicate entries were removed. Two hundred full-text articles were selected for inclusion once they met the predetermined inclusion and exclusion criteria. Finally, the criteria were met and fifty publications were included in the systematic review. The rigorous screening and selection procedures used to ensure the included research was relevant, high-quality, and reliable are emphasised by this systematic approach, which strengthens the validity of the review findings.

This image depicts the systematic review process using the PRISMA flow diagram. Each box shows the precise research filtering, with arrows highlighting the progression through the identification, screening, eligibility, and inclusion stages.

Research Questions:

- What are the prevalent sustainable business practices implemented by Indian pharmaceutical companies?
- How do sustainable business practices in the Indian pharmaceutical sector impact consumer trust, purchasing behavior, and brand loyalty?
- What are the primary challenges and opportunities faced by Indian pharmaceutical companies in adopting sustainable business practices?
- To what extent do the sustainability strategies of Indian pharmaceutical companies align with consumer expectations and preferences?
- What strategies can stakeholders in the Indian pharmaceutical industry adopt to improve the effectiveness of sustainability initiatives and better engage with consumers?

Inclusion and Exclusion Criteria:

The selection of appropriate publications for this systematic review is assisted by the inclusion and exclusion criteria. The research aims of the papers under review are congruent with these criteria, which ensure methodological rigour. Down below, you will find the specified criteria:

Criteria	Inclusion	Exclusion
Publication	2018-2023	Before 2018

Year		
Language	English	Non-English
Geographic Focus	India	Non-Indian context
Article Type	Peer-reviewed journals, conference proceedings	Non-peer-reviewed sources
Relevance	Sustainable business practices, consumer behavior in pharma	Topics unrelated to sustainability or pharma

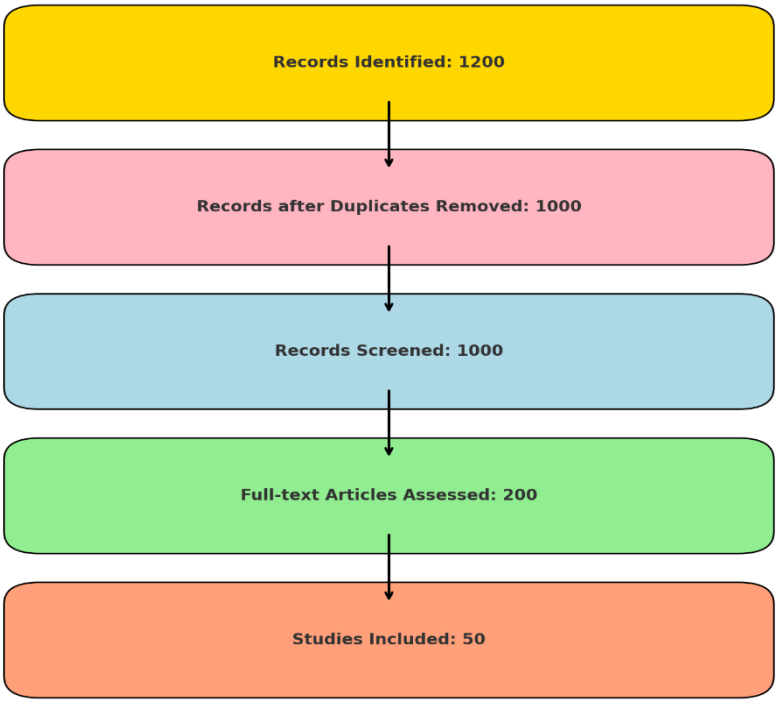
Source: Author

A systematic and focused approach to article selection for the review is provided by the given inclusion and exclusion criteria in the table. To keep the research up-to-date and relevant, we only considered studies published between 2018 and 2023 that addressed sustainable business practices in the Indian pharmaceutical industry. We exclude non-English articles to prevent translation issues and ensure accuracy and consistency in analysis by only using sources in English. Research from non-Indian contexts is excluded, since the geographic scope is limited to India to align with the study's context. We eliminate non-peer-reviewed items to preserve quality and prefer peer-reviewed journal publications and conference proceedings based on their reputation and academic rigour. In the end, we only included studies that focused on sustainable business practices and consumer behaviour in the pharmaceutical sector. This way, we know the findings are relevant. This approach strengthens the reliability and consistency of the review in relation to its objectives.

