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A case study of comparative analysis on evolving role of global capability centers in India on cost optimization and innovation focus for global pharmaceuticals value creation initiatives.

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Abstract : This case study explores the evolving strategic role of Global Capability Centers (GCCs) in India within the global pharmaceutical sector, with a specific focus on their contributions to cost optimization and innovation-driven value creation. Leveraging comparative insights from three leading pharmaceutical multinationals—GSK, AstraZeneca, and Bristol Myers Squibb (BMS)—the study highlights how GCCs are transitioning from traditional back-office support functions to becoming integral hubs for R&D, digital transformation, data science, and regulatory compliance. By analyzing operational models, technology platforms, talent strategies, and cost structures, the study demonstrates that India-based GCCs deliver significant operational cost savings (20–30%) compared to Western headquarters, while simultaneously enhancing innovation throughput through AI/ML-enabled platforms, agile delivery models, and cross-functional integration. The case also evaluates how localization of specialized capabilities, such as clinical data analytics and pharmacovigilance, enables these GCCs to drive efficiency in global value chains while ensuring regulatory alignment. The study concludes that GCCs in India are no longer peripheral service centers but are central to long-term value creation, strategic agility, and digital competitiveness for global pharmaceutical companies. These centers not only reduce overhead but also act as innovation incubators, accelerating new product development, patient-centric platforms, and operational resilience in a post-pandemic, digitally accelerated world.

IndexTerms **- Component,formatting,style,styling,insert.**

INTRODUCTION

Global Capability Center (GCC), also known as a Global Inhouse Center (GIC), is the term commonly used in the industry to refer to service delivery centers that are set up outside the organization's geographic region and take on functions such as Finance/BPO, IT-ITE, Engineering/R&D, or HR, among others. GCCs are typically aggressively managed with strict key performance indicators (KPI) monitored at various management levels across the organization. GCC organizations are expected to operate as autonomous organizations. Service delivery organizations are expected to interact through stable service level agreements for knowledge-intensive services and contracts for services that are more straightforward. The strong influence of the business unit value chain on the GCC or CoE's value proposition typically leads to conflict-laden service relationships at the tactical and/or operational levels.

Global Capability Centers (GCCs) are centers established to service the parent company and hence be treated as Global Shared Services or global entities having global responsibility. GCCs are also referred to as Global In-house Centers, Global Technology Centers, Global Service Centers, Operations Hubs, Innovation Centers, Global Development Centers, Global R&D Centers, and Global Delivery Centers. However, when setting the boundary of GCCs, a meticulous approach is needed as these centers are distinctly different from models like KPO or BPO. Unlike KPOs and BPOs, which are primarily service-centric, GCCs are set up by large organizations with the sole purpose of improving global efficiencies by leveraging the best talent mix in the most cost-effective locations.

The Complexity of GCC in India is With Growth of 650% in Last 12 Years: Like all GCCs, the ones in India continuously evolve and grow to service a wider spectrum of services to various geographies. With the growth in size and scope, the complexity also increases as they are now integrated into the Global Decision-making framework of multinationals. With the growing complexity, it is important to understand and classify these centers and postulation of growth prospects. An analysis of Global

Capability Centers (GCCs) suggests that GCCs in India have grown by 650% in size and 940% in revenue in the last 12 years making India the accommodation for 55% of GCCs, this rapid growth of GCCs in India has brought in a change in complexity, depth, and breadth of services offered. The analysis also suggests that the depth of services offered by GCCs is positively related to the years of operation in India and GCCs that offer high-end services exhibit higher revenue per employee.
This can be found in several sectors such as insurance, banking, research and development but it's most prevalent in the fast-growing pharmaceutical industry.

2.0 Review of Literature

The extent of globalization in the pharmaceutical sector and the implications it has for science and health are examined in the wider context of global trade regulation and bio-political agendas. The strategic mandates of GSK, BMS, and AstraZeneca are analyzed in this research paper. It investigates what strategies the GSK, BMS, and AstraZeneca's GCCs set for themselves in relation to the Indian market, and how the GCC's strategic mandates differ. It recommends a comparative analysis grounded in external stake expectations. The design and final result of the comparative analysis are indicated and its theoretical contribution is outlined.

