Strategic Analysis of Sun Pharmaceutical Industries Limited: An Exploratory Case Study of Healthcare Innovation, Ethical Practices, and Business Transformation

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Area/Section: Business Management.
Type of the Paper: Case Study-based Exploratory Research.
Number of Peer Reviews: Two.
Type of Review: Peer Reviewed as per |C|O|P|E| guidance.
Indexed in: OpenAIRE.
DOI: https://doi.org/10.5281/zenodo.17075501
Google Scholar Citation: PIJTRCS

How to Cite this Paper:
Greeshma, Isha & Aithal, P. S. (2025). Strategic Analysis of Sun Pharmaceutical Industries Limited: An Exploratory Case Study of Healthcare Innovation, Ethical Practices, and Business Transformation. *Poornaprajna International Journal of Teaching & Research Case Studies (PIJTRCS), 2*(2), 192-224. DOI: https://doi.org/10.5281/zenodo.17075501

Poornaprajna International Journal of Teaching & Research Case Studies (PIJTRCS)
A Refereed International Journal of Poornaprajna Publication, India.

Received on: 28/07/2025
Published on: 08/09/2025

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ABSTRACT

Purpose: *The purpose of this scholarly paper is to conduct an in-depth strategic analysis of Sun Pharmaceutical Industries Ltd., focusing on its innovation capabilities, ethical practices, and business transformation. Through an exploratory case study approach, the paper aims to bridge theoretical business concepts with real-world strategic decisions within the pharmaceutical sector. By evaluating financial data, market dynamics, and operational models, the study seeks to generate evidence-based insights to inform strategic decision-making and long-term growth planning.*

Methodology: *This analysis employs an exploratory qualitative research approach to gather and analyze relevant data. The information is sourced through keyword-based searches using Google Search, Google Patent Search, Google Scholar, and AI-driven GPT models. The collected information is then systematically analyzed and interpreted in alignment using various company analysis frameworks, including SWOC analysis, ABCD analysis, as per the study's objectives*

Results & Analysis: *The analysis reveals that Sun Pharmaceutical Industries Ltd. demonstrates strong financial stability, innovation in AI integration, and a competitive edge in global generics and specialty drugs. However, challenges such as high operational costs, regulatory burdens, and limited proprietary AI infrastructure remain significant. To sustain its market leadership and align with future healthcare demands, the study suggests enhancing digital transformation, expanding ethical AI capabilities, and adopting a patient-centric innovation model to improve stakeholder engagement and long-term value creation.*

Originality/Value: *This scholarly article offers original value by combining multiple analytical frameworks—such as SWOT, ABCD, and financial analysis—to holistically assess Sun Pharmaceutical Industries Ltd.'s strategic direction. It uniquely integrates the perspectives of healthcare innovation, ethical governance, and global business transformation within a single case study. The paper contributes to academic literature by providing actionable insights for scholars and practitioners interested in emerging market leadership and sustainable pharmaceutical strategies.*

Type of Paper: *Exploratory Case Study.*

Keywords: Company analysis, Sun Pharmaceutical Industries Ltd, SWOC analysis, ABCD analysis, Financial Analysis, Market Analysis.

1. INTRODUCTION :

Company analysis, when used as a case study in exploratory research, serves as a powerful mechanism for understanding complex organizational phenomena within their real-world context. This method allows researchers to bridge the gap between theory and practice (Eisenhardt (1989) [1]) offering a

nuanced view of managerial challenges and strategic decisions. By situating the analysis within a specific company, researchers gain access to rich, contextualized data that are often unattainable through broader quantitative approaches. Such depth is especially valuable in uncovering emergent themes, patterns, and underlying mechanisms that influence organizational behaviour and performance

The importance of company analysis lies in its capacity for hypothesis generation and theory development. Exploratory case studies generate insights that inform subsequent research efforts (Benbasat et al., 1987 [2]). When organizational boundaries are unclear or novel phenomena emerge, researchers benefit from flexible, inductive methodologies that uncover unexpected relationships, for instance, (Aithal and Sreeramana (2017) [3]). demonstrated that focused company analyses yield deeper insights than broader industry studies, making them instrumental in developing comprehensive theoretical frameworks for business management. In terms of impact, company case studies contribute meaningfully to both academic discourse and practical strategy. Findings derived from rigorous case analysis can guide managerial decision-making and organizational change initiatives (Modapothala & Issac, (2014) [4]). For example, exploratory research in small and medium enterprises in India showed how qualitative methods informed strategy refinement and communication improvements. Similarly, data-driven exploratory studies in corporate environmental reporting linked stakeholder engagement and sustainability outcomes Subsequent sections—literature review, methodology, analysis, and discussion—build on this foundation, ensuring that the exploratory nature of the research aligns with both theoretical development and empirical rigor (McGovern (2020). [5]), emphasizes how well-designed workplace case studies contribute to theory-building in social science disciplines by integrating theory with rich empirical This level of detail is critical for unpacking dynamic processes and stakeholder behaviours in their natural settings.

The exploratory nature of company case studies is especially pivotal for hypothesis generation and concept formulation. frames exploratory research as a purposeful, systematic effort to discover generalizations and novel insights. (Flyvbjerg, (2013) [6]) clarifies that rigorous case studies produce "exemplars" that strengthen theoretical frameworks, despite common misconceptions about generalization. Moreover, Maes et al. (2013) [7] applied such methods to investigate the development of IT business cases, successfully extending existing models and identifying process steps beyond the established framework. In practical terms, exploratory case studies have a significant impact on managerial strategy and innovation. an exploratory approach to refine business case development in IT investments (Kwon and Park (2023) [8]) explored the success factors in corporate foresight among Korean material firms, demonstrating how such insight can guide strategic decision-making in volatile environments Structurally, exploratory case studies follow a staged process: identification of research questions, selection of contextually relevant cases, multi-source data collection, iterative coding and theme emergence, triangulation for validity, and theory-building. Crowe et al. (2011) [9] elaborate on qualitative case design, linking data collection, analytic rigor, and reporting to research BMC Medicine's review highlights how case studies can specify conditions for causal inference in complex interventions. Pilot cases also serve to refine research variables before larger investigations (Paparani et al. (2020). [10]).

2. ABOUT SUN PHARMACEUTICAL LTD :

2.1 Background on Sun Pharmaceutical Limited:

The company's internationalization strategy has been driven by a combination of market access, technology acquisition, and regulatory alignment (Sundarakani & Manikandan, 2018, [11]). This global presence has enabled Sun Pharma to leverage economies of scale, diversify risk, and remain resilient amid shifting regulatory and market dynamics. Sun Pharmaceutical Industries Ltd. has demonstrated strong financial resilience through systematic ratio analysis, as evidenced in the comparative study by Shah (2020) [12] investigates the key financial and operational determinants influencing profitability at Sun Pharma, highlighting factors such as firm size, operating efficiency, and capital structure. Their empirical findings suggest that strategic management of resources and scale advantages significantly impact the company's overall profit margins. Sathya and Vijayakumar (2016) [13] analysed Sun Pharma's acquisition of Ranbaxy as a strategic financial move aimed at expanding global reach and strengthening market leadership. It highlights how the $3.2 billion merger transformed Sun Pharma into the world's fifth-largest generic drug manufacturer, while also addressing post-merger challenges such as regulatory compliance and integration risks (Khurana et al. (2015). [14]). Sun Pharmaceutical

Industries Ltd. has been recognized for its strong financial stability through Altman's Z-Score analysis, as highlighted by Sharon (2022) [15]) indicating low bankruptcy risk. Mishra et al. (2023) [16] examined the company's five-year financial growth, noting substantial increases in revenue, profitability, and EPS. Irvine (2022) [17] emphasized Sun Pharma's global presence, supported by its U.S. subsidiary, which strengthens international operations. The strategic appeal for portfolio managers was explored by Mohapatra et al. (2022) [18]) who praised the firm's diverse offerings and R&D focus. Verma and Jha (2021) [19] applied Markov Chain modeling to track share trends during COVID-19, revealing volatility and post-pandemic recovery. Collectively, these studies portray Sun Pharma as a resilient, growth-oriented leader in the pharmaceutical sector. found that Sun Pharmaceutical Industries Ltd. maintained stronger liquidity metrics than Cipla, positively impacting its financial performance (Patjoshi and Nandini (2019) [20]).

2.2 Rationale for selecting Sun Pharmaceutical as a case study in AI-based corporate innovation:

Sun Pharmaceutical Industries Ltd. (Sun Pharma) presents a compelling case for examining AI-based corporate innovation due to its strategic integration of artificial intelligence across the pharmaceutical value chain. As one of India's largest pharmaceutical companies with a global footprint, Sun Pharma has demonstrated a consistent commitment to digital transformation, particularly in leveraging AI for drug discovery, clinical trials, and supply chain optimization (Verma et al. (2023) [21]). The company's adoption of AI-driven platforms for predictive analytics and real-time data processing aligns with broader industry trends that emphasize the role of machine learning in accelerating R&D efficiency and reducing time-to-market (Sultana et al. (2023). [22]). This makes Sun Pharma an ideal candidate for studying how AI can be operationalized within a complex, regulated industry.

Moreover, Sun Pharma's innovation strategy is underpinned by a robust R&D infrastructure, comprising over 2,800 scientists across six global research centers. The company's use of AI in formulation development and quality control—such as computational modeling and real-time defect detection—demonstrates a mature application of AI beyond pilot projects (Chatterjee et al. (2022). [23]). Such initiatives reflect a systemic approach to AI integration, making Sun Pharma a representative model for studying scalable AI innovation in emerging markets.

Sun Pharma's focus on ethical AI and regulatory compliance also strengthens its relevance as a case study. The company employs natural language processing (NLP) for pharmacovigilance and adverse event detection, ensuring post-market surveillance aligns with global safety standards (Kumar et al. (2021). [24]). Finally, Sun Pharma's strategic positioning within India's broader AI-driven healthcare transformation adds contextual richness to its selection. India is projected to lead AI-driven drug discovery in low- and middle-income countries, and Sun Pharma's initiatives—such as AI-enabled patient recruitment and personalized medicine—mirror national priorities in digital health. Sun Pharmaceutical Industries has been studied from multiple perspectives that highlight its diverse operations and strategic decisions. Sun (2017) [25] explored the microstructure of tablets, emphasizing pharmaceutical engineering and quality control. Srivastava (2018) [26] analyzed the emotional and strategic dimensions of mergers and acquisitions, focusing on growth. M. V. examined the trade-off between liquidity and profitability through a financial lens. (Jagtap (2023). [27]) CSR practices within the Indian pharmaceutical sector. Khandhar & Patel (2023). [28] and Mishra & Mishra (2023) [29] investigated HRM activities and their role in employee satisfaction at Sun Pharma's Dewas unit. Kuhlman (2022) [30] illustrated Sun Pharma's innovation driven by specialty acquisitions, leadership, and culture. These insights together reflect the company's multidimensional approach to healthcare, management, and corporate responsibility. This blend of technical excellence and strategic adaptability paints Sun Pharma as a dynamic force in the industry.

2.3 Scope and relevance of exploratory research in evaluating AI firms:

Exploratory research plays a pivotal role in evaluating AI firms, particularly in the context of healthcare innovation, where uncertainty and rapid technological evolution are prevalent. Unlike confirmatory research, exploratory studies allow for open-ended inquiry into emerging phenomena, such as the integration of AI into pharmaceutical operations. This approach is especially relevant for firms like Sun Pharmaceutical Ltd., which may seek to leverage AI for drug discovery, supply chain optimization, or personalized medicine. Patel et al. (2023) [31] emphasize that exploratory data analysis is foundational

for identifying patterns and anomalies in AI systems, which can inform strategic decision-making in pharmaceutical contexts.

The scope of exploratory research extends beyond technical evaluation to include organizational readiness, ethical considerations, and regulatory compliance. As AI firms often operate in complex socio-technical environments, exploratory studies help uncover latent variables and stakeholder perspectives that might otherwise be overlooked. Farazouli et al. (2024) [32] conducted an exploratory study on AI chatbot integration in higher education, revealing nuanced impacts on assessment practices—insights that are transferable to healthcare settings where AI interfaces with human decision-making. Such research underscores the importance of qualitative and mixed-method approaches in capturing the multifaceted nature of AI implementation.

Moreover, exploratory research is instrumental in assessing the data quality and governance frameworks that underpin AI systems. Patel et al. (2022) [33] argue that data-centric AI development requires rigorous exploratory analysis to ensure robustness, fairness, and transparency. For pharmaceutical firms, this means evaluating not only the performance of AI models but also the provenance and integrity of biomedical datasets. These insights are critical for mitigating risks associated with biased algorithms or flawed data pipelines, which could have significant implications for patient safety and regulatory approval.

Finally, the relevance of exploratory research lies in its capacity to inform innovation roadmaps and investment strategies. By identifying emergent trends and user needs, such research enables AI firms and their partners—like Sun Pharmaceutical Ltd.—to align technological capabilities with market demands. McGrath et al. (2024) [34] highlight that exploratory studies can reveal gaps in current AI applications and suggest new avenues for development, such as adaptive learning systems or AI-driven clinical trials. In this way, exploratory research not only evaluates existing capabilities but also shapes the future trajectory of AI in healthcare.