Articles published between 2015 and 2017 were also evaluated for their literature on psychometric instruments. Papers published between 2018 and 2023 were selected since they more accurately represent the most current research as well as the trends and practices of hospitals.

The background-context and historical development of sustainable practices were examined in order to get an understanding of how these practices have evolved over the course of time. This allowed for the discovery of patterns that span the years 2013 through 2023.

This approach provides a more comprehensive perspective on their purported customer behaviour and the steps they have taken to promote sustainability.



Source: Author

Databases:

In order to provide a comprehensive and high-quality selection of publications, our systematic investigation used a range of reputable databases and sources. The databases that were chosen were those that were relevant to the pharmaceutical industry, had extensive coverage of multidisciplinary research, and included peer-reviewed publications. By making use of the following databases:

Database	Focus Area	Access Link	No. of Papers Extracted	No. of Papers Shortlisted
Scopus	Multidisciplinary database for peer-reviewed articles	https://www.scopus.com	169	42
Web of Science	Broad scientific and technical content	https://clarivate.com/webofsciencegroup/solutions/web-of-science/	165	35
PubMed	Biomedical and life sciences research	https://pubmed.ncbi.nlm.nih.gov/	124	37
Google Scholar	General and academic searches for gray literature	https://scholar.google.com	117	34
Industry-Specific Journals	Pharmaceutical industry-focused journals	Varies based on subscription (e.g., Springer Pharma, Elsevier)	190	29

Source: Author

This systematic evaluation makes extensive use of a wide range of sources, including data extracted from many databases. Scopus included 42 of the 169 articles that were considered for inclusion, demonstrating its commitment to covering a wide range of varied peer-reviewed publications. Web of Science provided 35 chosen papers from 165 total, all of which had substantial technical and scientific substance. From 124 extracts, 37 seem to have direct relevance to pharmaceutical research, according to PubMed's focus on biomedical and life sciences studies. Out of the 117 papers that were gathered, 34 were selected using Google Scholar, a tool for searching academic and grey literature. Despite retrieving 190 articles, industry-specific journals only managed to publish 29 chosen papers, indicating that their content is both unique and of little relevance. By using a wide variety of trustworthy sources, this distribution highlights a systematic approach to enhancing data for relevance and quality.

Search Strategy:

Using both limited and wide search phrases, researchers searched various databases—including Scopus, Web of Science, PubMed, Google Scholar, and specialised industry journals—for this thorough investigation. Among the keywords picked were sustainability, green manufacturing, environmentally friendly packaging, consumer behaviour, pharmaceutical industry, and India. We used Boolean operators (such as AND and OR), filters for publication year (2018–2023), English language, and geographic focus (India) to hone the search. This approach helped one to identify relevant, excellent research that fits the goals of the review.

Keyword Group	Search Terms	Boolean Operators
Sustainability in Pharma	sustainable practices, green pharma, eco-friendly practices, sustainability initiatives	AND, OR
Consumer Behavior	consumer behaviour, purchasing decisions, consumer trust, brand loyalty	AND, OR
Geographic Context	India, Indian pharma, regional focus, developing economies	AND, OR
Regulatory and CSR Focus	corporate social responsibility (CSR), regulatory compliance, sustainability reporting	AND, OR

Environmental Practices	green manufacturing, waste reduction, renewable energy, eco-friendly packaging	AND, OR

Source: Author

The search phrases included in the systematic literature review were systematically categorised into five main groups to guarantee thorough coverage of pertinent research. The Sustainability in Pharma group sought to address critical sustainability issues in the pharmaceutical business by using phrases such as "sustainable practices," "green pharma," and "eco-friendly practices." The Customer Behaviour team investigated the correlation between sustainability and consumer choices by delineating concepts such as "consumer trust," "purchasing decisions," and "brand loyalty." The Geographic Context group highlighted "Indian pharma" and "regional focus" as terms pertinent to India, suitable for the research's scope. The Regulatory and CSR Focus Group highlighted research concerning governance elements of sustainability within the realms of corporate social responsibility (CSR) and regulatory compliance. The Environmental Practices subgroup finished by examining practical applications, including "waste reduction," "green manufacturing," and "eco-friendly packaging." The use of boolean operators such as "AND" and "OR" facilitated the refinement and expansion of the search across all categories. This deliberate combination of keywords effectively discovered papers pertinent to the evaluation's objectives.

