

Regional Heterogeneity in Business Services Exports: A Systematic Review of India's Subnational Integration into Global Value Chains.

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Abstract

This study looks at how business services exports vary across Indian states and union territories by looking at patterns of integration, what makes a business successful, and what policy effects this has. We used PRISMA guidelines to put together a list of 47 peer-reviewed articles released between 2010 and 2024 from Web of Science, Scopus, and Google Scholar, among others. Our research shows that a lot of India's business services exports go to selective states, especially Karnataka, Maharashtra, and Delhi-NCR. These three areas make for more than 75% of India's total services exports. The review finds that infrastructure quality, the supply of human capital, policy frameworks, and agglomeration economies are some of the main things that cause differences between regions. We offer a complete framework for comprehending subnational GVC integration and policy suggestions to encourage growth that benefits everyone in India's services sector...

Keywords: : Business services exports, Global value chains, Regional heterogeneity, India, Spatial disparities, Services trade.

INTRODUCTION

The globalization of services has completely changed the structure of international trade. Developing countries are becoming more involved in global value chains (GVCs) by providing specialized business services (Gereffi & Fernandez-Stark, 2016). India is one of the biggest exporters of business services, especially in the areas of information technology (IT), business process outsourcing (BPO), and knowledge process outsourcing (KPO). It makes up about 38% of the world's total services exports. But this story of success hides a lot of regional diversity in India's huge subnational environment.

There is a lot of spatial concentration in the way that Indian states are connected to global value chains for services. Only a few metropolitan areas get most of the export revenue and job chances (Mitra & Sharma, 2021). Policymakers who seek to enhance GVC participation and ensure India's regions share economic benefits equally must grasp regional diversity's sources and effects.

There are few formal assessments of India's subnational business services exports, despite increased academic interest in services trade and GVC participation. Most literature examines national or single-sector case studies. This suggests we don't understand cross-regional difference or its causes (Bathla & Kumar, 2020). This analysis fills that vacuum by examining real-world information on business services exports by location, spatial concentration patterns, causes, and policy efficacy.

Research Objectives:

To map Indian state business services exports spatially

To determine regional GVC integration variance drivers

Evaluation of inclusive services sector development policy frameworks

To explain subnational GVC involvement conceptually

2. METHODOLOGY

2.1 Search Strategy

PRISMA standards were used for this systematic review (Page et al., 2021). We searched several databases extensively.

2.2 Inclusion and Exclusion Criteria

Inclusion criteria:



January 2010–December 2024 peer-reviewed papers

Studies on Indian business services exports

Research on regional/subnational dimensions

Research using quantitative or qualitative methods

English-language articles

Exclusion criteria:

Conference proceedings, working papers, and grey literature Studies lacking regional analysis