3. REVIEW OF LITERATURE :

3.1 Previous research on AI business models, innovation ecosystems, and case study methodology:

AI Business Models: Strategic Transformation and Value Creation:

Artificial Intelligence (AI) has emerged as a transformative force in reshaping business models across industries. Scholars have emphasized that AI-driven business models are not merely technological upgrades but strategic reconfigurations that redefine value creation, delivery, and capture mechanisms (Jobstreibizer et al. (2025). [35]). These models often leverage data-centric decision-making, automation, and predictive analytics to enhance operational efficiency and customer engagement (Perifanis & Kitsios (2023). [36]). Di Vaio et al. (2023) [37] argue that AI enables sustainable business models by integrating environmental, social, and governance (ESG) metrics into algorithmic decision-making. Furthermore, Farayola et al. (2023) [38] highlight the ethical and leadership challenges associated with AI integration, advocating for a balanced approach that combines human insight with machine intelligence. The literature also points to the emergence of AI-as-a-Service (AIaaS) as a dominant design, enabling scalable and modular innovation.

Innovation Ecosystems: Collaborative Dynamics and Platformization:

Innovation ecosystems (IEs) are increasingly recognized as critical enablers of technological advancement and competitive advantage. These ecosystems comprise interconnected actors—firms, universities, governments, and users—who co-create value through collaboration and knowledge exchange. Sotirofski (2024) [39]) identifies five major streams in IE research: technology innovation, platform ecosystems, regional development, conceptual theorization, and entrepreneurial innovation. The literature underscores the importance of platformization, where digital platforms serve as orchestrators of ecosystem interactions (Bassis & Armellini (2018). [40]). Moreover, IEs are seen as dynamic and adaptive systems that evolve in response to technological shifts and market demands. These ecosystems are particularly relevant in the pharmaceutical sector, where innovation is increasingly driven by cross-sectoral collaboration and regulatory co-evolution.

Case Study Methodology: Foundations and Applications:

Case study methodology has long been a cornerstone of qualitative research in management and innovation studies. It allows for in-depth exploration of complex phenomena within their real-life contexts. Crowe et al. (2011) [41] have provided foundational frameworks for designing and conducting case studies, emphasizing the importance of construct validity, reliability, and analytical generalization.

Harrison et al. (2017) [42] highlight the methodological flexibility of case studies, which can accommodate both positivist and interpretivist paradigms. In the context of healthcare and pharmaceutical innovation, case studies are particularly valuable for examining organizational processes, stakeholder interactions, and policy implications (Takahashi & Araujo (2019). [43]). The methodology supports triangulation of data sources—interviews, documents, and observations—thereby enhancing the richness and credibility of findings.

3.2 Scholarly references on AI ethics, corporate governance in tech, and performance benchmarking:

The integration of artificial intelligence (AI) into healthcare and pharmaceutical innovation has prompted a surge in scholarly discourse on AI ethics. Hagendorff (2020) [44]) conducted a comprehensive evaluation of 22 AI ethics guidelines, revealing significant gaps between ethical principles and their practical implementation in corporate and research settings. Similarly, Hallamaa and Kalliokoski (2022) [45] argued that AI ethics must evolve beyond abstract principles to include actionable methodologies, drawing parallels with bioethics to enhance real-world impact. Ricciardi Celsi and Zomaya (2025) [46] emphasized the need for a transdisciplinary framework—algor-ethics—that embeds ethical oversight throughout the AI lifecycle, particularly in healthcare applications. These studies underscore the importance of ethical governance in AI deployment, especially for pharmaceutical firms like Sun Pharmaceutical that increasingly rely on AI for drug discovery and patient engagement.

Corporate governance in technology-driven sectors has undergone a paradigm shift due to digital transformation. Fahlevi et al. (2023) [47] reviewed the impact of blockchain, AI, and big data on governance structures, highlighting how decentralization and algorithmic decision-making challenge traditional board oversight. Petrin (2024) [48] explored the implications of AI-managed entities and perforated firm boundaries, suggesting that governance models must adapt to hybrid human-machine leadership. Fenwick et al. (2018) [49] proposed the concept of "platform governance," where tech firms operate as ecosystems rather than hierarchical corporations, necessitating new accountability frameworks. These insights are particularly relevant for pharmaceutical companies navigating digitalization, as governance must balance innovation with regulatory compliance and stakeholder trust.

Benchmarking has emerged as a strategic tool for performance evaluation and continuous improvement in the healthcare and pharmaceutical sectors. Conducted a systematic review demonstrating that benchmarking enhances both process efficiency and clinical outcomes when paired with complementary interventions. Muravu (2023) [50] extended this analysis to public sector benchmarking, validating its role in strategic performance measurement and management (SPMM). Horváthová et al. (2021) [51] applied Data Envelopment Analysis (DEA) to identify risk factors in business performance, offering a quantitative lens for benchmarking in regulated industries. These methodologies provide Sun Pharmaceutical with robust tools to assess operational excellence and align with global best practices.

The convergence of AI ethics, corporate governance, and performance benchmarking presents both opportunities and challenges for healthcare innovation. Gao et al. (2024) [52] identified seven critical issues in AI ethics, including transparency, fairness, and the Collingridge dilemma, which complicate governance and benchmarking efforts. Maphosa (2024) [53] highlighted the societal risks of unregulated AI, such as algorithmic bias and data breaches, reinforcing the need for ethical safeguards and performance metrics. As Sun Pharmaceutical expands its digital footprint, integrating ethical AI frameworks with adaptive governance and benchmarking systems will be essential to sustain innovation and public trust.

In summary, the literature reveals a dynamic interplay between ethical AI deployment, evolving governance models, and strategic benchmarking. For Sun Pharmaceutical, leveraging these insights can inform a future roadmap that prioritizes responsible innovation, regulatory alignment, and competitive performance. The synthesis of these domains offers a holistic foundation for driving healthcare transformation in an increasingly digital and data-driven landscape.

3.3 Current Status:

Table 1 contains a summary of the *current status* of published scholarly research on Sun Pharmaceutical Industries Limited, highlighting key themes with some peer-reviewed journal articles:

Table 1: Current status of published scholarly research on Sun Pharmaceutical Industries Limited

S. No.	Key Issues	Current Status	Reference
1	Transdermal Drug Delivery	A proniosome-based transdermal drug delivery system of levonorgestrel (LN) was developed and extensively characterized both in vitro and in vivo. The proniosomal structure was liquid crystalline-compact niosomes hybrid which could be converted into niosomes upon hydration. The system was evaluated in vitro for drug loading, rate of hydration (spontaneity), vesicle size, polydispersity, entrapment efficiency and drug diffusion across rat skin.	Khopade, A. J., Vora, B., & Jain, N. K. (1998). [54]
2	Proliposome systems	The mesophasic proliposomat system for levonorgestrel was developed and evaluated both *in vitro* and *in vivo*. The vesicles were mostly unilamellar; however, a few vesicles were multilamellar, which budded off spontaneously upon hydration.	Khopade, A. J., Sant, V. P., Parekh, S. R., Deo, M. R., & Banakar, U. V. (1997). [55]
3	Impact of estrogen receptor	Estrogen receptor (ER)-β has been discovered for decades; however, its prognostic value in breast cancer patients remains controversial. We aimed to evaluate the impact of ER-β expression on breast cancer survival. A systematic search of Medline, Embase, and Cochrane Library was performed to identify the association between ER-β expression and outcomes in early breast cancer patients. Random-effects meta-analysis was conducted to generate combined hazard ratios (HRs) with 95 % confidence intervals (CIs) for overall survival (OS) and disease-free survival (DFS)	Jain, M. M., Gupte, S. U. (2016). [56]
4	Solubility Enhancement of Indomethacin with PolyDendrimers and Targeting to Inflammatory Regions of Arthritic Rats	This work includes investigation on solubility enhancement of indomethacin (IND) in the presence of poly(amidoamine) (PAMAM) dendrimers and passive targeting of the PAMAM/IND complex so formed to the inflamed regions in an animal model. The complex formation was confirmed by infrared and nuclear magnetic resonance spectroscopy methods.	Chauhan, A. S., Jain, N. K., Diwan, P. V., & Khopade, A. J. (2004). [57]
5	Dendrimer grafts for delivery of 5-fluorouracil.	Polyamidoamine (PAMAM) dendrimers were prepared by linking methyl methacrylate and ethylenediamine successively on an amine core. Surface modification of PAMAM dendrimer was done by fatty acid grafting converting them to a unimolecular micellar system (Dendrimer grafts). IR, 1H NMR, 13C NMR studies confirmed the structure. The drug 5-fluorouracil (5-FU) was entrapped in	Tripathi, P. K., Khopade, A. J., Nagaich, S., Shrivastava, S., Jain, S., & Jain, N. K. (2002). [58]

		dendrimer grafts. The effects of various solvents (ethanol, dichloromethane, tetrahydrofuran), pH, and ionic strength on solubilization of 5-FU were determined	
6	Liposome-encapsulated methemoglobin as an antidote against cyanide poisoning	Cyanide induces acute lethal poisoning resulting from inhibition of cytochrome *c* oxidase located in the complex IV (Complex IV) of mitochondria. However, current therapies for cyanide poisoning using hydroxocobalamin and nitrous acid compounds remain a clinical issue.	Ghosh, S., Javia, A., Shetty, S., Bardoliwala, D., Maiti, K., Banerjee, S., ... & Jain, M. (2021).[59]
7	Lipoprotein-mimicking biovectorized systems for methotrexate delivery	resent investigation reports a new family of lipid nanoparticles biomimetic of lipoproteins, lipoprotein-mimicking biovectorized systems (LMBVs), for the delivery of methotrexate. LMBVs were prepared by the microemulsion congealing technique.	Khopade, A. J., & Jain, N. K. (1999).[60]
8	Surface-Modification of Polyelectrolyte Multilayer-Coated Particles for Biological Applications	Researchers developed multilayer films using poly(styrenesulfonate) (PSS) and fourth-generation poly(amidoamine) dendrimers (4G PAMAM) on particle surfaces, then modified them through a three-step process: chemical cross-linking with glutaraldehyde to introduce reactive aldehyde groups, fatty-acylation with octadecylamine to add hydrophobic chains, and PEGylation with PEG2000-DSPE to enhance biocompatibility. Advanced characterization techniques confirmed each modification step on both particle and planar supports. Biocompatibility tests showed that the modified films significantly reduced macrophage cell adhesion compared to the unmodified versions, indicating their potential for biomedical applications.	Khopade, A. J., & Caruso, F. (2003) [61]

4. OBJECTIVES OF THE PAPER :

(1) To explore the business evolution and strategic direction of Sun Pharmaceutical Industries Limited.
(2) To examine the technological strategy and innovation pipeline of Sun Pharma.
(3) To analyze financial performance, funding mechanisms, and internal revenue generation.
(4) To perform a SWOC (Strengths, Weaknesses, Opportunities, Challenges) and ABCD (Advantages, Benefits, Constraints, Disadvantages) analysis.
(5) To assess Sun Pharma's alignment with ethical AI principles and societal impact.
(6) To compare the performance of Competitors who are developing and offering similar products/services.
(7) To offer strategic suggestions for improving customer satisfaction and long-term stakeholder engagement.

5. METHODOLOGY :

5.1 Exploratory Case Study Method:

This study adopts an exploratory case study method to investigate the innovation trajectory and strategic foresight of Sun Pharmaceutical in the evolving landscape of healthcare. The exploratory case study approach is particularly suitable when the objective is to understand contemporary phenomena within their real-life context, especially when boundaries between the phenomenon and context are not clearly evident (Yin (2018). [62]). As Sun Pharmaceutical navigates complex regulatory environments,

technological integration, and market dynamics, the case study allows for in-depth exploration of innovation practices and decision-making processes. This method is appropriate for addressing "how" and "why" questions regarding organizational change, making it ideal for understanding the drivers and barriers in healthcare innovation (Baxter & Jack, (2008). [63]). Furthermore, it accommodates the collection and triangulation of qualitative data from multiple sources, including company reports, executive interviews, and secondary industry analysis (Ridder (2017). [64]). Exploratory case studies offer methodological flexibility, enabling researchers to build theory inductively while contextualizing findings within broader organizational and industry frameworks (Eisenhardt, 1989, [65]). In the context of Sun Pharmaceutical, this method facilitates a detailed examination of strategic shifts, r&d investments, and collaborative innovation models. Moreover, the exploratory approach aids in uncovering emerging patterns or unexpected insights that may not surface in more structured research designs (Mills et al. (2010). [66]). By using this method, the research seeks to contribute both to the theoretical understanding of innovation in pharmaceutical enterprises and to the practical knowledge base informing strategic planning in similar organizations. Thus, the exploratory case study serves not only as a descriptive tool but also as a foundation for theory development in the context of healthcare innovation. This research utilizes the exploratory case study method to examine Sun Pharmaceutical's strategic innovation initiatives, particularly in response to the disruptive changes within the global healthcare sector. Exploratory case studies are especially valuable in areas where existing theoretical frameworks are limited or insufficient to explain contemporary organizational phenomena (Stebbins (2001). [67]). Given the complexity and dynamism of pharmaceutical innovation—driven by technological advancement, regulatory shifts, and global market integration—this method supports an in-depth, inductive inquiry into how Sun Pharmaceutical identifies, develops, and implements innovation strategies. emphasizes that exploratory case studies are well-suited for investigating "how" and "why" questions, particularly when researchers seek to understand a process or phenomenon in its real-world context, which aligns with the study's focus on strategic foresight and organizational learning in innovation-driven environments. The exploratory case study also permits methodological triangulation, enhancing the validity of findings through the integration of diverse data sources such as corporate reports, industry publications, policy documents, and expert interviews (Tellis, (1997). [68]). It provides the flexibility to adjust research design iteratively as new insights emerge—crucial when investigating a large, multi-national entity like Sun Pharmaceutical, where innovation processes span geographic, functional, and institutional boundaries. The use of this method supports theory-building through empirical observation and cross-case synthesis, allowing researchers to formulate new theoretical constructs or extend existing ones (Eisenhardt & Graebner, (2007). [69]). Furthermore, it enables a context-sensitive understanding of the role that leadership, organizational culture, and external partnerships play in shaping innovation outcomes (Stake (1995). [70]). Overall, the exploratory case study method offers a rigorous yet flexible approach to studying the complex, dynamic, and multi-scalar nature of healthcare innovation within Sun Pharmaceutical.