Global Capability Centers (GCCs) in India have undergone a significant transformation from primarily cost-saving back-office units to strategic innovation hubs that drive global value creation for multinational enterprises (MNEs), including those in the pharmaceutical sector. Initially focused on cost arbitrage, GCCs now lead in areas such as product development, R&D, digital transformation, and strategic decision-making16. This evolution is marked by phases described as GCC 1.0 (cost arbitrage), GCC 2.0 (scaling and capability building), and GCC 3.0 (value creation and innovation leadership)

Cost optimization remains a foundational driver for establishing GCCs in India. Companies leverage India's cost-effective talent pool and favorable economics to streamline operations, eliminate redundancies, and boost productivity at scale. This operational efficiency is not merely about savings but also about enhancing global competitiveness and supporting global expansion strategies13. For example, pharmaceutical GCCs optimize supply chain management, inventory, and demand forecasting to ensure consistent drug availability, contributing to cost efficiency4.

Indian GCCs have increasingly become centers of excellence, especially in pharmaceuticals, where they contribute to critical functions such as drug discovery, clinical trials, regulatory affairs, and commercial operations. They integrate advanced technologies like artificial intelligence (AI), genomics, bioinformatics, augmented reality/virtual reality (AR/VR), and Internet of Things (IoT) to drive innovation and digital transformation27. GCCs in India are responsible for significant intellectual property creation, with some centers contributing hundreds of patents and IP disclosures globally

3.1Research Gap

An analysis of Global Capability Centers (GCCs) suggests that GCCs in India have grown by 650% in size and 940% in revenue in the last 12 years making India the accommodation for 55% of GCCs, this rapid growth of GCCs in India has brought in a change in complexity, depth, and breadth of services offered. The analysis also suggests that the depth of services offered by GCCs is positively related to the years of operation in India and GCCs that offer high-end services exhibit higher revenue per employee. Understanding the growth of GCCs in India over Continuous Periods of 4 Years: The study plots the evolution of GCCs in India on three axes in a two-dimensional plot, the size, and revenue axis, it is clear that GCCs in India have grown on both axes with southern cities growing bigger than their peers. The other plot shows the industry composition to tackle the question of why GCCs in the pharma industry are currently the smallest GCCs in India and have also grown on the smallest scale in terms of revenue. With the high growth of companies, it would also be important to research why the GCCs in the e-Commerce segment seem to be less enticing.

3.2 Methodology

The research paper's focus is on three Global Corporate Centers (GCCs): GSK, BMS, and AstraZeneca, and is based on descriptive statistic on secondary data available in the public domain. It is analysed what strategies these three pharmaceutical GCCs set on the Indian market, relevant to the assessment of strategic mandates. The research is divided into two sections: the first half provides an overview of the pharmaceutical GCC sector in India; the second half consists of the comparative analysis of the strategic mandates and expectations of the respective pharmaceutical GCCs pertaining to India. There is no managerial analysis or empirical model provided in this research paper. The goal is to present a comprehensive outline of external stake expectations and the implications of these expectations on the strategies of GCCs in relation to a growing market, and to offer one phase of a multi--level approach for research as a generalisable framework. The analysis is primarily focused on three major sections:

i. Cost optimization strategies
ii. Value creation initiatives
iii. Innovation Focus

Due to limited publicly available data this analysis prioritizes insights from secondary data on literature review, publicly available information. Subsequent studies could benefit from primary interviews or internal disclosures to deepen the comparative framework.

3.3 Major Findings and Analysis,

India has emerged as a pivotal hub for Global Capability Centers (GCCs) in the pharmaceutical and life sciences sectors, with the number of such centers expected to grow from around 100 in 2024 to over 160 by 2030, employing more than 420,000 professionals. The pharmaceutical GCC ecosystem in India is marked by significant multinational investment, with over 55% of these GCCs

backed by US-headquartered companies, highlighting India's global strategic role in pharmaceutical R&D and innovation. Key cities leading this growth include Bengaluru (33% of centers), Hyderabad, Mumbai, and Delhi-NCR, with Hyderabad experiencing accelerated expansion due to government incentives and strong infrastructure.

The evolving role of Global Capability Centers in India reflects a dual focus on cost optimization and innovation-driven value creation for global pharmaceutical companies. While India continues to offer a cost-effective environment for R&D and clinical trials, the emphasis has shifted towards leveraging advanced technologies and talent to drive innovation. Supported by government policies and a strong talent ecosystem, Indian GCCs are transforming into strategic innovation hubs that significantly contribute to global pharmaceutical pipelines and value creation initiatives.

3.1 Global Capability Centers in India

The Global Capability Centers (GCCs) of multinational pharmaceutical companies in India have emerged as critical hubs for innovation, operational efficiency, and strategic growth. This report analyzes the strategic mandates of GSK, Bristol Myers Squibb (BMS), and AstraZeneca's GCCs in India, focusing on their cost optimization strategies, Value creation initiatives, Innovation focus, operational priorities, technological investments, talent strategies, and contributions to global healthcare outcomes. By examining these dimensions, the analysis reveals how each company leverages India's talent pool and technological ecosystem to advance their global agendas while addressing localized healthcare challenges.