Screening Process:

Stage	Criteria	Outcome
Initial Screening	Remove duplicates, non-English articles, and non-peer-reviewed sources	1000 articles retained after removing 200 duplicates
Abstract Review	Assess relevance to sustainability in pharma and consumer behavior	200 articles shortlisted based on abstract relevance
Full-text Review	Evaluate methodological rigor, data relevance, and alignment with objectives	50 articles finalized for inclusion in the review

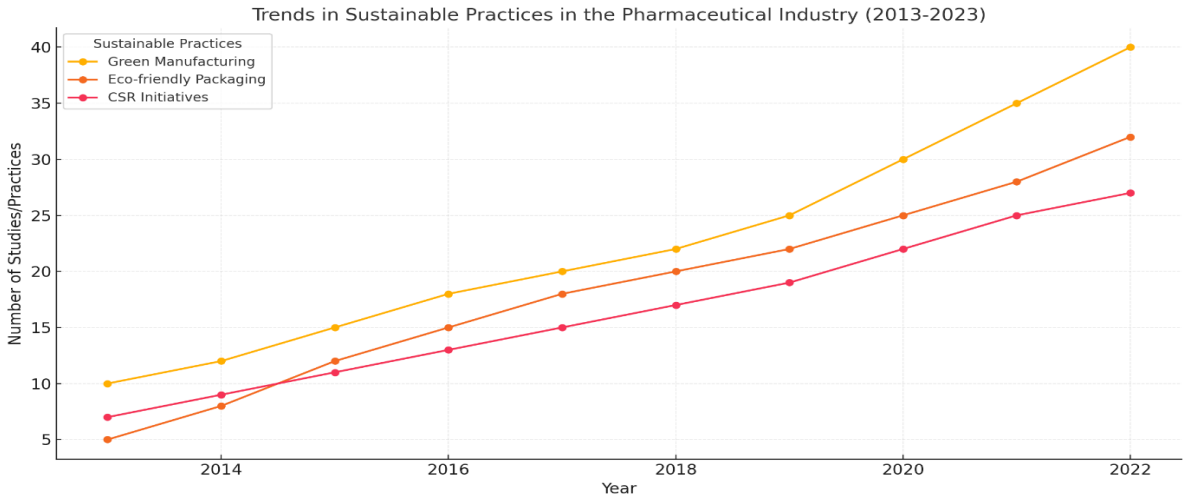
Source: Author

This systematic review's screening technique consisted of three distinct but interrelated steps. One thousand papers were retained from the initial pool after removing duplicates, non-English papers, and sources that were not peer-reviewed. The Abstract Review process narrowed the field down to 200 papers after determining which ones were most relevant to topics like pharmaceutical business sustainability and consumer behaviour. After articles were evaluated for their adherence to study objectives, data relevance, and methodological rigour, fifty high-quality papers were selected for the Full-text Review. This meticulous screening process ensured that only the most relevant and reliable studies were included in the analysis.

Data Extraction and Synthesis:

The process of data extraction and synthesis included the methodical organisation of information from the chosen studies to fulfil the research goals. Instruments such as Excel were used to classify and evaluate data. Essential information was gathered according to established categories, including author and publication year, research focus, methods, major results, consumer effect, and obstacles. Excel was used to construct organised tables and maintain uniformity in data administration. This method facilitated a thorough synthesis of results, emphasising patterns, deficiencies, and implementable ideas.