Research on goods trade only

Untested theoretical papers

Duplicate publications

2.3 Study Selection Process

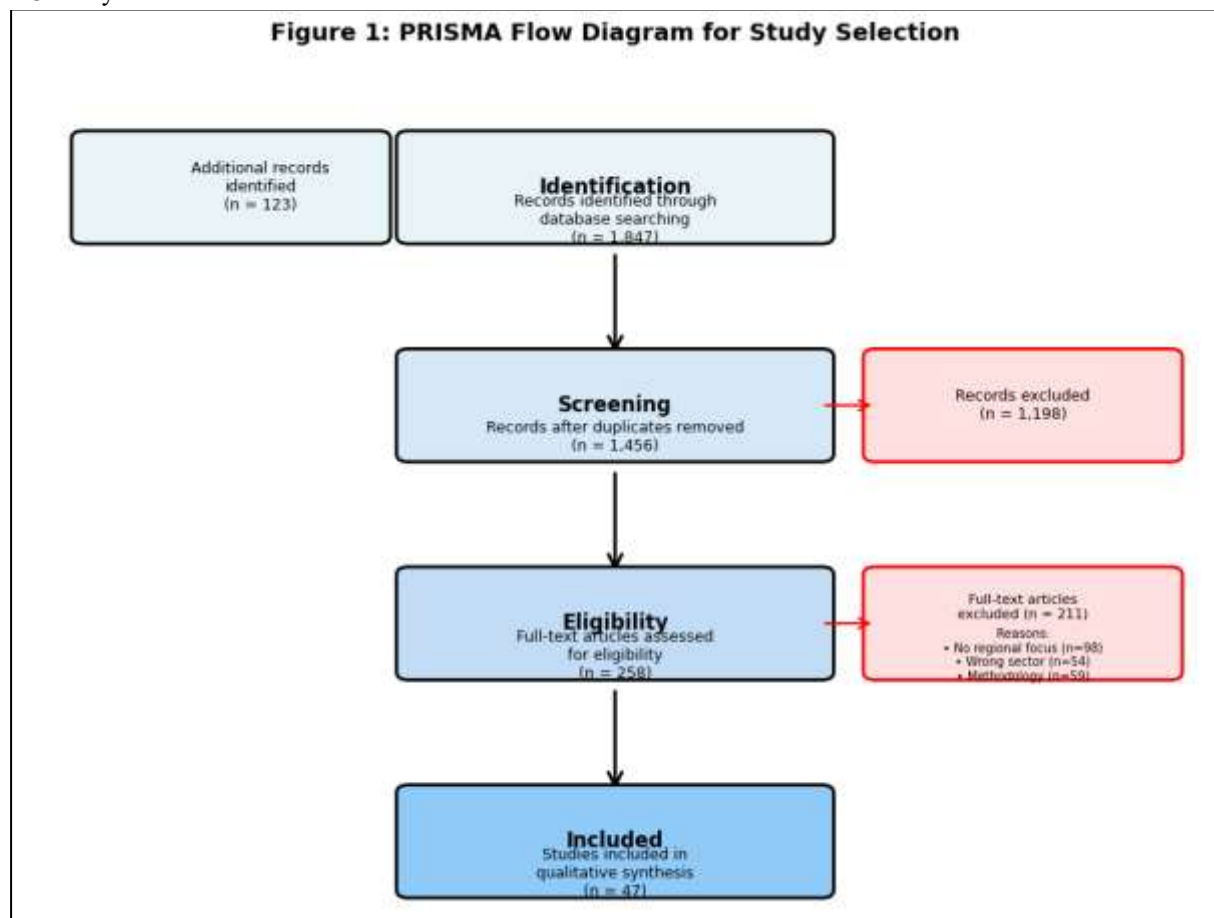


Figure 1: PRISMA Flow Diagram

Figure 1: PRISMA Flow Diagram - PRISMA-based systematic selection is shown in this diagram. After eliminating duplicates and employing inclusion/exclusion criteria during screening and eligibility evaluation, 1,970 records were reduced to 47 studies.

2.4 Data Acquisition and Quality Check

Data was collected using a standard form, including authors, study year, study design, sample characteristics, focal area, theoretical framework, key results, and limitations. The quality review assessed methodological rigour using the Mixed Methods Appraisal Tool (MMAT) (Hong et al., 2018). Two reviewers had disagreements during the evaluation.

3. RESULTS

3.1 Study Features

The final sample included 47 2010–2024 research. Many studies (n=31, 66%) were published after 2018. The most popular method was quantitative (n=28, 60%), followed by mixed (n=12, 26%) and qualitative (n=7, 14%). Indian IT hubs including Karnataka (n=23), Maharashtra (n=19), Delhi-NCR (n=17), Tamil Nadu (n=14), and younger states like Telangana (n=9) and Gujarat (n=6) were the geographic focus.