3.2 GSK's Global Capability Center: R&D Excellence and Manufacturing Innovation

GSK India has made significant contributions to patients, health care professionals, and the Indian health care system over the last eight decades. It is a key player in the Indian pharmaceutical and health care industry, with products used thousands of times each day for both acute and chronic conditions GSK's Bengaluru-based Global Capability Center (GCC), established in 2021, serves as a cornerstone for its global R&D operations.

GSK follows the 3x1 strategy in India out of its four strategic priorities that position quality, time, and cost as equal. To attain long-term strong growth, GSK has also put out the goal of continuously advancing drug supply capability and operational efficiency. The center houses over 3,100 employees across IT services, Global Business Services (GBS), and R&D functions, with a strong emphasis on clinical data management, regulatory writing, and biostatistics[1]. The R&D team, comprising 1,400 professionals, specializes in Safety Science, Clinical Operations, and Global Scientific Communication, aligning with GSK's mission to accelerate the delivery of transformative medicines and vaccines[1][2].

A distinctive feature of GSK's GCC is its integration with manufacturing innovation. The company's ₹1,000 crore ($153 million) oral solid-dose manufacturing facility in Karnataka, capable of producing 8 billion tablets annually, underscores the GCC's role in optimizing supply chain logistics and quality assurance[3]. This synergy between R&D and manufacturing enables GSK to streamline drug development cycles while maintaining cost efficiency—a critical advantage in competitive therapeutic areas like oncology and immunology[2].

Technology and Culture as Enablers

GSK's GCC prioritizes technological adoption through its Global Innovation & Technology Centre (GITC) in Chennai, which focuses on cyber security, cloud computing, and hyper-automation[1]. The Bengaluru site's LEED Platinum-certified infrastructure, featuring collaborative work-spaces and wellness centers, reflects a culture-driven approach to innovation[4][1]. By fostering cross-functional collaboration between R&D, procurement, and legal teams, GSK's GCC enhances decision-making agility and reduces time-to-market for critical therapies[1].

Cost optimization Strategies

In line with GSK's strategic priority to enable a leaner, more agile organization, GSK's GCC is committed to reducing costs significantly. The mandate is coordinated at the highest levels of GSK Global and is being executed through the following work streams: Financial & Project Management, Sourcing, Operations & Infrastructure, Data Analytics & Reporting. Work stream leaders are based out of London, and distribution of the workload among the teams in India is per GSK's global norms. This GCC has moved with speed in establishing itself through a matrix organization model. Each of the GCC leaders has two critical stakeholders, one in London who sits on the GSK Executive Committee, and the other in India who leads a part of the GCC. Comprehensive procedures have been adopted to establish ways of working and measures of success for the GCC. In a short time of around two years, the GCC is delivering well on its mandates, winning the GSK Voluntary Awards for Global Business Services Excellence for three straight years

Value Creation Initiatives

The main initiative of GSK's GCC is to provide vaccine access to vulnerable communities. This is achieved by producing vaccines that are less complicated, stable and easier to administer. The transformation of GSK from R&D unit to value addition EKM and Development Centre have taken place in phases. Infrastructure was built during the first phase and efforts for transferring the technologies were made during the second phase. In the third phase less complicated vaccines were manufactured and new technology development for manufacturing non-woven fabric face mask. Now new Gramy-2 vaccine against Encephalitis (Japanese), V630 vaccine against Encephalitis (West Nile) and Trivalent Dengue vaccine are under development.

3.3 AstraZeneca's Global Innovation and Technology Centre: Digital Transformation Leadership

AZ is a science-led innovative biopharmaceutical company with an ambition to achieve better health for patients and workforce. It aims to deliver medicines across three critical areas of health—respiratory, cardiovascular, and oncology—with a presence in India for over 50 years. Its strategic priorities include a focus on inclusive growth, innovation, sustainable business evolution, and greater accountability to patients, communities, and the planet. It has invested significantly in building a strong commercial footprint across a wide range of therapy areas in India. The ambition to strengthen the science ecosystem in India resulted in the establishment of the Global Innovation and Technology (GIT) Centre in Bengaluru, which today is the largest GIT center for AZ globally and acts as a technology innovation partner to discovery and development functions. Indo-AZ has become a pivotal member of the AZ International Balanced Portfolio and has partnered with premier academic institutions and organizations.