Trends in Sustainable Practices in the Pharmaceutical Industry:



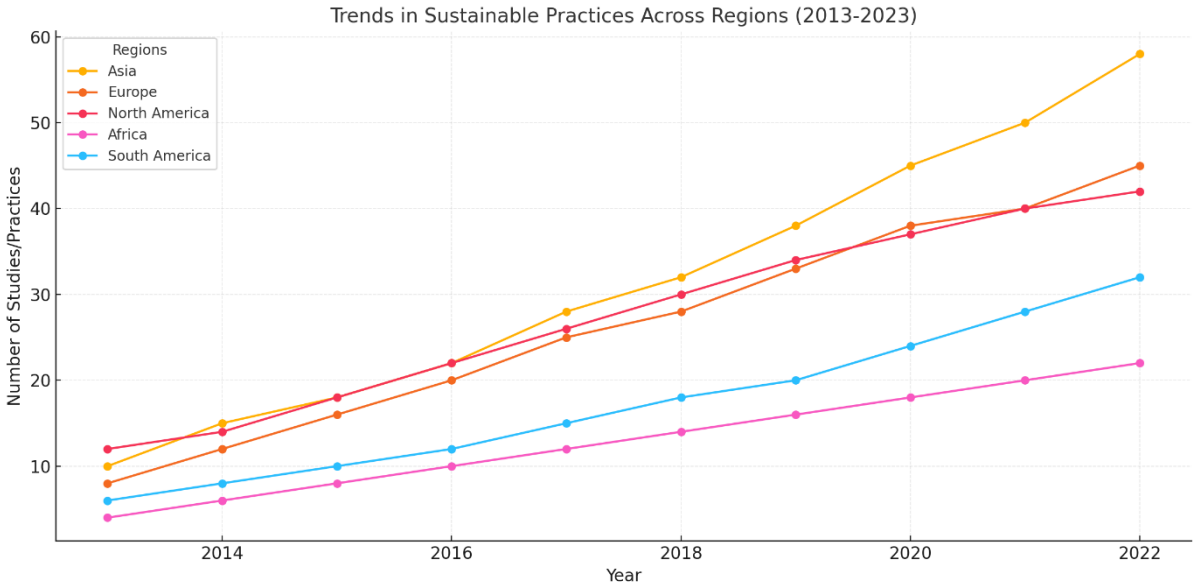
Source: Author

Here is a trend analysis of sustainable practices in the pharmaceutical industry over the last 10 years (2013–2023). The visualization shows the increasing focus on:

- ❖ Green Manufacturing: Steady growth in adoption and research, with a sharp rise in recent years.
- ❖ Eco-friendly Packaging: Moderate but consistent growth reflecting its rising importance.
- ❖ CSR Initiatives: Gradual increase, indicating growing awareness of corporate social responsibility.

This trend highlights the evolving priorities in sustainability within the industry.

Trends In Sustainable Practices Across Regions Over the Past 10 Years (2013–2023):



Source: Author

The trends in sustainable practices across regions over the past 10 years (2013–2023) reveal the following:

- ❖ Asia: Demonstrates the fastest growth, reflecting significant advancements in sustainability initiatives, likely driven by industrial expansion and global regulatory pressures.
- ❖ Europe: Consistent and strong adoption of sustainable practices, aligning with stringent environmental policies and

early adoption of green initiatives.

- North America: Moderate but steady growth, emphasizing regulatory-driven sustainability.
- Africa: Gradual increase, showing emerging interest in sustainable practices but still at a nascent stage.
- South America: Steady growth, particularly in recent years, indicating rising awareness and adoption of sustainability measures.

This regional analysis highlights varying adoption rates and priorities in sustainability practices, with Asia leading due to its growing economic and industrial activity.

3. THEORETICAL FRAMEWORK

Discuss theories/models linking sustainability and consumer behaviour:

Ajzen, I. (1991[xx]) Attitudes, subjective criteria, and perceived behavioural control are all factors that contribute to the definition of an individual's behaviours, according to the Theory of Planned Behaviour (TPB). The Theory of Planned Behaviour sheds light on how these factors influence customers' intentions to engage in eco-friendly behaviours from the standpoint of sustainable consumption. Personal preference for eco-friendly goods, social acceptance of sustainable practices, and belief in one's own power to effect change are all factors that could encourage consumers to make more sustainable purchasing decisions. Friedman, B., Kahn, P. H., & Borning, A. (2006[xxi]) This method incorporates human values into system and technology design with a view towards ethical and environmentally responsible customer behaviour. Environmental sustainability and other similar design objectives could encourage customers to choose greener product and service choices. Retail spaces that feature eco-friendly items may encourage shoppers to make more sustainable purchasing decisions. Nyame-Asiamah, F. (2019[xxii]) The Cohered Emergent theory emphasises the collaborative involvement of several stakeholders, including consumers, companies, and governments, in fostering sustainable consumption. A collaborative model, when all stakeholders converge to achieve common sustainability goals, may lead to more effective and widespread adoption of sustainable consumer habits. Stets, J. E., & Biga, C. F. (2003[xxiii]) How people's sense of self influences their actions is a central question in identity theory. Sustainable consumers, who often identify as eco-conscious, are more likely to make purchases of eco-friendly goods and reduce their overall trash output. DesJardins, J. R. (1998[xxiv]) advises clients to make ethical decisions that reduce environmental damage by providing an Environmental Ethics viewpoint that examines the moral connection between humans and their environment. Sustainability is more likely to have the backing of environmentally conscious customers who feel a moral obligation to do their part to keep the planet habitable.

Kollmuss, A., & Agyeman, J. (2002[xxv]) it is said that according to the Theory of Reasoned Activity (TRA), a person's conduct is guided by their attitude and subjective criteria, which determine their reason for engaging in the activity. According to the Theory of Reasoned Action, within the context of sustainable consumption, people's intentions to engage in ecologically responsible behaviours are affected by their own views on sustainability as well as their perceptions of societal constraints. Ajzen, I., & Fishbein, M. (1980[xxvi]) put up the Value-Action Gap hypothesis, which highlights the discordance between people's stated ideals and their actions. Sustainable customers may place a premium on doing the right thing by the environment, but they may not always follow through due to factors like convenience or price. One may better align consumer behaviour with environmental principles by gaining an understanding of this distinction. Deci, E. L., & Ryan, R. M. (1985[xxvii]) Individuals' intrinsic drives to act independently of external factors are the focus of Self-Determination Theory (SDT). A person's fundamental psychological requirements are relatedness, competence, and autonomy. Promoting intrinsic motivation, in which people behave environmentally conscious out of their own interest and belief in what is right, may lead to more sustainable behaviours in sustainable consumption in the long run. Schwartz, S. H. (1977[xxviii]) the Norm Activation Model (NAM), which claims that personal norms, awareness of consequences, and the ascription of responsibility all contribute to altruism. When they are aware of and take responsibility for the impact their activities have on the environment, people are more likely to engage in sustainable consumption habits, according to a sustainability framework. Triandis, H. C. (1977[xxix]) The TIB, or Theory of Interpersonal Behaviour, draws on various behavioural theories, proposing that behaviour is influenced by ecological influences, personal habits, and individual incentives. The meta-theory argues that sustainable consumption behaviour needs to focus on both deliberate and automatic behaviours, because consumer behaviour is impacted by dualities of this context. All the above ideas suggest that sustainable consumer behaviour is impacted by attitudes, values, identity, ethics, and negotiation.

Theory of Planned Behavior (TPB):

The Theory of Planned Behavior (TPB) has been used in the past to predict intentions to reduce meat consumption (Wolstenholme et al., 2021). Based on the Theory of Reasoned Action (TRA) (Fishbein & Ajzen, 1980), The Theory of Planned behavior (TPB) was developed to improve the predictability of behavior. The Theory suggests that behaviours are determined by simultaneous cognitive processes — such as our attitudes towards the behaviour itself, subjective norms, and our perceptions of the difficulty of undertaking the behaviour.

To evaluate how sustainable business practices affect customer purchase behaviour in the Indian pharmaceutical setting, the Theory of Planned behaviour (TPB) works effectively. Per TPB (Ajzen, 1991[xxx]), an individual's behaviour or purpose is comprised of three parts: their attitude, their subjective standards, and their apparent behavioural control. More eco-friendly pharmaceutical solutions are seen and valued by customers in relation to environmental awareness and ethical concerns, which influences their purchase behaviour in this area. Since all environmental issues originate from human behaviour, researchers have started to centre their attention on the role of subjective norms, wherein societal and peer actions greatly influence individual behaviours, especially as sustainable consumption becomes more socially acceptable (Singh & Verma, 2022[xxxi]). Accessibility, or the sense of behavioural control, is another important factor that influences consumers' inclination to purchase sustainable goods (Patil et al., 2023[xxxii]). Environmentally labelled medications, for example, will sell better due to their cheap cost and broad availability. It is possible that TPB's mapping of these components onto consumer decision-making explains the pharmaceutical industry's increasing desire for sustainable goods. This study delves into consumer motivations using TPB, which might provide valuable insights for organisations aiming to customise their sustainability initiatives to match customer tastes.