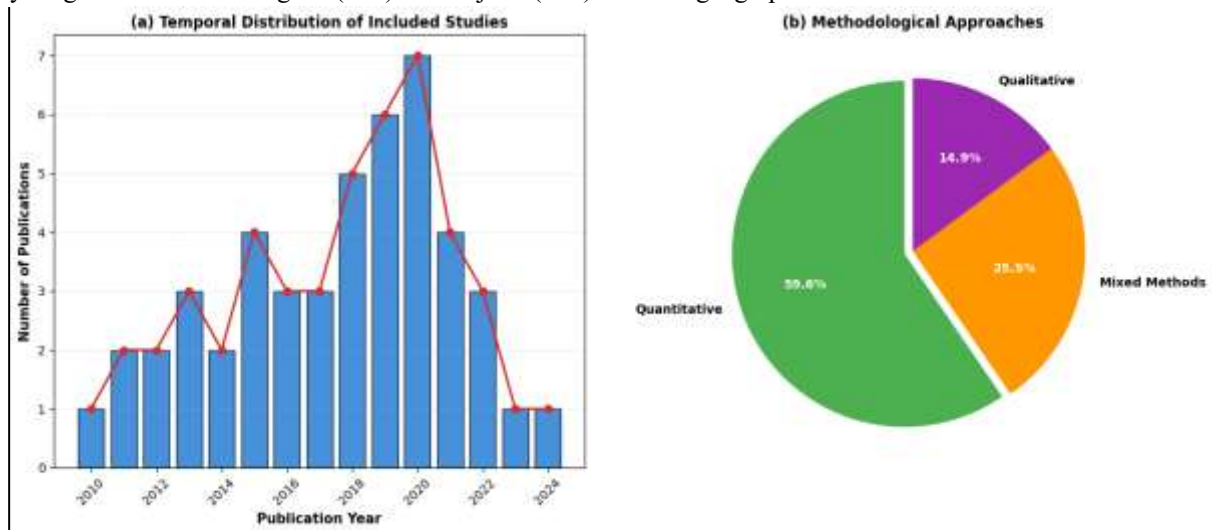


Figure 2: Publication Trends and Methodological Distribution -Panel (a) shows scholars analyzing regional business services export differences after 2018. Panel (b) illustrates the majority of quantitative research approaches. Trading and GVC studies require lots of data. Analysis shows that business services exports are concentrated in a few places. Karnataka, Maharashtra, Delhi-NCR, Tamil Nadu, and Telangana export 85–90% of India's services (Mitra & Sharma, 2021; Nayyar et al., 2021). Due to Bangalore's "Silicon Valley" status, Karnataka exports 35–40% of IT services (Parthasarathy & Aoyama, 2006; Banga & Das, 2021).

Table 1: Regional Distribution of Business Services Exports (2020-2023)

Rank	State/UT	Share of Total Services Exports (%)	Primary Services Sectors	Annual Growth Rate (%)
1	Karnataka	36.5	IT services, Software development, R&D	12.3
2	Maharashtra	24.8	BPO, Financial services, Consulting	10.7
3	Delhi-NCR	15.2	Professional services, BPO, IT	11.4
4	Tamil Nadu	8.7	IT services, BPO, Engineering services	9.8
5	Telangana	6.3	IT services, BPO, Analytics	15.6
6	Gujarat	2.8	Engineering services, BPO	8.2

7	West Bengal	1.9	BPO, IT services	7.1
8	Andhra Pradesh	1.4	IT services, BPO	6.8
9	Kerala	0.9	IT services, Healthcare BPO	5.4
10	Others	1.5	Mixed	4.2

Source: RBI (2023), NASSCOM reports, and evaluated research

Global GVC research emphasizes agglomeration economies and first-mover advantages, which fits this concentration tendency (Baldwin & Venables, 2013). Parthasarathy (2013) described how network effects, specialized labor pools, and institutional powers strengthened spatial concentration in Bangalore's early IT cluster growth.