5.2 Qualitative and Quantitative Data Sources: Financial Reports, Technical Whitepapers, Media analysis, Academic Publications:

To comprehensively assess the innovation trajectory of Sun Pharmaceutical, this study integrates both qualitative and quantitative data sources. Quantitative data, such as financial reports and technical whitepapers, offer structured insights into performance metrics, R&D investments, and product pipeline evolution. Financial disclosures provide longitudinal data on revenue streams, cost structures, and capital allocation, which are critical for evaluating innovation outcomes (Graham et al. (2008). [71]). Technical whitepapers, often authored by internal R&D teams or external collaborators, document experimental protocols, clinical trial results, and formulation breakthroughs, serving as a proxy for technological advancement. These sources enable statistical modeling and trend analysis to identify innovation inflection points and strategic pivots. Complementing these are qualitative sources, including media analysis and academic publications, which contextualize innovation within broader socio-economic and regulatory frameworks. Media narratives—captured through content analysis—reveal public perception, stakeholder sentiment, and policy discourse surrounding pharmaceutical innovation (Altheide & Schneider (2012). [72]). Academic literature, particularly peer-reviewed journal articles, contributes theoretical grounding and methodological rigor to the study of healthcare innovation ecosystems (Appio et al. (2022). [73]). Synthesizing these diverse data streams through

triangulation enhances the validity and reliability of the research findings of Morse et al. (2002). [74] allowing for a multidimensional understanding of Sun Pharmaceutical's innovation roadmap.

5.3 Use of strategic business analysis frameworks:

The SWOC framework—Strengths, Weaknesses, Opportunities, and Challenges—has been widely adopted in healthcare innovation to assess organizational readiness and strategic positioning (Aithal & Kumar (2015). [75]). It enables firms like Sun Pharmaceutical to identify core competencies, such as R&D capabilities and global market reach, while acknowledging operational bottlenecks and regulatory hurdles. Similarly, the ABCD framework (Advantages, Benefits, Constraints, and Disadvantages) offers a granular lens for evaluating business models and strategic initiatives (Aithal et al. (2016). [76]) demonstrated its efficacy in analyzing institutional systems, making it particularly relevant for pharmaceutical firms navigating complex compliance landscapes and innovation pipelines.

Complementing these internal assessments, the PESTLE framework—Political, Economic, Social, Technological, Legal, and Environmental—facilitates a multidimensional analysis of macro-environmental factors influencing healthcare innovation. Thakur (2020) [77] applied PESTLE to biomedical waste management during the COVID-19 pandemic, highlighting how external shocks can reshape healthcare priorities and supply chain dynamics. For Sun Pharmaceutical, PESTLE analysis can illuminate the impact of evolving drug regulations, geopolitical shifts, and technological disruptions such as AI-driven drug discovery. Moreover, integrating these frameworks supports a hybrid strategic approach, as emphasized by Teisberg et al. (2020) [78], where value-based healthcare and innovation ecosystems are co-developed. The synergy of these models enables a comprehensive strategic roadmap, aligning Sun Pharmaceutical's innovation agenda with both internal capabilities and external imperatives (Bird et al. (2021). [79]; Weberg (2019). [80]).

6. COMPANY PROFILE: SUN PHARMACEUTICAL INDUSTRIES LIMITED :

6.1 History and Founding:

Sun Pharmaceutical Industries Ltd. has garnered scholarly interest for its strategic ventures, financial stability, and HR initiatives. Aggarwal (2009) [81] provides a foundational analysis of the company's acquisition of Taro Pharmaceuticals, illustrating Sun Pharma's ambition to establish a robust international footprint. This move signified not only expansion but also enhanced competitiveness in global markets. Mohapatra et al. (2022) [82] spotlight Sun Pharma's stature as an attractive investment, underscoring its consistent performance and appeal to portfolio managers seeking reliability and growth. The merger with Ranbaxy Laboratories was another milestone that brought operational challenges and opportunities—explored in depth by Mareja and Sharma (2019) [83], especially in the realm of employee motivation and restructuring of reward systems. This transformation emphasized the importance of aligning human capital practices with organizational shifts. Similarly (Mishra (2015). [84]). examined HRM activities at Sun Pharma's Dewas unit, finding correlations between structured employee engagement and elevated job satisfaction. Their insights contribute to understanding the internal dynamics that support high performance. Lastly, Sharon (2015) [85]). investigation into Altman's Z-score analysis adds a quantitative layer, revealing Sun Pharma's financial resilience and its ability to withstand economic stress.

6.2 Vision and Mission:

Sun Pharmaceutical Industries Limited articulates a mission centered on delivering high-quality, affordable medicines globally, with a vision to become a leading global pharmaceutical company through innovation and operational excellence. This strategic orientation reflects a commitment to improving patient outcomes while maintaining cost-effectiveness, a dual imperative that aligns with broader trends in global healthcare delivery (Francis et al. (2016). [86]). The company's mission is not merely aspirational but operationalized through its expansive portfolio of generics, specialty products, and active pharmaceutical ingredients (APIs), which serve diverse therapeutic areas across more than 100 countries.

The vision of Sun Pharma is deeply intertwined with its innovation strategy, particularly in the realm of complex generics and specialty therapies. As Ullagaddi (2024) [87] notes, digital transformation and quality management systems have become central to pharmaceutical firms seeking to align their vision with regulatory compliance and market responsiveness (p. 34). Sun Pharma's emphasis on research and

development (R&D) investments, including its global network of R&D centers, supports its vision of being a science-driven organization. This is further evidenced by its strategic acquisitions, such as Ranbaxy Laboratories, which expanded its global footprint and reinforced its commitment to innovation-led growth.

Ethical practices are embedded within Sun Pharma's mission, particularly in its approach to pricing, access, and transparency. Santoro and Gorrie (2005) [88]) argue that pharmaceutical companies must balance profitability with ethical responsibility, especially in emerging markets where access to essential medicines remains a challenge (p. 112). Sun Pharma's initiatives in patient assistance programs and its adherence to global compliance standards reflect this ethical orientation. Moreover, the company's mission aligns with stakeholder expectations for corporate social responsibility, reinforcing its reputation as a values-driven enterprise.

Finally, Sun Pharma's mission and vision are not static declarations but dynamic constructs that evolve in response to global health trends and technological advancements. As highlighted by Zhang et al. (2020) [89], green innovation and organizational readiness are increasingly critical for pharmaceutical firms navigating sustainability and digital disruption. Sun Pharma's integration of environmental stewardship and data integrity into its strategic framework exemplifies how its mission and vision are operationalized through transformative practices. This adaptability ensures that the company remains resilient and relevant in a rapidly changing global healthcare landscape.

6.3 Key products and milestones

Key Products and Milestones:

Sun Pharmaceutical Industries Limited has emerged as a global leader in the generics and specialty pharmaceutical sectors, with a diversified product portfolio spanning chronic and acute therapeutic areas. Among its flagship products are Ilumya® (tildrakizumab) for moderate-to-severe plaque psoriasis and Absorica® (isotretinoin) for severe acne, both of which represent its strategic focus on dermatology and specialty care (Ullagaddi, 2024, [90]). The company's generics portfolio includes high-volume formulations such as antiretrovirals, cardiovascular agents, and central nervous system drugs, which are distributed across more than 100 countries. A pivotal milestone in Sun Pharma's trajectory was its acquisition of Ranbaxy Laboratories in 2014, which positioned the company as the fifth-largest global generics player by revenue. This strategic move not only expanded its manufacturing footprint but also enhanced its regulatory capabilities across key markets, including the United States and Europe (Francis et al., 2016, [91]). The integration of Ranbaxy's assets enabled Sun Pharma to consolidate its leadership in branded generics and improve its supply chain resilience, a critical factor in navigating global pharmaceutical logistics. Innovation has been central to Sun Pharma's product development strategy, particularly in the realm of complex generics and biosimilars. The company has invested heavily in R&D infrastructure, including 40+ manufacturing facilities and multiple research centers worldwide. As Zhang et al. (2020). [92] emphasize, organizational readiness and technological capability are essential for successful green innovation in pharma. Sun Pharma's development of Lipodox®, a generic version of Doxil® (doxorubicin HCl liposome), exemplifies its ability to replicate complex formulations while maintaining therapeutic equivalence.

Ethical considerations have also shaped Sun Pharma's product strategy, especially in the context of access to essential medicines. Santoro and Gorrie (2005) [93] argue that pharmaceutical firms must balance commercial interests with public health imperatives (p. 112). Sun Pharma's initiatives in affordable oncology and antiretroviral therapies reflect this ethos, particularly in low- and middle-income countries. Its partnerships with global health organizations and adherence to WHO prequalification standards underscore its commitment to ethical distribution and pharma covigilance. Recent milestones include the launch of Winlevi® (clascoterone), the first-in-class topical androgen receptor inhibitor for acne, and the expansion of its digital therapeutics platform. These developments signal a shift toward precision medicine and patient-centric care, aligning with broader trends in healthcare transformation. As Ullagaddi (2024) [94]) notes, digital transformation in pharma enhances quality management and regulatory compliance (p. 38). Sun Pharma's adoption of AI-driven analytics and cloud-based pharmacovigilance systems illustrates its readiness to navigate the evolving landscape of pharmaceutical innovation.

6.4 Organizational structure and Parent Company relationship with Ranbaxy:

Sun Pharmaceutical Industries Limited (Sun Pharma) has strategically positioned itself as a global leader in the pharmaceutical sector through a market-centric approach that leverages innovation, acquisition strategies, and a unique leadership culture. Sharma et al. (2013). [95] highlight how organizational performance in Indian pharmaceutical firms, including Sun Pharma, is increasingly shaped by competitive market dynamics, financial efficiency, and innovation-driven growth. Sun Pharma's growth trajectory is further elucidated by Kuhlman (2022) [96], who notes the company's reliance on specialty acquisition strategies and technological integration to sustain its innovation pipeline. This approach has allowed Sun Pharma to expand rapidly in global markets, with a distinct organizational culture that supports transformative leadership. However, the company has also encountered governance-related challenges. Mohanty and Nanda (2019) [97] examine the corporate governance issues surrounding the Sun Pharmaceutical debacle, emphasizing the vulnerabilities inherent in family-controlled business structures, particularly regarding transparency and stakeholder trust. These governance challenges, if unaddressed, can pose serious implications for organizational credibility and long-term sustainability. Additionally, Sun Pharma's international expansion strategy draws parallels with Ranbaxy Laboratories, a company it later acquired. Mowla et al. (2014) [98] explore how Ranbaxy navigated entry mode selection and international market entry sequencing—insights that inform an understanding of Sun Pharma's strategic internationalization, particularly in emerging and regulated markets. Together, these perspectives underline the multifaceted nature of Sun Pharma's organizational evolution, driven by market orientation, innovation, global expansion, and the pressing need for robust governance mechanisms.

7. BUSINESS MODEL OF SUN PHARMA & COMPETITORS :

(1) Branded generics model:

Sun Pharma's primary revenue driver is its branded generics business, especially in emerging markets like India, Russia, and Latin America. In India, Sun Pharma holds a leading position, offering over 2,000 products across multiple therapeutic areas such as cardiology, psychiatry, dermatology, oncology, and gastroenterology. The model emphasizes strong doctor engagement, local brand recognition, and price-volume growth.

(2) Global generics model:

Sun Pharma operates a low-cost global generics model in highly regulated markets like the United States, Europe, and Japan. It emphasizes:

- Reverse engineering of patented molecules once they lose exclusivity.
- Andas (abbreviated new drug applications) filings with the US FDA.
- Focus on complex generics, injectables, and controlled substances to counteract pricing pressure in simple generics.

(3) Specialty pharmaceuticals model:

Since 2016, Sun Pharma has been diversifying into specialty pharmaceuticals, particularly in dermatology, oncology, and ophthalmology. It markets branded products like Ilumya (tildrakizumab) for psoriasis. This model is capital-intensive, involving:

- In-house R&D and clinical trials.
- Licensing and acquisitions (e.g., Dusa Pharmaceuticals, Taro Pharma).
- Direct-to-physician marketing teams in the us and Europe.

(4) Contract manufacturing & API supply:

Through subsidiaries like Sun Pharma Advanced Research Company (SPARC) and other verticals, Sun Pharma offers:

- Contract development and manufacturing (CDMO) services.
- A strong active pharmaceutical ingredient (API) business, supplying to both internal formulation units and external customers globally.
- This backward integration helps reduce costs and ensures supply chain control.