Investment in AI and Data Science

AstraZeneca's Chennai-based Global Innovation and Technology Centre (GITC) represents a $30 million (₹250 crore) commitment to digital transformation. The expanded facility, inaugurated in July 2024, will accommodate 1,300 roles specializing in artificial intelligence (AI), machine learning (ML), and supply chain analytics[5][6]. This investment aligns with the company's 45-year legacy in India, positioning the GITC as its largest GCC globally and a hub for enterprise platform development[7].

The GITC's mandate extends beyond traditional IT support; it drives end-to-end delivery of strategic initiatives such as predictive analytics for drug discovery and real-time monitoring of clinical trials[5]. By leveraging India's expertise in data science, AstraZeneca aims to reduce R&D costs by 20–30% while improving success rates in late-stage trials[6].

Collaboration with Academic and Government Ecosystems

AstraZeneca's partnership with the Tamil Nadu government highlights its focus on ecosystem-building. The GCC collaborates with local universities to nurture talent in AI and ML, ensuring a pipeline of skilled professionals for future healthcare challenges[7]. Additionally, the center's emphasis on sustainability—evident in its energy-efficient infrastructure—supports AstraZeneca's global net-zero targets while enhancing operational resilience[5][6].

Cost Optimization Strategies

AstraZeneca's cost optimization strategy for its GCC in India centers on significant investment in expanding its Chennai facility to leverage advanced digital technologies and a skilled workforce, enabling global operational efficiencies. By focusing on innovation-driven roles and technology adoption, AstraZeneca aims to streamline processes and reduce costs while driving growth and supporting its $80 billion global revenue target by 2030. The strategic use of India's talent pool and real estate also plays a key role in optimizing overall costs. AstraZeneca is also reportedly divesting from a large Bengaluru facility, potentially to consolidate operations and optimize real estate costs as part of a global strategy shift

Value Creation Initiatives

AstraZeneca's Global Capability Centre (GCC) in India was established in 2010 to provide services to the Pharma division in commercial, clinical, and development areas. The GCC took on global responsibilities and later became an independent operation supporting various functions like global procurement and IT in AstraZeneca's ecosystems. The GCC has continuously evolved, establishing a global footprint and providing integrated services to other countries.

The GCC began developing cross-BU projects with an Innovation Lab and Service Integration team, providing in-house technology tools. The centre's broad scope of understanding within operations has helped strengthen collaboration across functions. Now, the GCC's innovation and value creation initiatives aim to align with AstraZeneca's overall strategy, promote a culture of innovation, and strategically manage and prioritize innovation aligned with the enterprise, business unit, and function strategies. As AstraZeneca approaches the post-COVID era, the focus is on returning its business performance, meeting R&D goals, and improving pipeline entry success rates, which have remained well below the pharmaceutical industry average. Recently, as cost optimization measures were explored, the GCC's Senior Leadership Team agreed on innovation as one of the strategic priorities. Therefore, the GCC needs to fundamentally rethink innovation's objective and scope to benchmark with a changing peer group to survive, thrive, and achieve recognition as a value creator.

3.**4 Bristol Myers Squibb (BMS) GCC:** BMS is an American biopharmaceutical firm dedicated to discovering, developing, and providing innovative medicines for severe diseases. It has been present in India for more than a century and has evolved into a key provider of medicines for patients with certain cancers and immunological disorders, as well as experts in manufacturing. BMS has a total site in India in Bengaluru and focuses on developing biologics, including monoclonal antibodies and proteins, pleasure from being backward integrated, as well as the gowning, prototyping, and filling of the drug product and drug substance forms. It has a global capability center (GCC) site supporting the functional areas of IT, finance, and medical information globally across the company functions. Its competitive advantage comes from a strong internal market position, global pipeline, growing revenues, recent acquisitions, successful vaccine developments and launches, and its high-performance culture with an emphasis on healthcare professional (HCP) relationships.

Focus on IT and Global Business Operations

The second largest pharmaceutical firm (by sales) in the world, Bristol Myers Squibb (BMS), has a much stronger product portfolio, better targeting immunology and solid oncology. BMS's greatest strength lies with PD-1 inhibitors and selective BTK inhibitors. Although BMS has a much stronger oncology portfolio, there are no single-agent oncology products if one strips away CTLA-4,

PD-1, and anti-VEGF combination products, which adds to the generic threat globally. BMS's Hyderabad GCC, though less documented in public sources, emphasizes IT infrastructure and Global Business Operations (GBO). The center supports drug development through advanced data management systems and regulatory compliance tools, enabling faster approvals for oncology and immunology therapies[8]. While specific employee numbers are undisclosed, the GCC's integration with BMS's global network suggests a focus on cost optimization and risk mitigation in clinical trials[8].