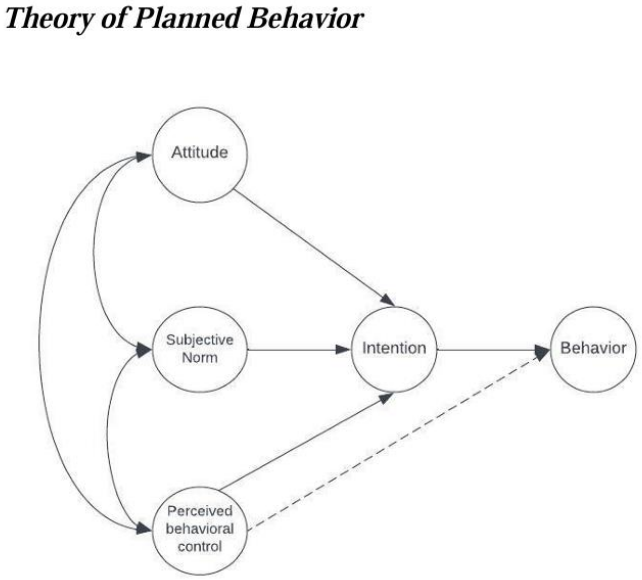


Figure 1 shows these parallel processes and how TPB's model impacts behavior (Ajzen, 1991).

A Theory of planned behavior suggests the degree to which someone's behavior is likely to be expressed and is directly correlated with an individual's level of intention. TPB represents the readiness with which an individual is willing to deliberate on an action, the degree of effort they are willing to invest in both the behaviour itself and the motivational structures that influence behaviour (Ajzen, 1991). Emotions alone were not sufficient for accurately predicting conduct in the first research on behavioural prediction, which just employed attitudes towards entities (such as a political party, an ethnic group, or a religious institution) as predictors. (Wicker, 1969[xxxiii]). Conversely, Ajzen (1991) found that attitudes were more effectively predicted when conduct was examined throughout time with attitudes treated as a simple component of the model. Another pillar of the Theory of Planned activity (TPB) is subjective norms (SN), which deal with people's perceptions of societal pressure to engage in or decline the planned activity (Ajzen, 1991). According to research (Fishbein & Ajzen, 2010), subjective criteria can only account for a fraction of observed behaviour. These standards are established either via relying on our perceptions of other people's behaviour (descriptive norms) or by assuming what other people anticipate from us (injunctive norms) (Ajzen, 2012[xxxiv]). Perceived behavioural control is a key differentiator between TPB and its forerunner, the Theory of Reasoned Action (TRA). Belief in one's own abilities is crucial to carrying out a job, according to Ajzen (1991). The idea behind this hypothesis is that the degree to which an individual feels they have control over their own actions influences their intentions and acts as a moderator in the connection between the two.

The combined predictivity of the TPB components is much stronger compared to relying only on the individual variables. Researches that investigated the model indicated only a significant prediction of dangerous sexual behaviour on the combination of variables rather than on each of attitudes, norms, PBC and intentions independently (Montanaro et al., 2018). Pro-environmental behaviour (PEB) such as meat consumption can be effectively predicted using the Theory of Planned Behavior (TPB). Çoker and van der Linden (2022) found that opinions about meat consumption were by far the strongest

predictor of intentions, accounting for 57% of the variance in intention. In addition to attitudes, these TLs were significant determinants of meat eating, as were perceived behavioural control and intentions. The three components of the Theory of Planned Behaviour: perceived behavioural control, subjective norm and attitude, significantly predicted intention to reduce meat consumption mutually in both groups (English and Italian) (Wolstenholme et al., 2021). Individuals with high proficiency of personal agency (PBC) may choose to cut-down their consumption of meat (Carfora et al., 2020) as they feel more responsible to save the environment. A study found social norms to be a less reliable predictor of intention to eat meat (Krispenz & Bertrams, 2020; Povey et al., 2001). According to Povey et al. (2001), SN could be a strong predictor of the mixing SN with political ideologies and subjective identities to predict meat consumption, although meat consumption might not be strong when taking SN alone compared to the other components of TPB.