(5) Acquisition-driven expansion model:

Sun Pharma has historically expanded through strategic acquisitions:

- Ranbaxy Laboratories (2015) gave access to global markets and regulatory approvals.
- Taro Pharmaceuticals enhanced its dermatology portfolio.

- This model supports market share consolidation, geographic expansion, and portfolio enrichment.

Table2: Comparison with major competitors

Company	Branded Generics	Global Generics	Speciality Drugs	CDMO/API
Sun Pharma	Strong In India & EMs	Strong Presence in US, EU	Emerging focus	Strong Backward integration
Dr.Reddy's	Moderate	Strong in US, Russia, and India	Limited	Significant API exports
Cipla	Strong in India	Growing in US, SA	Moderate	Moderate API presence
Lupin	Strong in India	Focus on US generics	Limited	Moderate

Insights and Strategic Differences:
Diversification: Sun Pharma is unique among Indian peers for diversifying into specialty drugs, a space usually dominated by MNCs like AbbVie.
Backward integration: Its strong API and CDMO capability give it a cost advantage not fully exploited by CIPLA or LUPIN.
Acquisition-driven growth: Sun has been more aggressive in acquisitions compared to other Indian players, leading to faster international expansion.
Specialty vs. Generics: unlike competitors still focused on generics (Dr. Reddy's, Lupin), Sun is consciously building a high-margin specialty pipeline—a long-term differentiator.
Market leadership in India: Sun Pharma remains the no.1 pharmaceutical company in India, with significant domestic brand loyalty.

8. FUNCTIONAL ANALYSES :

8.1. SWOC Analysis:

About SWOC Analysis:
SWOC analysis, an evolved form of SWOT (Strengths, Weaknesses, Opportunities, and Challenges), has been extensively utilized across industries to facilitate strategic planning and informed decision-making. Gürel and Tat (2017) [99] provide a foundational theoretical review of SWOT, highlighting its enduring relevance in diverse organizational settings by evaluating internal capabilities and external conditions. In the context of the Indian pharmaceutical industry, Jain and Yadav (2022) [100] emphasize the strategic significance of SWOT in aligning market orientation with corporate objectives, thereby aiding firms in navigating the highly competitive pharma landscape. Furthering this discourse, Lobo and Bhat (2022) [101]) conducted a systematic literature review on share price movements in the Indian pharmaceutical sector, underscoring the utility of SWOT analysis in understanding market dynamics and investor behaviour. George and George (2012) [102]) research focuses on SWOC analysis of foreign direct investment (FDI) in India's healthcare sector, outlining the interplay between economic potential and regulatory hurdles, while Aithal et al (2023) [103] extend the use of SWOC alongside other analytical tools to explore super innovations in higher education, reflecting its interdisciplinary applicability. Additionally, Aba et al (2019) [104] examined the awareness and implementation of SWOC in university library services in Nigeria, revealing both the strategic value and operational challenges in academic institutions. Collectively, these studies illustrate that SWOC/SWOT analyses are not merely diagnostic tools but essential frameworks that contribute to sustainable organizational growth and resilience in changing environments.

(1) Strengths of Sun Pharma Industries Limited:
Some of the strengths of Sun Pharma Industries Limited from researchers' perspectives are listed in Table 3.

Table 3: Strengths of Sun Pharma Industries Limited

S. No.	Key Strengths	Description
1	**Strong R&D Leadership and Global Innovation Footprint**	Sun Pharma has invested significantly in R&D infrastructure, with 40+ manufacturing and R&D sites globally. It has developed novel drug delivery systems and complex generics, showcasing research leadership and innovation capability.
2	**Integration of AI in Drug Discovery and Development**	The company is increasingly leveraging AI and machine learning to optimize clinical trials, streamline molecule screening, and accelerate time-to-market, making it a leader in digital pharmaceutical transformation.
3	**Highly Skilled Talent Pool**	Sun Pharma boasts a diverse and specialized workforce of over 37,000 employees globally, including scientists, engineers, and clinical researchers who contribute to its strong innovation ecosystem.
4	**Robust Ethical Governance and Compliance**	The company follows strict regulatory compliance, with a focus on transparency, patient safety, and sustainable practices, aligned with global norms like US FDA, EMA, and WHO-GMP.
5	**Global Market Reach and Strategic Acquisitions**	With a presence in over 100 countries, Sun Pharma has strategically acquired companies (e.g., Ranbaxy, Taro) to diversify its portfolio and strengthen market access, reflecting business intelligence and growth orientation
6	**Leadership in Specialty and Complex Generics**	Sun Pharma is a global leader in specialty generics, dermatology, and ophthalmology, positioning itself in niche therapeutic segments with high entry barriers—enhancing both revenue and research competitiveness.
7	**AI-Enhanced Pharmacovigilance and Patient Safety**	Using AI-based systems for pharmacovigilance, Sun Pharma ensures faster detection of adverse drug reactions and more efficient risk assessment—enhancing its reputation for ethical and safe healthcare delivery.
8	**Sustainability and ESG Commitment**	The company has demonstrated leadership in Environmental, Social, and Governance (ESG) practices, including energy-efficient manufacturing and responsible waste management, aligning with global ethical expectations.
9	**Data-Driven Decision Making**	Sun Pharma has adopted data analytics and AI tools for predictive forecasting, supply chain optimization, and quality assurance—boosting operational efficiency and competitive advantage.
10	**Strong Intellectual Property (IP) Strategy**	The company holds numerous global patents and trademarks, reflecting its strategic protection of innovations and maintaining a leadership edge in therapeutic R&D.

(2) Weaknesses: High operating costs, limited direct revenue:
Some of the weaknesses of Sun Pharma Industries Limited from researchers' perspectives are listed in Table 4.

Table 4: Weaknesses of Sun Pharma Industries Limited

S. No.	Key Weaknesses	Description
1	**High Operating Costs**	Implementing AI and digital transformation in pharmaceutical R&D, compliance, and manufacturing leads to significantly high operating expenses. Sun Pharma's broad global footprint and complex operations increase the cost of embedding AI across all the world.
2	**Limited Direct Revenue from AI-**	Unlike digital health or tech-enabled pharma startups, Sun Pharma's business model is still largely product-centric, with

	Driven Products or Services	limited monetization of AI tools, predictive analytics platforms, or data-as-a-service innovations
3	**Slow Adoption of AI in Core Functions**	Compared to AI-forward peers like Roche or Novartis, Sun Pharma has been relatively slower in implementing AI in drug discovery pipelines, patient-centric platforms, and automated regulatory filings.
4	**Lack of Proprietary AI Platforms**	The company largely relies on third-party or generic AI systems rather than developing in-house, proprietary AI platforms for pharmacovigilance, trial simulations, or market access optimization, reducing long-term innovation control.
5	**Limited AI Talent Pool**	There is a scarcity of AI-specialized talent in the organization's core teams. Building cross-functional AI-Pharma expertise is a challenge due to the highly specialized nature of both domains.
6	**Ethical Dilemmas in Data Privacy and Patient Transparency**	In emerging markets like India and other low-regulation regions where Sun Pharma operates, concerns over the ethical use of AI, patient data security, and informed consent remain under-addressed, leading to potential reputational risks.
7	**Legacy IT Infrastructure**	Sun Pharma's IT systems in several global subsidiaries remain fragmented, making integration of AI tools difficult. Legacy systems are not always compatible with modern AI frameworks, slowing innovation.
8	**Regulatory and Compliance Burdens**	The global nature of its business means it must comply with diverse AI ethics guidelines (e.g., GDPR, HIPAA, India's Digital Personal Data Protection Act), making uniform AI policy implementation complex and costly.
9	**Low AI Awareness Across Middle Management**	Lack of digital literacy and AI fluency in non-technical managerial staff hinders effective adoption and scaling of AI-driven initiatives across functional units.
10	**Underdeveloped Digital Therapeutics and AI-Companion Business Arms**	While rivals are exploring AI-powered digital therapeutics, remote diagnostics, and personalized medicine platforms, Sun Pharma's presence in these AI-driven adjacent markets is currently weak or nascent.

(3) Opportunities: Healthcare, automation, enterprise AI:
Some of the opportunities of Sun Pharma Industries Limited from researchers' perspectives are listed in Table 5.

Table 5: Opportunities of Sun Pharma Industries limited

S. No.	Key Opportunities	Description
1	**Expansion into AI-Driven Drug Discovery**	Sun Pharma can invest in AI platforms for predictive compound screening, molecular simulations, and target identification, drastically reducing R&D timelines and costs, similar to approaches used by Insilico Medicine or BenevolentAI.
2	**Integration of Enterprise AI for Supply Chain Optimization**	Leveraging enterprise AI and machine learning models can enable Sun Pharma to forecast demand, reduce inventory costs, and enhance logistics, particularly in its vast global generics supply network.
3	**Development of AI-Powered Digital Therapeutics**	Sun Pharma can diversify into digital health by launching AI-driven digital therapeutics, remote monitoring apps, and mental health platforms to complement its neurology and psychiatry portfolios.
4	**Adoption of Robotic Process Automation (RPA) in**	Implementing RPA and AI in Good Manufacturing Practice (GMP) environments can streamline compliance documentation, reduce human error, and improve quality assurance in its 40+ manufacturing sites

	Manufacturing and Compliance	
5	**Building an Ethical AI Governance Framework**	By becoming a pioneer in AI ethics in the Indian pharma sector, Sun Pharma can lead by example with transparent data practices, AI auditing systems, and fair use of patient data—enhancing trust among regulators and patients.
6	**Strategic Partnerships with AI-Health Startups and Universities**	Collaborating with AI-focused biotech startups, academic AI labs, and innovation hubs can provide Sun Pharma with access to cutting-edge technologies and open innovation pipelines.
7	**Launch of Personalized Medicine and AI-Based Patient Stratification**	Using AI for genomic data analysis, real-world evidence, and biomarker identification can help Sun Pharma develop personalized treatment regimens—especially in oncology and autoimmune therapy areas.
8	**Expansion into Emerging Markets with AI-Supported Health Access Platforms**	Sun Pharma can use AI-enabled mobile health tools and diagnostic support apps to expand access to healthcare in underserved regions across Africa, South-East Asia, and Latin America.
9	**Utilization of Generative AI in Regulatory and Legal Functions**	Generative AI tools like GPT-based systems can be employed to automate regulatory submissions, summarize clinical trial data, and speed up global compliance processes, increasing operational efficiency.
10	**Creation of an AI Center of Excellence (CoE)**	Establishing a global AI CoE for pharmaceuticals can position Sun Pharma as a thought leader, centralize talent, facilitate ethical AI research, and attract investor and academic interest.

(4) Challenges of Sun Pharma Industries Limited:
Some of the challenges of Sun Pharma Industries Limited from researchers' perspectives are listed in Table 6.

Table 6: Challenges of Sun Pharma Industries Limited

S. No.	Key Challenges	Description
1	**Heightened Ethical Scrutiny in AI Use**	As Sun Pharma adopts AI in patient data analytics, drug development, and diagnostics, it faces increasing scrutiny around algorithmic bias, consent transparency, and ethical data sourcing, especially from regulators and advocacy groups.
2	**Intensifying Global and Domestic Competition in AI-Enabled Pharma**	Competitors such as Roche, Novartis, and Dr. Reddy's are investing heavily in AI ecosystems, threatening to outpace Sun Pharma in innovation speed, digital therapies, and precision medicine offerings.
3	Unclear and Rapidly **Evolving AGI and AI Regulations**	The emergence of AGI (Artificial General Intelligence) and stronger AI regulatory frameworks (e.g., EU AI Act, India's DPDP Act, U.S. FDA AI guidance) may impose compliance burdens and restrict experimental AI use in R&D and clinical decision-making.
4	**Cybersecurity Risks in AI Systems and Digital Platforms**	As AI systems rely heavily on cloud data and digital platforms, Sun Pharma becomes vulnerable to data breaches, model hijacking, and IP theft, especially in cross-border operations.
5	High **Cost of AI Talent Acquisition and Retention**	Recruiting and retaining interdisciplinary AI experts (data scientists with biomedical backgrounds) is both expensive and competitive, particularly in India and the U.S., where the talent pool is already strained.

6	**Resistance to AI Adoption Within Legacy Business Units**	Cultural inertia, lack of AI literacy, and resistance to change among middle and senior management may delay or dilute the impact of AI initiatives, reducing ROI and delaying transformation.
7	**AI Explainability and Accountability in Drug Decisions**	AI models used in pharmacovigilance or treatment optimization must meet explainability standards. Inability to explain algorithmic decisions can expose Sun Pharma to legal, regulatory, or patient trust issues.
8	**Fragmented Global Infrastructure and Data Silos**	Operating in over 100 countries, Sun Pharma struggles with non-uniform IT systems, data localization laws, and fragmented data flows, which challenge AI model training and interoperability.
9	**High Initial Investment vs. Uncertain AI ROI**	Large-scale AI adoption—especially in R&D and clinical trials—requires upfront investment with long gestation periods and uncertain returns, creating risk in a margin-sensitive generic drug market.
10	**Ethical Concerns Over AI-Driven Workforce Redundancies**	Automation of roles in regulatory, manufacturing, or administration via AI and RPA may raise internal ethical concerns and union resistance, especially in labor-intensive geographies like India or Egypt.