Cost Optimization Strategies

By centralizing critical functions such as R&D, IT, and digital capabilities in its GCC, BMS achieves economies of scale and reduces duplication of efforts. The company invests in automation and advanced technologies like AI and cloud computing to enhance productivity and reduce manual overheads, further optimizing operational costs46. BMS likely employs strategic sourcing to optimize procurement and vendor relationships, which helps control costs related to materials, services, and technology essential for drug development and IT operations. This approach aligns with best practices in GCC cost management. India offers various incentives for GCCs, including tax holidays in Special Economic Zones (SEZs), reduced corporate tax rates (around 15% for new manufacturing and GCC units), and exemptions on import duties for equipment. BMS's investment of over $100 million in Hyderabad likely benefits from these incentives, reducing the overall cost of setting up and running the centre.

Value Creation Initiatives:

There are various ways to create value for different stakeholders. These ways are organized in six dimensions: improving efficiency, improving effectiveness, building knowledge, advancing social goals, stewarding resources, and promoting innovation. Decreasing manufacturing costs and implementing procurement programs and preferred suppliers illustrate how one company is doing this. In facing commodity cost increases but broadening manufacturing networks and payroll costs, another company is helping to improve efficiency. A good example of efficiency improvement in one company's GCCs is a procurement program involving multiple countries

6.0 Comparative analysis

The analysis of cost optimization, innovation, value creation, geographic location & efficiency of GSK, BMS, and AstraZeneca's GCCs in India reveals a mix of strategies to achieve efficiency gains across their divisions.

Table: 01

GSK	GSK's GCC/GBS in India is bound by its country strategy to be an agile, efficient, expert, and credible delivery partner for the improvement and reengineering initiatives of its global divisions. Nevertheless, from the examination of the strategy documents of its pharmacy and commercial divisions, its global GBS organization is explicitly expected to aid divisions with operational productivity statistically and with the rollout of the GSK finance framework, potentially leading to cost optimization across GSK's delivery centers.
AstraZeneca	AstraZeneca has made it clear that their GBS strategy seeks to optimize cost and efficiency across their divisional operations worldwide. The company's global restructuring of its R&D facilities has resulted in better efficiency and greater focus on lead projects, also in line with GBS India's broader mandate of better efficiency and cost optimization across the company's operations.
BMS	BMS's GCCs/GBS in India have been mandated by the global GBS structure and the BMS Code and Standards with specific cost optimization initiatives post-facto, along with the global GBS organization units, since FY 2020These initiatives include offshoring additional accounting processes and their effectuation in the Indian delivery center, enhancing automation within the finance operations, and potentially offshoring affiliate services to India to achieve end-to-end services, similar to their cost-effective third-party service providers. The cost benefits of these initiatives are evident from the greatly reduced operating costs in the India delivery center.

4.1 Comparative Analysis of cost optimization

This analysis examines how GSK, AstraZeneca, and Bristol-Myers Squibb (BMS) optimize costs through their Global Capability Centers (GCCs) in India. GCCs are strategic hubs that centralize functions like technology, research and development (R&D), and business analytics, leveraging India's skilled workforce and cost advantages. The following table and detailed sections provide a comprehensive comparison based on available data, focusing on location, establishment year, employee count, key functions, investment, and cost optimization strategies.

Table: 02

Company	**Key Functions**	**Investment in Expansion**	**Cost Optimization Strategies**
GSK	Technology development and support	Not specified	Insourcing technology development to reduce outsourcing; enhancing cost competitiveness

AstraZeneca	Enterprise platforms, AI, machine learning, data science, supply chain analytics	Rs 250 crore (~$30 million)	Driving innovation and efficiency through advanced technologies; streamlining global operations
BMS	Business insights, technology, drug development	> $100 million	Accelerating drug development; enhancing digital capabilities with cloud-based solutions

4.2 Comparative Analysis of Value Creation:

This comparative analysis of the three GCCs sheds light on the many ways value creation processes differ for different companies in the same context and market. It also adds depth to the analysis of the thematic case studies by correlating the value creation strategies employed in each case with the different outcomes generated. The analysis comprises a table comparing value creation types across each theme and from each company, complemented by a discussion of the context-specific effects and implications of the differences observed. The analysis focuses on Value Creation Theme 1, "Building a strategic GCC," bolstering the argument that a well-thought-out GCC strategy provides the best potential for value creation.

. Value creation in the context of Global Capability Centers (GCCs) refers to the strategic benefits these centers provide beyond cost savings, such as innovation, process optimization, digital transformation, and enhanced global competitiveness. The following analysis compares how GlaxoSmithKline (GSK), AstraZeneca, and Bristol-Myers Squibb (BMS) leverage their GCCs in India to create value, based on available information.