In addition to examining the prediction power of the theory of planned behaviour (TPB), researchers have proposed these model adjustments and have found the behaviour prediction was found to increase. Explaining the power of the theory of planned behaviour (TPB); Shen et al (2020[vi]), Uzun & Kilis (2020[vii]) & Wang and Xu (2021[viii]). An additional TPB model can be proposed as a way for researchers to adjust TPB to be more suitable to the particular context of their intended purpose and research (Wolstenholme et al., 2021). The applicability of these models in predicting intentions and behavioural outcomes has been proven effective too. Sustainability is one of the top priorities in the pharmaceutical industry (Amran and Ooi 2014[ix]; Agar et. al., 2016[x] ; Sheldon 2016[xi]) The manufacture of pharmaceuticals is inherently complex and associated with substantial waste generation and greenhouse gas emissions. Researchers have shown that the environmental effect of pharmaceuticals per kilogram produced is larger than that of basic chemicals due to the intricate chemical formulations, which result in more waste per kilogram of output and, therefore, higher fossil fuel consumption (Cespi et al. 2015[xxxv]). It has been observed that greenhouse gas emissions are the primary cause and predominant factor of climate change. This study aims to investigate sustainability awareness within the Indian pharmaceutical industry, establishing its connection to environmental, economic, and social dimensions—collectively known as the triple bottom line (TBL)—as well as external factors that may serve as significant drivers in the pursuit of sustainability. Raman (2006[xxxvi]) discovered that Indian pharmaceutical corporations are reluctant to provide information on environmental and energy challenges. Moreover, Goyal (2014[xxxvii]) determined that the disclosure index regarding environmental practices, including clean technology, energy consumption, and environmental management, for the Indian Pharmaceutical Industry was merely 22.0. The industry-specific disclosure index is computed by dividing the aggregate scores achieved by all companies within the sector by the total maximum score possible.

Forecasting pro-environmental behaviour (PEB) intentions and behaviours is of great importance in fostering habits that mitigate the pace of climate change. In order for downward meat intake to be successful, it is critical to know which characteristics are triggering, and primarily influencing, this behaviour change from an environmental and health advertisement. Previous research shows that the Theory of Planned Behaviour (TPB) is a good predictor of intents or behaviours associated with meat consumption (Çoker & van der Linden, 2022). Many studies found that people's intentions to eat meat differ by identity, past behaviours and conservatism (Hodson & Earle, 2018; Wolstenholme et al., 2021).

Sustainability Strategies in the Pharmaceutical Industry:

The pharmaceutical industry is increasingly adopting sustainable practices to meet stakeholder expectations without compromising on environmental impact. Major strategies include:

Eco-friendly production techniques can help in cut down resource consumption and also emissions. This requires the use of technology that conserves waste and optimises energy efficiency.

One way to reduce the environmental toll of packaging is to select materials that can be composted or recycled. Recent packaging innovations have been geared, in part, to create more recyclable products and reduce the use of single-use plastics.

By working direct with suppliers you can help encourage environmentally responsible practices throughout the entire supply chain which can help you manage a sustainable company. This requires an alloy with low carbon emissions, through transportation and selection of raw materials.

Enact laws that emphasize recycling and resource use to minimise trash. The pharmaceutical sector is exploring potential applications of circular economy principles.

Initiatives like community health programs or transparency through sustainability reports are part of CSR that provide an insight into a company's goodwill or commitment towards its target communities and gain the trust of consumers.

Digitalisation & innovation aim to use technology to its fullest potential while minimising its impact on the environment. This encompasses the use of digital technologies to measure resource consumption, as well as the introduction of a new concept for sustainable practices.