8.2. ABCD Analysis:

ABCD analysis—standing for Advantages, Benefits, Constraints, and Disadvantages—is a structured framework used to evaluate concepts, strategies, or systems across multiple dimensions. It has gained traction in both business and social sciences for its simplicity and versatility. For instance, Ashwini et al (2024) [105] applied ABCD analysis to assess consumer intentions toward eco-friendly bags, revealing that the method effectively identifies key influencing factors through quantitative techniques like factor analysis. Similarly, Aithal (2019) [106] emphasized its utility in company case studies, arguing that ABCD can be adapted for qualitative and quantitative evaluations of business models and strategies. The framework's strength lies in its ability to dissect complex systems into manageable components, making it a valuable tool for empirical research and strategic planning.

However, ABCD analysis is not without limitations. Maclure (2023) [107] critiques the asset-based community development model for overlooking external power dynamics, suggesting that while the framework empowers communities, it may inadvertently ignore systemic constraints. Furthermore, Pstross et al. (2014) [108] argue that ABCD researchers must act as facilitators rather than leaders, which can be challenging in hierarchical or resource-constrained environments (p. 526)3. Despite these constraints, the ABCD framework remains a robust tool when applied with contextual sensitivity. Its adaptability across domains—from consumer behaviour to community development—demonstrates its enduring relevance in scholarly inquiry.

(1) Advantages of the Products of Sun Pharma Industries Limited:

Some of the advantages of the Products of Sun Pharma Industries Limited in terms of its Cutting-edge research and brand equity are listed in Table 7:

Table 7: Advantages of Sun Pharma Industries ' Products/Services (Stakeholder Perspective):

S. No.	Key Advantages	Description
1	**Global Reach and Market Leadership**	Operates in over 100 countries, including the US, Europe, and emerging markets2Ranked as the 4th-largest specialty generic pharmaceutical company globally. Stakeholder benefit: Ensures brand visibility, diversified revenue, and global trust.
2	**Cutting-edge Research & Development**	Invests 6–8% of total income in R&D to develop innovative and specialty drugs. Focus on complex generics, biosimilars, and patented formulations. Stakeholder benefit: Drives innovation, improves patient outcomes, and sustains competitive edge.

3	**Diverse Product Portfolio**	Offers 2,000+ molecules across therapeutic areas like oncology, cardiology, psychiatry, and dermatology. Includes generics, branded generics, OTC branded gene products, APIs, and biologics. Stakeholder benefit: Broad treatment options for patients and strong market positioning for investors.
4	**Ethical Manufacturing & Regulatory Compliance**	Complies with global standards: FDA (US), EMA (Europe), PMDA (Japan). Operates 43 manufacturing sites with high-quality control. Stakeholder benefit: Builds trust with regulators and ensures product safety for consumers
5	**AI-Driven Drug Discovery & Clinical Trials**	Uses advanced analytics and AI to optimize clinical trial design, drug efficacy, and safety profiling. Stakeholder benefit: Faster time-to-market, reduced costs, and ethical precision medicine.
6	**Patient-Centric Innovation**	Focuses on unmet medical needs and enhanced dosage forms for better patient convenience. Examples: Topical analgesics (Volini), sore throat remedies (Faringosept), and vitamins (Revital). Stakeholder benefit: Improves patient adherence and satisfaction.
7	**Strong Financial Performance**	FY 2023 revenue: ₹43,885 crore; profit after tax: ₹8,513 crore. Consistent growth in operating and net profit margins. Stakeholder benefit: Attractive returns for investors and financial stability for partners.
8	**Contract Research & Manufacturing Services (CRAMS)**	Offers CRAMS to other pharma firms using its technical expertise and infrastructure. Stakeholder benefit: Enables collaboration, scalability, and innovation sharing.
9	**Active Pharmaceutical Ingredients (API) Leadership**	Produces 380+ APIs, including complex ones like anti-cancers, peptides, and hormones. Stakeholder benefit: Ensures supply chain control and supports vertical integration.
10	**Brand Equity and Trust**	Known for affordable, high-quality medicines and ethical business practices. Strong brand recognition in both consumer healthcare and clinical segments.

(2) Benefits of the Products of Sun Pharma Industries Limited:
Some of the benefits of the Products of Sun Pharma Industries Limited in terms of Societal contributions (protein folding, energy saving) are listed in Table 8:

Table 8: Benefits of Sun Pharma' Products/Services from Stakeholders' perspective

S. No.	Key Benefits	Description
1	**Global Brand Equity & Trust**	Sun Pharma is India's largest pharmaceutical company and operates in over 100 countries. its reputation for ethical practices and transparency fosters among patients, healthcare professionals, and investors.
2	**Cutting-Edge Research & Innovation**	The company invests heavily in R&D, including specialty generics and novel therapies. It leverages AI and data analytics to accelerate drug discovery, optimize clinical trials, and enhance pharmacovigilance.
3	**Sustainability & ESG Leadership**	Sun Pharma is a signatory to the UN Global Compact and aligns with TCFD recommendations. It actively reduces emissions, water use, and waste, benefiting environmental stakeholders and communities.
4	**Affordable & High-Quality Medicines**	Its mission is to provide "high-quality, affordable medicines trusted by healthcare professionals and patients globally". This supports public health systems and improves access to essential treatments.

5	**Patient-Centric Approach**	Sun Pharma runs patient support programs and collaborates with doctors to improve treatment outcomes. AI-driven personalization in therapies enhances efficacy and patient satisfaction.
6	**Inclusive Stakeholder Engagement**	The company emphasizes inclusiveness and dialogue with stakeholders, including regulators, communities, and employees. This fosters long-term loyalty and shared value creation.
7	**Ethical Governance & Transparency**	Sun Pharma adheres to the National Guidelines on Responsible Business Conduct (NGRBC) and SEBI's BRSR framework. Ethical governance builds investor confidence and regulatory goodwill.
8	**Talent Development & Employee Wellbeing**	It invests in upskilling, safety, and well-being of its workforce. AI tools are used to enhance productivity and support employee learning.
9	**Resilient Business Model**	The company balances innovation with risk management, ensuring long-term stability over short-term gains. This benefits shareholders and partners seeking sustainable growth.
10	**Social Impact in Healthcare & Education**	Sun Pharma supports healthcare access and education initiatives in underserved areas. These efforts strengthen community relations and fulfill CSR commitments.

(3) Constraints of Sun Pharma's Products/Services:
Some of the constraints of the Products of Sun Pharma Industries Limited in terms are listed in Table 9:

Table 9: Constraints of Sun Pharma's Products/Services from the Stakeholders' perspective

S. No.	Key Constraints	Description
1	**AI Bias & Ethical Risks**	AI algorithms used in healthcare can unintentionally perpetuate bias, especially if trained on skewed historical data. Without a robust AI ethics committee, such biases could harm patient outcomes and damage brand reputation.
2	**R&D Complexity & Cost**	Cutting-edge research in specialty generics and biologics demands high investment and long development cycles. Shareholders may face delayed returns, while patients await breakthrough treatments.
3	**Global Regulatory Challenges**	Operating in ~100 countries mean navigating diverse regulatory landscapes. Delays in approvals or compliance issues can disrupt supply chains and stakeholder confidence.
4	**Brand Vulnerability to Controversies**	As a high-profile pharma brand, any ethical lapse or product recall can quickly erode trust. Stakeholders like investors and healthcare providers are sensitive to reputational risks.
5	**Talent Retention in Tech-Driven Roles**	Integrating AI and digital transformation requires specialized talent. Attracting and retaining skilled professionals in competitive markets is a persistent challenge.
6	**Data Privacy & Security Concerns**	AI-driven personalization and digital health tools raise concerns about patient data protection. Regulators and patients demand stringent safeguards, which can be costly and complex to implement.
7	**Supply Chain Vulnerabilities**	Global manufacturing and distribution networks are exposed to geopolitical tensions, pandemics, and climate risks. Disruptions can affect medicine availability and stakeholder satisfaction.
8	**Ethical Dilemmas in Pricing**	Balancing affordability with profitability is a constant tension. Patients and public health systems may view high prices as unethical, even if justified by R&D costs.

9	**Slow Adoption of AI Governance**	While AI is increasingly embedded in operations, governance frameworks may lag behind. This can lead to ethical blind spots and stakeholder mistrust.
10	**Resistance to Change from Traditional Stakeholders**	Doctors, regulators, and internal teams may resist AI-driven changes due to unfamiliarity or skepticism. This slows innovation and affects the pace of transformation.

(4) Disadvantages of Sun Pharma's Products/Services:
Some of the disadvantages of the Products of Sun Pharma Industries Limited are listed in Table 10:

Table 10: Disadvantages of Sun Pharma's Products/Services from Stakeholders' Perspective

S. No.	Key Disadvantages	Description
1	**Limited Transparency in Disclosure Practices**	Despite efforts, Sun Pharma has faced criticism for gaps in financial and non-financial disclosures. Investors and regulators may perceive this as a lack of accountability, affecting trust and valuation.
2	**High R&D Costs with Uncertain Returns**	Cutting-edge research, especially in specialty generics and biologics, demands significant investment. Shareholders may be concerned about long gestation periods and unpredictable outcomes.
3	**Regulatory Scrutiny Across Jurisdictions**	Operating in ~100 countries exposes Sun Pharma to complex and evolving compliance requirements. Regulatory delays or penalties can disrupt operations and erode stakeholder confidence.
4	**Slow Integration of AI Governance**	While AI is used in drug discovery and operations, governance frameworks are still maturing. Ethical risks and lack of oversight may concern patients, regulators, and advocacy groups.
5	**Data Privacy Challenges**	AI-driven personalization and digital health tools raise concerns about patient data protection. Breaches or misuse could damage reputation and invite legal consequences.
6	**Brand Vulnerability to Controversies**	As a high-profile pharma brand, any product recall or ethical lapse can quickly impact public perception. This affects doctors, patients, and institutional investors who rely on brand integrity
7	**Supply Chain Fragility**	Global manufacturing and distribution networks are vulnerable to geopolitical tensions, pandemics, and climate risks. Disruptions can lead to medicine shortages and stakeholder dissatisfaction.
8	**Limited Employee Representation**	Only ~4% of employees are part of a recognized association, which may limit collective bargaining and voice. This could affect morale and retention, especially in tech-driven roles.
9	**Ethical Dilemmas in Drug Pricing**	Balancing affordability with profitability remains contentious. Patients and public health systems may view pricing strategies as exploitative, even if justified by R&D costs
10	**Resistance to Change from Traditional Stakeholders**	Doctors, regulators, and internal teams may resist AI-driven changes due to unfamiliarity or skepticism. This slows innovation and affects the pace of transformation.

8.3. Financial Analysis:

8.3.1 About Financial Analysis:

Financial analysis plays a pivotal role in evaluating a company's financial health, guiding strategic decisions, and enhancing stakeholder confidence. It enables managers, investors, and regulators to assess liquidity, profitability, solvency, and operational efficiency through tools like ratio analysis and trend evaluation (Al-Nasser, (2014). [109]) in the era of uncertainty and digital transformation, financial analysis has evolved to include esg reporting, green finance, and ethical disclosures, making it essential for corporate governance and risk management (Danci et al. (2025). [110]). Moreover, it serves as a

decision-making framework for internal and external stakeholders, helping firms identify strengths, correct weaknesses, and maximize value (Ravinder & Anitha, (2013). [111]) the integration of financial analysis with digital tools and behavioral insights further enhances its relevance in modern business environments, where transparency and accountability are paramount (Achim & Borlea (2012). [112]).

8.3.2 Funding patterns:

(1) Internal accruals:

Primary source of funding across all five years has been strong cash flows from operations due to consistent profitability, reinvestment of retained earnings into R&D, capacity expansion, and acquisitions.

(2) Equity capital:

No major equity dilution in the last five years has maintained a stable shareholding pattern with minimal changes in promoter holdings. Occasionally used employee stock option plans (ESOPs) for talent retention, but not as a major funding tool.

(3) Debt financing:

Conservative use of debt; Sun Pharma has kept its debt-to-equity ratio low. Utilized short-term borrowings for working capital needs, occasionally tapped into foreign currency loans for overseas operations.

(4) Strategic acquisitions & partnerships:

Funded acquisitions through a mix of internal cash and debt. Notable deals include investments in specialty and generics businesses in the emerging markets. These deals were structured to avoid over-leveraging, often backed by strong cash reserves.

(5) Government incentives & grants:

Benefited from Indian government schemes supporting pharmaceutical exports and received tax incentives for operating and for investments in innovation.

Table 11: Year-Wise Financial Highlights

Year	Revenue (₹ Cr)	Net Profit (₹ Cr)	Debt Level	Key Funding Notes
2020–21	~33,000	~2,700	Low	Focused on internal funding and cost optimization
2021–22	~38,000	~3,400	Low	Increased spend, funded via accruals
2022–23	~43,000	~4,100	Moderate	Strategic acquisitions in funded partly by debt
2023–24	~47,000	~4,500	Low	Strong cash flow supported expansion
2024–25*	~50,000+	~5,000+ (Est.)	Low	Continued reliance on internal accruals and minimal debt

Risk-averse approach: Sun Pharma avoids aggressive leveraging, ensuring financial stability. Global diversification funding supports global expansion, especially in specialty generics innovation, driven significant investment in primarily funded through internal sources.

8.3.3 Revenue vs. Cost Structure:

(1) Cost of goods sold:

Cogs typically accounted for 45–50% of revenue, including raw materials, manufacturing, packaging, and logistics. Raw material costs fluctuated due to global supply chain issues and inflation.

(2) R&D expenses:

Averaged 7–9% of revenue annually. Focused on specialty drugs, biosimilars, and complex generics. Spend increased steadily, reflecting strategic investment in innovation.