Table: 03

Company	Key Functions	Investment	Value Creation Strategies
GSK	Technology development, IT support	Not specified	Insourcing IT to enhance control and innovation; building scalable tech capabilities for global operations.
AstraZeneca	AI, machine learning, data science, global analytics, supply chain	Rs 250 crore (~$30M, 2024)	Driving digital transformation with AI/ML; optimizing global operations through analytics and shared services.
BMS	Drug development, IT, digital capabilities, business insights	>$100M (Hyderabad)	Accelerating drug development; enhancing digital infrastructure with cloud solutions for global efficiency.

Three key observations from the table illustrate how these GCCs differ with respect to creating different types of value: one company took the most insightful approach to identifying the value proposition in the context of the type of GCC it was to build. Another employed the most extensive set of strategies divided among the types of value to set in motion a well-defined, coherent plan to effectively create the initial desire to replicate its global innovation in India. Also, the third added the most noteworthy strategies related to the sector, context, and timeframe interventions for the ongoing challenges facing its GCC in a broadly correctly sequenced fashion

4.3 Comparative Analysis of Innovation

India's Global Capability Centers (GCCs) have transformed from cost-saving hubs into engines of innovation, particularly in the pharmaceutical and life sciences sectors. This analysis compares the innovation initiatives of GlaxoSmithKline (GSK), AstraZeneca, and Bristol-Myers Squibb (BMS) through their GCCs in India, focusing on their technological advancements, R&D contributions, and strategic impact on global operations. The following table and detailed sections provide a comprehensive overview based on available data.

Table: 04

Company	Key Innovations	Technologies/Areas of Focus
GSK	AI for protein modeling (e.g., AlphaFold) to speed up R&D by 30-40% - Expanded R&D teams in biostatistics, safety, regulatory, clinical operations, and data management	AI, Data Science, Clinical Research, R&D
AstraZeneca	Rebranded Global Technology Centre (GTC) as Global Innovation and Technology Centre (GITC) to drive innovation Investment of Rs 250 crore ($30M) for expansion,	AI, Machine Learning, Data Science, Enterprise Platforms, Digital Transformation

	adding 1,300 roles Focus on digital transformation, AI, machine learning, and data science for global operations	
BMS	New facility for global drug development and IT/digital capabilities Leveraging cloud computing (e.g., AWS) for performance and cost optimization Enhancing global workforce and patient impact	Drug Development, IT, Digital Capabilities, Cloud Computin

4.4 Comparative Analysis of Innovation vs. Operational Efficiency

GSK	Balances R&D innovation with manufacturing scalability, using its GCC to bridge preclinical research and large-scale production[3][2].
AstraZeneca	Prioritizes digital disruption, investing in AI/ML to redefine drug discovery and patient engagement[5][7].
BMS	(inferred) Focuses on operational efficiency, with its GCC likely optimizing clinical trial workflows and IT infrastructure[8].

4.5 Investment and Scalability

GSK	• ₹1,000 crore manufacturing investment complements its GCC's R&D focus, creating an end-to-end value chain[3][2].
AstraZeneca	• ₹250 crore GITC expansion targets digital scalability, aiming to centralize 50% of global IT operations in Chennai by 2025[5][7]
BMS	• has not disclosed investment figures, suggesting a more cautious or inward-focused approach to GCC expansion[8].

4.6 Regional Hub Strategies: Divergent Paths to Global Impact

GSK	GSK's Integrated RDD&E Model: Blends manufacturing scalability with digital innovation, using Karnataka's pharma ecosystem to compress drug development timelines.
AstraZeneca	AstraZeneca's AI-Centric Digital Hub: Positions Chennai as a global AI/ML command center, leveraging Tamil Nadu's tech policies to redefine clinical development.
BMS	BMS's Biologics-Focused Decentralization: Exploits Hyderabad's biotech corridor to build niche capabilities in biologic therapies, mitigating talent gaps through academic partnerships with Telangana.

These strategies reflect adaptive responses to India's heterogeneous regional strengths—from Bengaluru's IT-pharma convergence to Chennai's digital public infrastructure and Hyderabad's biotech specialization. As competition for India's innovation ecosystem intensifies, the success of these hubs will hinge on sustained alignment with state-level policies, academic partnerships, and the ability to translate regional advantages into global therapeutic breakthroughs[7].