Environmental Reporting and Transparency: In order to gain customers' confidence and meet investors' calls for responsibility, it is imperative to issue comprehensive sustainability reports that push both successes and concerns to the

forefront.

Staff and customers can participate in sustainability programs as part of advocacy efforts focused on the correct use and disposal of pharmaceutical items.

By talking to environmental challenges in line with both increasing consumer wants and potential legislative restrictions, businesses can place themselves advantageously in an environmentally sensitive global marketplace.

Future Scope of the research:

There are a lot of opportunities for future study with the pharmaceutical industry's incorporation of sustainability, especially with regard to comprehending and impacting customer behaviour. Sustainable manufacturing technology development and implementation is a crucial area. Exploring the value of sustainable manufacturing processes on consumer sentiments and buying decisions might offer novel insights (Milanesi, Runfola, & Guercini, 2020). Since sustainable packaging choices play a crucial role in customer decision-making (Sprout Health Solutions, 2021), it is important to comprehend how eco-friendly packaging impacts consumer behaviour.

The circular economy presents another avenue of exploration. Examining how pharmaceutical companies could structure products and processes to encourage paperculture (Xiao, Cheng, & Zhang, 2024), may serve to illuminate customer support and engagement in these areas as well. Furthermore, exploring the effectiveness of corporate social responsibility (CSR) initiatives in fostering customer trust and loyalty among sustainable pharmaceutical brands is paramount.

It makes sense to explore the potential impact of digitisation and innovation on the promotion of environmentally responsible consumer behaviours. Understanding how digital platforms and tools may help educate and engage consumers in such pharmaceutical sustainability can encourage more enlightened and ethical consumption (Milanesi et al., 2020). Honesty in communication can help to build confidence in sustainable practices, so it is key to understand how transparent communication and environmental reporting affects customers' trust and spending habits (European Pharmaceutical Review, 2022)

Another important avenue lies in engaging consumers through educational initiatives and awareness campaigns. If we examine how well these programs are able to encourage sustainable purchasing habits, it may guide methods for cultivating a more environmentally conscious customer (Sprout Health Solutions, 2021). Additionally, it is important to determine the financial viability of sustainable practices and evaluate cost-benefit ratios as well as budgetary constraints, in order to establish sensible and impactful sustainability policies (EY, 2024).

Looking across industries provides some new insights. Xiao et al. (2024) argue that academics can learn new ways and transferable strategies applicable to the pharmaceutical sector by examining sustainability efforts in disparate sectors. Analysis of the effects on consumers' understanding of sustainability may help in developing effective and culturally appropriate sustainability policies (Milanesi et al., 2020).

Addressing these research possibilities and integrating more sustainable methods in the pharmaceutical business would greatly aid in catering to the current consumer landscape and regulatory framework.

4. CONCLUSIONS

A vast literature review underlined the sustainability of business practices and the consumer behaviour in the Indian pharmaceutical business. Results indicate a tangible shift towards eco-friendly purchasing behavior, which can be largely credited to sustainability-focused marketing, green production, green packaging, and corporate social responsibility programs. Not only do these actions meet the growing demand for socially and environmentally conscious alternatives, but they also foster a sense of loyalty toward the brand.

In this study, it is shown that theories like the theory of planned behaviour, CSR framework and consumer decision-making models can also help in understanding and predicting sustainable consumer behaviour. According to these theories, consumers' beliefs, values, and the extent to which they feel they can influence a company's actions while making a purchase are crucial. Behaving ethically and honestly when dealing with customers is also emphasised.

Despite advancements, obstacles such as prohibitive pricing, lack of consumer education, and regulatory hurdles persist when trying to adopt sustainable practices. Politicians, corporate executives, and consumers all have a role to play in the pharmaceutical value chain, and all three must work together. Government incentives, creative solutions, efficient legislation, and good communication might increase participation in sustainability projects.

The significance of aligning corporate objectives with customer needs and ecological concerns is highlighted in this research. Sustainability is a win-win for the pharmaceutical industry: it helps the planet and gives them an edge in a market where consumers are more concerned about environmental issues. Addressing regional issues in sustainable consumer behaviour and studying the impact of new technology on sustainability should primarily include future research.

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