(3) Selling, general & administrative:

It ranged from 18–22% of revenue. Includes marketing, distribution, salaries, and legal expenses. Specialty drug marketing is expected the drive higher in 2023–2025.

(4) Depreciation & amortization:

Annual depreciation hovered around Rs. 9,000–11,000 cr. Reflects investment in manufacturing facilities and intangible assets (e.g., patents, goodwill).

Table 12: Profitability Highlights

Fiscal Year	EBITDA Margin	Net Profit Margin
Fy 2021	~22%	~15%
Fy 2022	~24%	~17%
Fy 2023	~25%	~18%
Fy 2024	~26%	~19%
Fy 2025	~27%	~20%

Interpretation:
Improving margins: driven by operational efficiency, product mix shift toward high-margin specialty drugs, and cost control.
Net profit: grew consistently, reflecting strong top-line growth and disciplined cost management.

Table 13: Revenue Trends (Fy 2021–Fy 2025)

FISCAL YEAR	TOTAL REVENUE (INR CR)	GROWTH YOY
FY 2021	~32,000	—
FY 2022	~38,000	↑ ~18%
FY 2023	~43,000	↑ ~13%
FY 2024	~47,000	↑ ~9%
FY 2025	~52,000	↑ ~11%

Insights:
Key drivers: growth was fueled by strong performance in generics, specialty drugs, and international markets
Specialty segment: contributed significantly to revenue growth, especially in dermatology and ophthalmology.

8.4. Technological Strategy Analysis:

(i) About Technological Strategy Analysis:
Sun Pharma's technological strategy is rooted in leveraging advanced pharmaceutical science, digital transformation, and AI-driven innovation to maintain its leadership in generics and specialty medicines. The company's approach integrates Global R&D infrastructure across India, Israel, USA, and Canada. Technology-enabled drug development, including complex generics, NDDS (Novel Drug Delivery Systems), and biologics. Sustainability and compliance through green chemistry and regulatory alignment. Digital health and AI integration for clinical trials, pharmacovigilance, and supply chain optimization.

(ii) Core Innovation Domains:
Sun Pharma's innovation spans multiple high-impact domains:
(1) Pharmaceutical Formulation & Delivery
Liposomal drugs, lyophilized injections, nasal sprays, inhalers, Controlled-release, and taste-masked dosage forms. Nano-milling, spray-drying, and drug-layering technologies.
(2) Therapeutic Focus Areas
Dermatology, ophthalmology, oncology, cardiology, CNS disorders. Specialty pipeline includes ILUMYA (psoriasis), LEQSELVI (alopecia), and Winlevi (acne).
(3) Active Pharmaceutical Ingredients (APIs)
Complex APIs using green reagents and advanced synthesis. Backward integration for strategic control over the supply chain.
(4) Intellectual Property
Over 3,000 patents filed and 2,300 granted globally. Strong IP team with expertise in chemistry, analytics, and global patent law.

(iii) Use of Reinforcement Learning, Neural Networks, and Ethical AI Units:
Sun Pharma is actively integrating AI and ML across its operations:
(1) Drug Discovery: Deep learning models for target identification and molecule screening.
(2) Formulation Development: Computational models simulate drug behaviour and optimize compositions.
(3) Clinical Trials: AI-driven patient matching, retention analytics, and real-time data processing.

(iv) R&D Orientation vs Productization:
Sun Pharma balances deep R&D investment with aggressive productization:
(1) R&D Orientation:
Annual R&D spend: ~6–7% of sales (~₹31.8 Bn in FY24)3,000+ R&D professionals across six global centers. Focus on specialty drugs, complex generics, and biosimilars. Collaborations with academia and industry for innovation acceleration
(2) Productization Strategy:
Rapid commercialization of pipeline assets like LEQSELVI and ILUMYA strong clinical pharmacology unit for bioequivalence and Phase I trials First-to-file exclusivity in the U.S. generics market under the Hatch-Waxman Act. Strategic acquisitions to bridge innovation gaps and expand market access.

8.5. Marketing Analysis:

(i) About Marketing Analysis:

Marketing analysis involves evaluating a company's market environment, customer behaviour, competitive positioning, and promotional strategies to optimize its reach and profitability. In the pharmaceutical sector, marketing analysis is particularly nuanced due to Regulatory constraints on direct-to-consumer advertising B2B dynamics involving healthcare professionals and institutions Global market diversity, requiring tailored regional strategies Digital transformation, reshaping engagement through AI and data analytic Effective marketing analysis helps pharmaceutical firms like Sun Pharma align their product offerings, pricing, and promotional efforts with evolving healthcare needs and competitive landscapes (Ullagaddi (2024). [113]).

(ii) Analysis of Marketing Strategy of Sun Pharma Industries Limited:

Sun Pharma's marketing strategy is built on a multi-channel, multi-market approach that leverages its global footprint and specialty product portfolio.
Product Strategy:
Focus on specialty drugs (e.g., dermatology, oncology, ophthalmology) and complex generics. Strong pipeline of differentiated products like ILUMYA and Winlevi Emphasis on quality, affordability, and accessibility (Ma & Sun (2020). [114]).
Pricing Strategy:
Competitive pricing for generics to maintain volume leadership, Premium pricing for specialty drugs backed by clinical efficacy, Strategic use of value-based pricing in regulated markets (Morgan et al (2009). [115]).
Place (Distribution):
Global presence in over 100 countries. Strong distribution network in India, U.S., and emerging markets. Partnerships with hospitals, clinics, and government health programs
Promotion Strategy:
Physician-focused marketing through medical representatives and CME programs, Digital marketing and AI-driven engagement for HCPs and patients, Limited direct-to-consumer advertising due to regulatory norms, Use of data analytics to optimize promotional spend and ROI (Leonidou (2013). [116]).
Strategic Marketing Capabilities:
Integration of CRM systems and predictive analytics to personalize outreach Investment in digital transformation to enhance marketing agility and compliance. Use of AI and machine learning to refine segmentation and campaign effectiveness.

8.6. Human Resource Management:

(i) About Human Resources Management Analysis

Human Resources Management (HRM) analysis involves evaluating how an organization manages its workforce to achieve strategic goals. It encompasses recruitment, training, performance management, compensation, employee engagement, and organizational culture.
Key Dimensions of HRM Analysis: Strategic Alignment, ensuring HR practices support business objectives.
Talent Acquisition & Retention: Assessing recruitment strategies and turnover rates.
Training & Development: Evaluating learning initiatives and skill enhancement.
Performance Management: Measuring employee output and feedback mechanisms.
Employee Engagement & Satisfaction: Gauging morale, motivation, and workplace culture.
HR Technology & Analytics: Leveraging digital tools for data-driven decisions.

(ii) Analysis of Human Resources Management Strategy of Sun Pharma Industries Limited:
Sun Pharma Industries Limited, one of India's leading pharmaceutical companies, has adopted a progressive HRM strategy to support its global operations and innovation-driven culture. Organizational HR Strategy Overview: Digital Transformation Sun Pharma modernized its HR processes by integrating cloud-based platforms, enabling paperless, transparent, and unified.
HR operations. System Consolidation: The company merged six disparate HR systems into one, improving operational efficiency and data consistency.
Employee-Centric Culture: HR practices emphasize teamwork, idea-sharing, and participative decision-making, fostering high job satisfaction.
Strategic HR Practices: Recruitment & Selection Focus on attracting top talent through employer branding and digital platforms.
Training & Development: Continuous learning initiatives to enhance employee adaptability and performance.
Performance Management: Alignment of individual goals with organizational objectives to boost engagement.
Compensation & Rewards: Competitive packages and recognition programs to retain talent.

9. EMERGING ISSUES & STRATEGIES :

(1) **Issue: Regulatory Challenges:**
Stringent global regulations, especially from the USFDA. Past compliance issues have led to product recalls and import bans.
Strategy:
Focus on high-margin, patent-protected specialty medications in dermatology, ophthalmology, and oncology. Specialty drugs now contribute one-fifth of global revenues.

(2) **Issue: Market Dependence:**
Heavy reliance on the U.S. market for revenue. Volatility in U.S. generics due to pricing pressure, buyer consolidation, and regulatory scrutiny.
Strategy:
Significant increase in R&D spending: ₹1,228 crore in FY24 vs ₹540 crore in FY20. Emphasis on early-stage novel research and global clinical trials.

(3) **Issue: Global Economic Uncertainty:**
Foreign exchange fluctuations and geopolitical tensions impact profitability. Tariff threats and trade policy shifts (e.g., reciprocal tariffs) add unpredictability.
Strategy:
Strengthening presence in India, Japan, China, and Emerging Markets. Operating at scale in over 80 countries.

(4) **Issue: Competitive Pressure:**
Intense competition in generics and specialty segments. Price erosion and shrinking margins in key markets.
Strategy:
Scouting for acquisitions and licensing deals to expand specialty portfolio. Strong balance sheet enables strategic investments.

10. COMPARISON OF THE PERFORMANCE WITH COMPETITORS :

(1) Financial Dimension:
Sun Pharma has consistently demonstrated strong financial performance, with a five-year revenue CAGR of 10.7%, outperforming Cipla (8.3%) and Dr. Reddy's (9.1%), though slightly behind Divi's Labs (12.2%). Its net profit margin of 21.1% and ROE of 15.13% reflect robust profitability and shareholder returns. The company maintains a low debt-to-equity ratio (0.12), indicating prudent financial management.
In contrast, Cipla and Dr. Reddy's have shown moderate growth, with higher leverage and lower margins. Divi's Labs stands out for its high profit margins (24.5%) and minimal debt, though its revenue base is smaller.
(2) Research Dimension:
Sun Pharma has significantly ramped up its R&D investment, reaching ₹1,228 crore in FY24, focusing on specialty drugs in dermatology, oncology, and ophthalmology. It has launched multiple novel molecules and biosimilars, positioning itself as a leader in innovation among Indian pharma firms.
Dr. Reddy's also invests heavily in R&D, particularly in biosimilars and complex generics, while Cipla focuses on respiratory and chronic therapies. Divi's Labs, being API-centric, has a narrower research scope but excels in process innovation
(3) Technological Dimension:
Sun Pharma has adopted advanced manufacturing technologies across its 41 global facilities, with regulatory approvals from USFDA, EMA, and others. It leverages digital tools for supply chain optimization and clinical trial management.
Cipla has invested in digital therapeutics and AI-driven drug discovery. Dr. Reddy's emphasizes biologics and digital health platforms. Divi's Labs focuses on process automation and green chemistry in API production.
(4) Ethical & Sustainability Dimension:
Sun Pharma publishes a comprehensive Business Responsibility and Sustainability Report (BRSR) annually, outlining its ESG initiatives, ethical marketing practices, and CSR spending. It complies with global ethical standards and has faced fewer regulatory violations in recent years compared to its peers.
Dr. Reddy's has a strong sustainability framework and transparent governance. Cipla is recognized for its patient-centric approach and ethical branding. Divi's Labs maintains high environmental standards but has limited public engagement on social issues.

11. SUGGESTIONS BASED ON THE STUDY :

(1) Create Transparent KPIs for Ethical and Practical AI Implementations:
(i) Establish an AI Ethics Committee to oversee algorithmic fairness, bias mitigation, and patient safety in AI-driven drug discovery and diagnostics.
(ii) Define KPIs for algorithmic transparency, such as bias detection rates, explainability scores, and audit frequency.
(iii) Integrate AI risk metrics into the Enterprise Risk Management framework to monitor unintended consequences and data privacy violations.
(2) Enhance Enterprise Collaborations Beyond Alphabet Ecosystem:
(i) Expand partnerships with device manufacturers and biotech startups for drug-device combination products, especially in oncology and ophthalmology.
(ii) Collaborate with academic institutions and engineering firms to co-develop AI-powered delivery platforms and biosensors.
(iii) Leverage regional innovation hubs (e.g., Israel, Canada, Hyderabad) to diversify R&D alliances beyond Silicon Valley-centric ecosystems.
(3) Promote Open-Access Publications for Broader Stakeholder Trust:
(i) Publish clinical trial outcomes and AI research in open-access journals to foster transparency and global collaboration.
(ii) Create a centralized digital repository of Sun Pharma's ESG, AI, and clinical innovation data for public access, aligned with GRI and UNGC frameworks.
(4) Develop Targeted AI Products for Sectors Like Education, SMEs, and Climate:
(i) Deploy AI for rural health diagnostics and smart classrooms, building on CSR initiatives that reached over 17,000 schools and 10,000 students.

(ii) Create AI tools for SME pharma manufacturers, such as predictive maintenance and regulatory compliance dashboards.
(iii) Invest in climate-focused AI models for emissions tracking, water conservation, and renewable energy optimization in manufacturing.

(5) Improve End-User Feedback Loops to Refine Customer Expectations

(i) Implement real-time feedback loops across digital health platforms to capture patient and HCP insights during drug usage.
(ii) Use in-app surveys and sentiment analysis to refine product features and improve adherence tools for chronic therapies.
(iii) Close the feedback loop with follow-up actions, ensuring users see tangible improvements based on their input.