5.0 Impact of GCCs on Indian Pharmaceutical Landscape

The GCCs of GSK, BMS, and AZ have made substantial contributions to India's pharmaceutical landscape in various spheres: economy, innovation, and social and environmental progress. They have brought in advanced research inputs which have facilitated the emergence of India as a leader in generics. The introduction of high-class technology, competency with respect to people and systems, and the investment in research infrastructure have paved the way for Mumbai emerging as the second largest centre for CRI in the world. Indian pharmaceutical companies are currently making alliances for development and marketing with companies in US and Europe which have been hitherto avoided. People from companies like GSK, BMS, and AZ are topping

country's companies and the growth rate of country companies has slowed considerably as they are adopting federal and high-cost systems from the MNCs instead of developing them indigenously. The spending on social causes, the impact of the industry in meeting public health challenges, and accountability to civil society has improved. New benchmarks have been set regarding the spending and accountability towards social causes by implementing innovative but successful transparent and integrity-based systems.

6.0 Study Contributions,

Given the comparative analysis of the strategic mandates of GSK, BMS, and AstraZeneca's GCC in India, it is imperative to extend a few recommendations for these GCCs to further elevate their current effectiveness. The following recommendations are parallel actions directed towards all three GCCs but may result in different ultimate configurations based on respective actions taken. A shift in mission and vision is recommended, with the inclusion of a more legislative objective about 'To be the leaders in the generation of impactful/insightful strategic and expert data'. This recommendation stems from the current vision and mission of the three GCCs being largely focused on the transaction and output dimensions of the goals covered under this comparative analysis. A more legislative approach is likely to increase the confidence of stakeholders external to the GCCs in the ability of the GCC teams to achieve these goals.

An effort is suggested to engage more with specific units of the companies beyond the respective current engagement units. Even if such efforts are partially successful, the disproportionate workload issue is expected to be alleviated to a large extent relative to the current GCC configurations. As a case in point, the potential for the GSK GCC to engage with the data visualizations team and the BMS GCC to engage some more with the R&D teams in different units are expected to provide mostly-upstream strategic data covering mostly contextual data.

In terms of personnel policies too, some shifts are advised. The first recommendation is for dispensing with the need for new hires. As a strategy to accommodate the lower levels of the mandate activity dimensions, there seems little sense in hiring more individuals to perform what is likely a lower-volume variety of tasks. A more humane option would be to target the current structural compositions for up- or lateral mobility, since many other such prospects are likely to be available in different companies.

7.0 Limitations and Scope for Further Research.

With growing confidence in the Indian economy, shifting of commercial activities to newer geographies, cost-saving measures, and integration of operations and processes into a global context is expected to reinforce the momentum of free-standing GCCs. GCCs are likely to revolutionize the way the offshore delivery of services is provided with emerging trends like product-centric GCCs, innovation-focused GCCs, and GCCs with integrated delivery hubs (Prakash Pradhan & Alakshendra, 2006). However, this growth is also likely to attract attention of power governing agencies, which were largely seen as sleeping watchdogs in the recent past.
The pharmaceutical sector currently accounts for 8-9% share of the Indian GDS market and is expected to maintain this share going forward. The pharmaceutical GCCs view cost arbitrage in services and enhanced productivity in research as the biggest opportunities going forward, but differences in perceptions on the relevance of R&D services going forward suggest a shift in focus away from this area. Long-term client relationships and slow efficiency improvement are expected to hinder the revenue growth opportunities in the space. However, GCCs envisage that the continued growth of global markets, 'pull' of captive operations and changing client behavior are expected to drive revenue growth in services.

The strategic GDS Mandate at GSK is service delivery, while at AstraZeneca and BMS it is a blend of service delivery and innovation. Product development, laboratory automation, and high-throughput technologies are areas of investment. GSK has a relatively wider mandate, which encompasses the full spectrum of roles. GSK's GCC is six years old and is in the transformational phase of transitioning operations. By contrast, the GCCs of both BMS and AstraZeneca are in the evolution stage. This difference in life-cycles is likely to lead to differences in process adoption. The GCCs of BMS and AstraZeneca are expected to differentiate themselves in how they will exploit their data production capabilities. The two companies are expected to differentiate themselves based on the maturity of the deployment of unified IT systems across geographies. The findings of this study will have important implications for the leadership and operations of GCCs, and for the global pharmaceutical industry as a whole.

8. Conclusion

The strategic mandates of GSK, AstraZeneca, and BMS's GCCs in India reflect their distinct global priorities. GSK leverages India's R&D and manufacturing prowess to enhance therapeutic innovation, while AstraZeneca bets on digital technologies to redefine healthcare delivery. BMS, though less transparent, appears to prioritize operational efficiency in high-stakes drug development. As these GCCs evolve, their success will depend on sustaining talent pipelines, fostering local ecosystems, and aligning with India's ambition to become a global pharmaceutical innovation hub. Future research should explore longitudinal impacts of GCC strategies on patient outcomes and cost structures in emerging markets.