12. CONCLUSIONS :

Summary of Key Findings:

The company analysis of Sun Pharmaceutical Industries Limited reveals a robust and diversified pharmaceutical giant with a strong foothold in both domestic and global markets. Sun Pharma leads the Indian pharmaceutical sector with an 8.6% market share and ranks among the top five globally in specialty generics. Its strengths include a wide product portfolio, strategic acquisitions (e.g., Ranbaxy, Taro), and consistent financial growth—highlighted by rising operating profit margins and return on equity2. However, the company faces challenges such as regulatory scrutiny, intense competition, and price sensitivity in the generics market. Despite these, its investment in R&D (6–8% of revenue) and expanding presence in specialty pharmaceuticals position it well for future innovation and resilience.

Value of Sun Pharma as a Case Study in AI Transformation:

Sun Pharma serves as a compelling case study in AI-driven transformation, particularly in sales enablement and operational efficiency. Through AI-powered coaching platforms, the company has revolutionized its onboarding and field-readiness processes for medical representatives, enhancing in-clinic effectiveness and product detailing. These initiatives demonstrate how AI can be strategically deployed in pharma—not just in drug discovery, but also in workforce development and customer engagement. The company's openness to digital innovation, combined with its scale and regulatory experience, makes it a model for other pharma firms navigating the AI frontier.

Final Reflections on Sustainable Innovation and Ethical Leadership:

Sun Pharma's commitment to sustainable innovation and ethical leadership is deeply embedded in its ESG strategy. The company has achieved significant milestones, including a 21% reduction in water consumption and sourcing 38% of its energy from renewables. It aligns with global frameworks like the UN Global Compact and TCFD, and has set ambitious goals such as becoming net-zero by 20505. Ethical governance is reflected in its high board independence and transparency standards. By integrating sustainability into its core business strategy, Sun Pharma exemplifies how pharmaceutical companies can balance profitability with purpose—leading not only in market share but also in societal impact.

REFERENCES :

[1] Eisenhardt, K. M. (1989). Building theories from case study research. *Academy of Management Review, 14*(4), 532–550. Google Scholar↗

[2] Benbasat, I., Goldstein, D. K., & Mead, M. (1987). The case research strategy in studies of information systems. *MIS Quarterly, 11*(3), 369–386. Google Scholar↗

[3] Aithal, S., & Sreeramana. (2017). *Company Analysis – The Beginning Step for Scholarly Research*. *International Journal of Case Studies in Business, IT and Education*, *1*(1), 01-18. Google Scholar↗

[4] Modapothala, J. R., & Issac, B. (2014). Analysis of corporate environmental reports using statistical techniques and data mining. *International Journal of Environmental Studies, 71*(6), 990–1005. Google Scholar↗

[5] McGovern, P. (2020). In search of theory? The workplace case study tradition in the 21st century. *Industrial Relations Journal, 51*(3), 136–152. Google Scholar↗

[6] Flyvbjerg, B. (2006). Five misunderstandings about case-study research. *Qualitative inquiry*, *12*(2), 219-245 Google Scholar↗

[7] Maes, K., De Haes, S., & Van Grembergen, W. (2013). Investigating a process approach on business cases: An exploratory case study at Barco. *International Journal of IT/Business Alignment and Governance*, 4(2), 1–17. Google Scholar↗

[8] Kwon, E. J., & Park, Y. (2023). An exploratory study on the success factors of corporate foresight – Based on the case of Korea material companies. *American Journal of Management Science and Engineering*, *8*(3), 78–83. Google Scholar↗

[9] Crowe, S., Cresswell, K., Robertson, A., Huby, G., Avery, A., & Sheikh, A. (2011). The case study approach. *BMC Medical Research Methodology*, *11*(100), 1–11. Google Scholar↗

[10] Paparini S, Green J, Papoutsi C, Murdoch J, Petticrew M, Greenhalgh T, Hanckel B, Shaw S. (2020). Case study research for better evaluations of complex interventions: rationale and challenges. *BMC Medicine*, *18*(1), 301. Google Scholar↗

[11] Sundarakani, B., & Manikandan, S. (2018). SUN rises from RANBAXY: Supply chain strategy of an Indian pharmaceutical company. *Springer Case Studies in Asian Management*, 11, 1–12. Google Scholar↗

[12] Shah, N. K. (2020). Financial Statement Analysis through Ratio Analysis of Selected Pharmaceutical Firms. *Journal of Business Analytics, 4*(2), 22–25. Google Scholar↗

[13 Sathya, P., & Vijayakumar, A. (2016). the determinants of profitability: an empirical investigation on sun pharma. *clear International Journal of Research in Commerce & Management*, *7*(6), 20-42. Google Scholar↗

[14] Khurana, P., Yadav, M. M. P., & Lochab, M. A. (2016). Corporate Acquisition–A Financial Strategy with Reference to Sun Pharma and Ranbaxy. *CPJ Global Review, 8*(1), 25-30. Google Scholar↗

[15] Sharon, D. R. D. (2024). An impact of Altman's Z-score on Sun Pharmaceutical Industries Limited. *JOURNAL OF THE ORIENTAL INSTITUTE, 72*(5), 86-97. Google Scholar↗

[16] Mishra, S. B., Trivedi, M. S., & Jha, U. K. (2024), Financial performance analysis of Sun Pharmaceutical Industries Ltd., in the last five years. *ANVESAK, 54*(4), 44-49. Google Scholar↗

[17] Irvine, C. A. Supported by Sun Pharmaceutical Industries, Inc. Google Scholar↗

[18] Mohapatra, A., Gupta, G. K., & Chaurasia, A. (2022). *Sun Pharmaceutical Industries Limited: A Star Player for Portfolio Managers?*. *SAGE Publications: SAGE Business Cases Originals*. Google Scholar↗

[19] Verma, K., & Jha, A. K. Application of Markov Chain to Compare Trend of Sun Pharma Shares-Before & During COVID-19 Period. *SCIENCE TECHNOLOGY and*, 149. Google Scholar↗

[20] Patjoshi, P., & Nandini, G. (2019). Trends of Liquidity Management and their Impact on Financial Performance of CIPLA and SUN PHARMA. *Indian Journal of Natural Sciences, 10 (59), 18610*, *18619*. Google Scholar↗

[21] Kolluri, S., Lin, J., Liu, R., Zhang, Y., & Zhang, W. (2022). Machine learning and artificial intelligence in pharmaceutical R&D: A review. *The AAPS Journal, 24*, 19. Google Scholar↗

[22] Sultana, A., Maseera, R., Rahamanulla, A., & Misiriya, A. (2023). Emerging of artificial intelligence and technology in pharmaceuticals: A review. *Future Journal of Pharmaceutical Sciences, 9*, 65. Google Scholar↗

[23] Chatterjee, S., Rana, N. P., Tamilmani, K., & Sharma, A. (2022). The role of AI in pharmaceutical manufacturing: A systematic literature review. *Technological Forecasting and Social Change, 180*, 121689. Google Scholar↗

[24] Kumar, A., & Sharma, R. (2021). NLP in pharmacovigilance: A review of current applications. *Journal of Biomedical Informatics, 117*, 103765. Google Scholar↗

[25] Sun, C. C. (2017). Microstructure of tablet—pharmaceutical significance, assessment, and engineering. *Pharmaceutical research*, *34*(5), 918-928. Google Scholar↗

[26] Srivastava, R. K. (2018). Merger, acquisition–right move or emotional move for growth–case study of Sun Pharmaceutical. *International Journal of Pharmaceutical and Healthcare Marketing*, *12*(3), 270-287. Google Scholar↗

[27] Jagtap, M. V. (2023). Trade-off between liquidity and profitability: case study of Sun Pharmaceutical Industries. *IITM Journal of Business Studies, 9*(1), 295-304. Google Scholar↗

[28] Khandhar, U. A., & Patel, R. K. (2023). A study of CSR practice in pharmaceutical companies in India. *GAP iNTER DISCIPLINARITIES, 6*(4), 35-42. Google Scholar↗

[29] Mishra, S. B., & Mishra, R. P. (2023). HRM activities and their impact on the level of job satisfaction: an analysis of Sun Pharmaceutical Industries Ltd., at Dewas (MP) unit. *Utkal Historical Research Journal, 36*(2), 101-109. Google Scholar↗

[30] Kuhlman, K. (2022). Case 15: Sun Pharmaceutical Industries–Innovation Through Specialty Acquisition Strategy, Technology, Leadership, and Culture. In *Business Innovation* (pp. 294-304). Routledge. Google Scholar↗

[31] Patel, H., Guttula, S., Mittal, R. S., & Manwani, N. (2022). Advances in exploratory data analysis, visualisation, and quality for data-centric AI systems. *Proceedings of the 28th ACM SIGKDD Conference on Knowledge Discovery and Data Mining*, Google Scholar↗

[32] Farazouli, A., Cerratto-Pargman, T., Bolander-Laksov, K., & McGrath, C. (2024). Hello GPT! Goodbye home examination? An exploratory study of AI chatbots' impact on university teachers' assessment practices. *Assessment & Evaluation in Higher Education, 49*(3), 363–375. Google Scholar↗

[33] Patel, H., Guttula, S., Gupta, N., Hans, S., & Mittal, R. S. (2023). A data-centric AI framework for automating exploratory data analysis and data quality tasks. *ACM Journal of Data and Information Quality, 15*(4), 1–26. Google Scholar↗

[34] McGrath, C., Farazouli, A., & Cerratto-Pargman, T. (2024). Generative AI chatbots in higher education: A review of an emerging research area. *Higher Education*, 1–17. Google Scholar↗

[35] Jobstreibizer, J., Beliaeva, T., Ferasso, M., Kraus, S., & Kallmuenzer, A. (2025). The impact of artificial intelligence on business models: A bibliometric-systematic literature review. *Management Decision, 63*(13), 372–396. Google Scholar↗

[36] Perifanis, N.-A., & Kitsios, F. (2023). Investigating the influence of artificial intelligence on business value in the digital era of strategy: A literature review. *Information, 14*(2), 85. Google Scholar↗

[37] Di Vaio, A., Palladino, R., Pezzi, A., & Hassan, R. (2023). Investigating the influence of artificial intelligence on sustainable business models. *Information, 14*(2), 85. Google Scholar↗

[38] Farayola, O. A., Abdul, A. A., Irabor, B. O., & Okeleke, E. C. (2023). Innovative business models driven by AI technologies: A review. *International Journal of Business and Management*, 11(10), 1–20. Google Scholar↗

[39] Sotirofski, I. (2024). Understanding innovation ecosystems. *International Journal of Research and Development, 11*(1), 1–15. Google Scholar↗

[40] Bassis, N. F., & Armellini, F. (2018). Systems of innovation and innovation ecosystems: A literature review in search of complementarities. *Journal of Evolutionary Economics, 28*(5), 1053–1080. Google Scholar↗

[41] Crowe, S., Cresswell, K., Robertson, A., Huby, G., Avery, A., & Sheikh, A. (2011). The case study approach. *BMC Medical Research Methodology, 11*, 100. Google Scholar↗

[42] Harrison, H., Birks, M., Franklin, R., & Mills, J. (2017). Case study research: Foundations and methodological orientations. *Forum: Qualitative Social Research, 18*(1), Art. 19. Google Scholar↗

[43] Takahashi, A. R. W., & Araujo, L. (2019). Case study research: Opening up research opportunities. *RAUSP Management Journal, 55*(1), 100–111 Google Scholar↗

[44] Hagendorff, T. (2020). The ethics of AI ethics: An evaluation of guidelines. *Minds and Machines*, *30*(1), 99–120. Google Scholar↗

[45] Hallamaa, J., & Kalliokoski, T. (2022). AI ethics as applied ethics. *Frontiers in Computer Science*, *4*, Article 776837. Google Scholar↗

[46] Ricciardi Celsi, L., & Zomaya, A. Y. (2025). Perspectives on managing AI ethics in the digital age. *Information*, *16*(4), Article 318. Google Scholar↗

[47] Fahlevi, M., Moeljadi, M., Aisjah, S., & Djazuli, A. (2023). Corporate governance in the digital age: A comprehensive review of blockchain, AI, and big data impacts. *E3S Web of Conferences*, *448*(56), 1–10. Google Scholar↗

[48] Petrin, M. (2024). The impact of AI and new technologies on corporate governance and regulation. *Singapore Journal of Legal Studies*, *March 2024*, 1–17. Google Scholar↗

[49] Fenwick, M., Vermeulen, E. P. M., & Kaal, W. A. (2018). Why 'Blockchain' will disrupt corporate organizations. *Lex Research Topics in Corporate Law & Economics*, *2018*(3), 1–25. Google Scholar↗

[50] Muravu, N. (2023). Strategic Performance Measurement and Management: Theory and Practice of Public Sector Benchmarking. *IOSR Journal of Business and Management*, *25*(12), 26-52. Google Scholar↗

[51] Horváthová, J., Mokrišová, M., & Vrábliková, M. (2021). Benchmarking—A way of finding risk factors in business performance. *Journal of Risk and Financial Management*, *14*(5), 221–235. Google Scholar↗

[52] Gao, D. K., Haverly, A., Mittal, S., Wu, J., & Chen, J. (2024). AI ethics: A bibliometric analysis, critical issues, and key gaps. *International Journal of Business Analytics*, *11*(1), 1–19. Google Scholar↗

[53] Maphosa, V. (2024). The rise of artificial intelligence and emerging ethical and social concerns. *AI, Computer Science and Robotics Technology*, *1*(1), 1–20. Google Scholar↗

[54] Khopade, A. J., Vora, B., & Jain, N. K. (1998). Proniosome-based transdermal delivery of levonorgestrel for effective contraception. *Journal of Controlled Release, 54*(2), 149–165. Google Scholar↗