GSK, AstraZeneca, and BMS are leveraging their Indian GCCs to drive significant innovation in the pharmaceutical sector. GSK's focus on AI-driven R&D, AstraZeneca's emphasis on digital transformation, and BMS's advancements in drug development and digital capabilities highlight their distinct yet complementary approaches. These GCCs not only enhance global competitiveness but also position India as a critical hub for pharmaceutical innovation, contributing to faster drug discovery, improved operational efficiency, and better patient outcomes worldwide. While exact cost savings figures are unavailable, all three companies leverage

India's cost-effective talent pool and infrastructure. GSK focuses on insourcing, AstraZeneca on technological innovation, and BMS on digital and drug development efficiency. These strategies align with India's broader appeal as a GCC hub, offering 40-50% cost savings compared to Western countries

In summary, the GCCs under analysis have made successful trades into largely untouched markets that address populations out of the primary care dialled healthcare pyramid often on affordability or access grounds. To safeguard and entrench these footholds and to gain rewards for the upfront time, money, and risk investment, the GCC must maintain a strategy to stay a participant in the game whilst at the same time folding back into the juggernaut that enabled them a foothold in the first. How they pursue this strategy is by chief competency the most difficult to arrive at. The need exists, and while the private sector adequately flavors the upper tier, the lower for mass populations remains mostly untouched, unfilled, or unregarded. The GCCs have observed this gap, originally as potential CSR redress, but upon encountering drastic unmet needs already, quickly as an untapped commercial opportunity magnitudes greater in size than a balance sheet remedy.

References:

Yap, N. (2013). Comparative analysis of market-based health delivery models in rural India. [PDF]

Hosang, G. M., Fisher, H. L., Cohen-Woods, S., McGuffin, P., & Farmer, A. E. (2017). Stressful life events and catechol-O-methyl-transferase (COMT) gene in bipolar disorder. [PDF]

Rezaie, R., M McGahan, A., E Frew, S., S Daar, A., & A Singer, P. (2012). Emergence of biopharmaceutical innovators in China, India, Brazil, and South Africa as global competitors and collaborators. ncbi.nlm.nih.gov

Prakash Pradhan, J. (2008). Overcoming Innovation Limits through Outward FDI: The Overseas Acquisition Strategy of Indian Pharmaceutical Firms. [PDF]

Prakash Pradhan, J. & Alakshendra, A. (2006). Overseas Acquisition versus Greenfield Foreign Investment: Which Internationalization Strategy is better for Indian Pharmaceutical Enterprises?. [PDF]

Thite, M., Budhwar, P., & Wilkinson, A. (2014). Global HR Roles and Factors Influencing Their Development: Evidence From Emerging Indian IT Services Multinationals. [PDF]

https://www.indiaoppi.com/wp-content/uploads/2024/05/GCCReport1.pdf

https://economictimes.com/industry/healthcare/biotech/pharmaceuticals/gsk-pharma-to-expand-into-oncology-focus-on-adult-vaccines-in-india/articleshow/114070266.cms

https://www.pharmaceutical-technology.com/projects/gsk-tablet-manufacturing-factory karnataka/

https://www.gsk.com/en-gb/careers/our-global-and-regional-hubs/

https://www.astrazeneca.in/media/press-releases/2024/astrazeneca-plans-to-invest-to-grow-its-gitc-in-india.html

https://health.economictimes.indiatimes.com/news/pharma/pharma-industry/astrazeneca-india-to-invest-rs-250-crore-to-expand-its-global-innovation-and-technology-centre/111486640

https://timesofindia.indiatimes.com/city/chennai/astrazeneca-expands-its-chennai-office-making-its-biggest-gcc-globally/articleshow/111489372.cms

https://www.bms.com/in/about-us/bms-india/bms-hyderabad.html

https://india-pharma.gsk.com/en-in/company/purpose-strategy-and-culture/

https://www.bain.com/client-results/a-strategic-separation-enables-new-growth-for-gsk-and-haleon/

https://www.astrazeneca.in/media/press-releases/2024/astrazeneca-plans-to-invest-to-grow-its-gitc-in-india.html

https://www.newindianexpress.com/business/2024/Jul/05/astrazeneca-expands-chennai-global-innovation-and-tech-centre-footprint

https://hr.economictimes.indiatimes.com/news/industry/astrazeneca-to-expand-its-global-innovation-and-technology-centre-in-india/108508584

https://health.economictimes.indiatimes.com/news/pharma/pharma-industry/bristol-myers-squibb-opens-new-facility-in-hyderabad/108021084

https://www.cnbctv18.com/india/healthcare/pharma-leaders-see-indias-gccs-as-key-to-global-strategy-19569662.htm