[55] Khopade, A. J., Sant, V. P., Parekh, S. R., Deo, M. R., & Banakar, U. V. (1997). Proliposome-based transdermal delivery of levonorgestrel. *Journal of Biomaterials Applications, 12*(1), 77–88. Google Scholar↗

[56] Jain, M. M., Gupte, S. U., Patil, S. G., Pathak, A. B., Deshmukh, C. D., Bhatt, N., ... & Bhatt, G. (2016). Paclitaxel injection concentrate for nanodispersion versus nab-paclitaxel in women with metastatic breast cancer: A multicenter, randomized, comparative phase II study. Breast Cancer Research and Treatment, 156(1), 125–134. Google Scholar↗

[57] Chauhan, A. S., Jain, N. K., Diwan, P. V., & Khopade, A. J. (2004). Solubility enhancement of indomethacin with poly(amidoamine) dendrimers and targeting to inflammatory regions of arthritic rats. *Journal of Drug Targeting, 12*(9–10), 575–583. Google Scholar↗

[58] Tripathi, P. K., Khopade, A. J., Nagaich, S., Shrivastava, S., Jain, S., & Jain, N. K. (2002). Dendrimer grafts for delivery of 5-fluorouracil. *Die Pharmazie, 57*(4), 261–264. Google Scholar↗

[59] Ghosh, S., Javia, A., Shetty, S., Bardoliwala, D., Maiti, K., Banerjee, S., ... & Jain, M. (2021). Triple negative breast cancer and non-small cell lung cancer: Clinical challenges and nano-formulation approaches. *Journal of Controlled Release, 337*(1), 27–58. Google Scholar↗

[60] Khopade, A. J., & Jain, N. K. (1999). Lipoprotein-mimicking biovectorized systems for methotrexate delivery. Pharmaceutica Acta Helvetiae, 73(6), 275–279. Google Scholar↗

[61] Khopade, A. J., & Caruso, F. (2003). Surface-modification of polyelectrolyte multilayer-coated particles for biological applications. Langmuir, 19(15), 6219–6225. Google Scholar↗

[62] Yin, R. K. (2018). *Case study research and applications: design and methods* (6th ed.). Sage Publications. Google Scholar↗

[63] Baxter, P., & Jack, S. (2008). Qualitative case study methodology: study design and implementation for novice researchers. *The qualitative report, 13*(4), 544–559. Google Scholar↗

[64] Ridder, H. G. (2017). The theoretical contribution of case study research designs. *Business research, 10*(2), 281–305. Google Scholar↗

[65]. Eisenhardt, K. M. (1989). Building theories from case study research. *Academy of Management Review, 14*(4), 532–550. Google Scholar↗

[66] Mills, A. J., Durepos, G., & Wiebe, E. (2010). *Encyclopaedia of case study research*. Sage Publications. Google Scholar↗

[67] Stebbins, R. A. (2001). *Exploratory research in the social sciences*. Sage Publications. Google Scholar↗

[68] Tellis, W. (1997). Introduction to case study. *The qualitative report, 3*(2), 1–14. Google Scholar↗

[69] Eisenhardt, K. M., & Graebner, M. E. (2007). Theory building from cases: opportunities and challenges. *Academy of Management Journal, 50*(1), 25–32. Google Scholar↗

[70] Stake, R. E. (1995). *The art of case study research*. Sage Publications. Google Scholar↗

[71] Graham, J. R., Li, S., & Qiu, J. (2008). Corporate misreporting and bank loan contracting. *Journal of Financial Economics*, 89(1), 44–61. Google Scholar↗

[72] Altheide, D. L., & Schneider, C. J. (2012). *Qualitative media analysis* (2nd ed., pp. 1–120). Sage publications. Google Scholar↗

[73] Appio, F. P., Frattini, F., Petruzzelli, A. M., & Neirotti, P. (2021). Digital transformation and innovation management: a synthesis of existing research and an agenda for future studies. *Journal of Product Innovation Management*, 38(1), 4–20. Google Scholar↗

[74] Morse, J. M., Barrett, M., Mayan, M., Olson, K., & Spiers, J. (2002). Verification strategies for establishing reliability and validity in qualitative research. *International journal of qualitative methods*, 1(2), 13–22. Google Scholar↗

[75] Aithal, P. S., & Kumar, P. M. S. (2015). A new ABCD technique to analyze business models & concepts. *International Journal of Management, IT and Engineering*, 5(4), 409–423. Google Scholar↗

[76] Aithal, P. S., Shailashree, V. T., & Kumar, P. M. S. (2016). Application of ABCD Analysis Framework on Private University System in India. *International Journal of Management Sciences and Business Research*, 5(4), 45–56. Google Scholar↗

[77] Thakur, V. (2020). Framework for PESTEL dimensions of sustainable healthcare waste management: Learnings from COVID-19 outbreak. *Journal of Cleaner Production*, 287, 125562. Google Scholar↗

[78] Teisberg, E. O., Wallace, S., & O'Hara, S. (2020). Defining and implementing value-based health care: A strategic framework. *Academic Medicine*, 95(5), 682–685. Google Scholar↗

[79] Bird, M., McGillion, M., Chambers, E. M., Dix, J., Fajardo, C. J., & Gilmour, M. (2021). A generative co-design framework for healthcare innovation: Development and application of an

end-user engagement framework. *Research Involvement and Engagement*, 7(1), 1–12. Google Scholar↗

[80] Weberg, D. (2019). Leadership for evidence-based innovation in nursing and health professions. *Jones & Bartlett Learning*, pp. 98–112. Google Scholar↗

[81] Aggarwal, R. K. (2009). Sun Pharmaceuticals acquires Taro Pharmaceuticals. *Market forces*, *5*(2). Google Scholar↗

[82] Mohapatra, A., Gupta, G. K., & Chaurasia, A. (2022). Sun pharmaceutical industries limited: a star player for portfolio managers*?*. *Sage publications: sage business cases originals*. Google Scholar↗

[83] Mareja, N., & Sharma, V. (2019, October). Impact of corporate restructuring on employee reward and recognition: a case study of Sun Pharmaceuticals & Ranbaxy Laboratories. In the *proceedings of International Conference on Advancements in Computing & Management (ICACM)*. Google Scholar↗

[84] Mishra, S. B., & Mishra, R. P.HRM activities and its impact on the level of job satisfaction: an analysis of Sun Pharmaceutical Industries Ltd., at Dewas (MP) unit. Google Scholar↗

[85] Sharon, D. R. D. (2024). An impact of Altman's score on Sun Pharmaceuticals Industries Limited. *JOURNAL OF THE ORIENTAL INSTITUTE, 72*(5), 86-97. Google Scholar↗

[86] Francis, B., Hasan, I., & Sun, X. (2016). CEO political preference and corporate tax sheltering. *Journal of Corporate Finance*, 38, 37–53. Google Scholar↗

[87] Ullagaddi, p. (2024). Digital Transformation in the Pharmaceutical Industry: Enhancing Quality Management Systems and Regulatory Compliance. *International Journal of Health Sciences*, *12*(1), 31–43. Google Scholar↗

[88] Santoro, M. A., & Gorrie, T. M. (2005). *Ethics and the pharmaceutical industry*. Cambridge University Press. P. 112. Google Scholar↗

[89] Zhang, Y., Sun, J., Yang, z., & Wang, Y. (2020). Critical success factors of green innovation: Technology, organization and environment readiness. *Journal of Cleaner Production*, 264, 121701. Google Scholar↗

[90] Ullagaddi, P. (2024). Digital Transformation in the Pharmaceutical Industry: Enhancing Quality Management Systems and Regulatory Compliance. *International Journal of Health Sciences*, 12(1), 31–43. Google Scholar↗

[91] Francis, B., Hasan, I., & Sun, X. (2016). CEO political preference and corporate tax sheltering. *Journal of Corporate Finance*, 38, 37–53. Google Scholar↗

[92] Zhang, Y., Sun, J., Yang, Z., & Wang, Y. (2020). Critical success factors of green innovation: Technology, organization and environmental readiness. *Journal of Cleaner Production*, 264, 121701. Google Scholar↗

[93] Santoro, M. A., & Gorrie, T. M. (2005). *Ethics and the pharmaceutical industry*. Cambridge University Press. p. 112. Google Scholar↗

[94] Ullagaddi, P. (2024). Digital Transformation Strategies to Strengthen Quality and Data Integrity in Pharma. *International Journal of Business and Management*, 19(5), 16–26. Google Scholar↗

[95] Sharma, P., Barot, P., & Dave, V. (2024). Evaluating the impact of organizational performance on selected pharmaceutical companies of India: a market centric analysis. *Annals of the Bhandarkar Oriental Research Institute, 45*(7), 127-135. Google Scholar↗

[96] Kuhlman, K. (2022). Case 15: Sun Pharmaceutical Industries–Innovation Through Specialty Acquisition Strategy, Technology, Leadership, and Culture. In *Business Innovation* (pp. 294-304). Routledge. Google Scholar↗

[97] Mohanty, C., & Nanda, A. (2019). Corporate Governance in Family-Controlled Business with Special Reference to the Sun Pharmaceutical Debacle. *J. on Governance*, *3*, 94 Google Scholar↗

[98] Mowla, M. M., Hoque, N., Mamun, A., & Uddin, M. R. (2014). Entry Mode Selection, Location Choice and the Sequence of Internationalization: A Case Study on Ranbaxy Laboratories Ltd. *Asian Social Science*, *10*(6), 145. Google Scholar↗

[99] Gürel, E., & Tat, M. (2017). SWOT analysis: A theoretical review. *International Journal of Social Research*, 10(51), 996–1016. Google Scholar↗

[100] Jain s., & Yadav, r. (2022). Strategic planning and market orientation in Indian pharma sector: role of swot. *International journal of pharmaceutical and healthcare marketing*, *16*(3), 312–329. Google Scholar↗

[101] Lobo, s., & Bhat, s. (2022). A systematic literature review and research agenda of share price movement of the Indian pharmaceutical industry. *International journal of management, technology and social sciences (ijmts)*, *7*(2), 1-27. Google Scholar↗

[102] George, A. K., & George, S. M. (2012). SWOC analysis of FDI in the health care industry of India. *Chinnu Mariam Chacko*, 1. Google Scholar↗

[103] Aithal, P. S., & Aithal, S. (2023). Incubationship–A Systematic Analysis of Recently Announced Super Innovation in Higher Education using SWOC, ABCD, and PESTL Frameworks. *International Journal of Case Studies in Business, IT, and Education (IJCSBE)*, *7*(4), 48-90. Google Scholar↗

[104] Aba, J. I., Danjuma, O. A., & Makinde, O. T. (2019). Awareness of SWOC analysis for library services in universities in Edo State, Nigeria: Opportunities, and Challenges (SWOC), Universities and Library Services. *Gateway Information Journal*, *20*(2), 1–18. Google Scholar↗

[105] Ashwini, V., & Aithal, P. S. (2024). Quantitative ABCD Analysis: Consumers' Purchase Intention for Eco-Friendly Bags. *International Journal of Management, Technology, And Social Sciences (Ijmts)*, 9(1), 1–32. Google Scholar↗

[106] Aithal, P. S., & Aithal, S. (2019). Abcd Analysis As Research Methodology In Company Case Studies. *Srinivas Publication*, 5(1), 1–13. Google Scholar↗

[107] Maclure, L. (2023). Augmentations to the Asset-Based Community Development Model To Target Power Systems. *Community Development*, 54(1), 4–17. Google Scholar↗

[108] Pstross, M., Et Al. (2014). The ABCD Researcher's Role In Community Development. *Community Development*, 45(5), 526. Google Scholar↗

[109] Al-Nasser, N. M. (2014). The Impact of Financial Analysis In Maximizing the Firm's Value: A Case Study on the Jordanian Industrial Companies. *International Journal Of Managerial Studies And Research, 2*(6), 1–9. Google Scholar↗

[110] Danci, A.-R., Lazar, I.-A., & Mureșan, G.-M. (2025). *Financial Analysis In The Era Of Uncertainty: A Comprehensive Examination*. Digital Finance. Google Scholar↗

[111] Ravinder, D., & Anitha, M. (2013). Financial Analysis – A Study. *IOSR Journal of Economics and Finance, 2*(3), 10–22. Google Scholar↗

[112] Achim, M. V., & Borlea, S. N. (2012). Financial Analysis and its Role in Assessing Corporate Performance. *Annals of the University of Oradea, Economic Science Series, 21*(2), 635–641. Google Scholar↗

[113] Ullagaddi, P. (2024). Digital Transformation in the Pharmaceutical Industry: Enhancing Quality Management Systems and Regulatory Compliance. *International Journal of Health Sciences, 12*(1), 31–43. Google Scholar↗

[114] Ma, L., & Sun, B. (2020). Machine learning and AI in marketing–Connecting computing power to human insights. *International Journal of Research in Marketing, 37*(3), 481–504. Google Scholar↗

[115] Morgan, N. A., Vorhies, D. W., & Mason, C. H. (2009). Market orientation, marketing capabilities, and firm performance. *Strategic Management Journal, 30*(8), 909–920. Google Scholar↗

[116] Leonidou, C. N., Katsikeas, C. S., & Morgan, N. A. (2013). "Greening" the marketing mix: Do firms do it and does it pay off?. *Journal of the Academy of Marketing Science, 41*(2), 151–170. Google Scholar↗

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