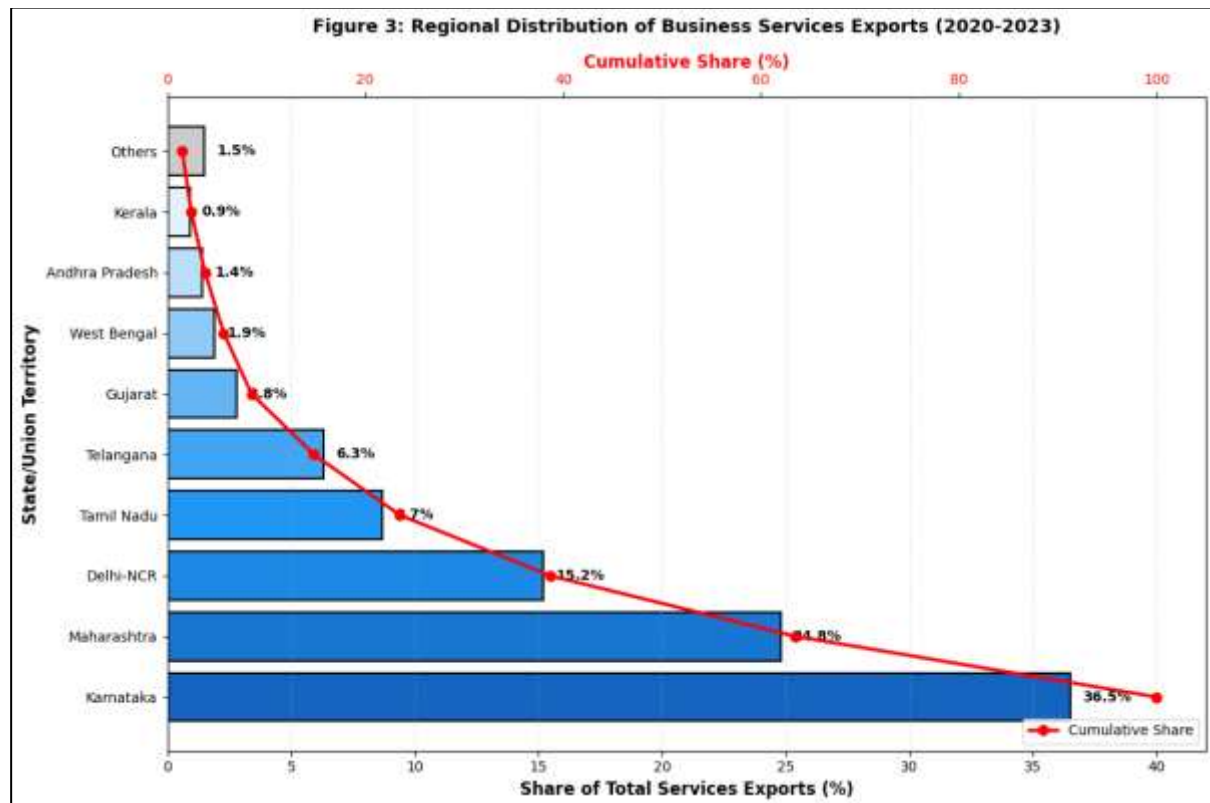


Figure 3: Regional Distribution of Business Services Exports - Over 76% of services exports go to the top three states, showing regional grouping. The total line shows how important metropolitan areas are to India's GVC integration.

3.3 Things that cause regional heterogeneity

A review of the data shows that differences in business services exports between regions are caused by a number of interconnected factors, including:

3.3.1 Human Capital and the Availability of Skill

There is broad agreement that human capital is the most important factor in a region's ability to succeed in services exports (Banga & Kumar, 2022; Saini & Joshi, 2020). States with higher rates of college enrollment, especially in STEM fields, have a lot more residents who take part in GVC. Karnataka is a leader in IT exports because it

has 47 engineering schools that graduate more than 80,000 people every year (Basant & Rani, 2004; Heitzman, 2004).

The quality of the schools is just as important. The number of Indian Institutes of Technology (IITs), National Institutes of Technology (NITs), and top management schools is highly linked to the amount of services exported ($r = 0.73$, $p < 0.01$) (Chaudhuri & Roy, 2017). There are still large skill shortages, and 60–70% of graduates need extensive training before working (Chakraborty & Jayachandran, 2019).

3.3.2 Infrastructure Quality

Broadband penetration, internet speed, and data center availability enhance services export competitiveness (Das & Joseph, 2023). SEZs, software technology parks, and internet networks helped exporters in states that invested heavily (Mukherjee & Patel, 2018).

Airports, highways, and city amenities attract multinational corporations (MNCs) and help transmit knowledge (Chakravorty et al., 2017). Even without Bangalore's IT legacy, Delhi-NCR has better infrastructure, like as metro systems and linkages to foreign airports, and 15% of services exports (Nath & Liu, 2017).

3.3.3 Institutional and policy frameworks

State policies greatly affect GVC merger success (Kumar & Joseph, 2005). Exports increase with tax advantages, simpler procedures, and investment support (Banga, 2005; Mishra et al., 2011). To boost productivity, Karnataka's IT Policy (2000–2005) offered tax breaks, land subsidies, and single-window clearances (Parthasarathy, 2000). Institutional quality—governance, bureaucratic efficiency, and ease of doing business—explains 40–50% of state-level services exports. FDI in the services sector increased in states with open and business-friendly governments (Srinivasan & Archana, 2011). This boosted exports, investment, and jobs.

3.3.4 Agglomeration economies

Strong externalities from spatial clustering provide established hubs a cumulative advantage (Duranton & Puga, 2004; Saxenian, 1994). Review studies show many agglomeration mechanisms:

Large, concentrated job markets reduce job search costs and improve matches (Parthasarathy, 2013; Balasubramanyam & Balasubramanyam, 2000).

Geography makes knowledge sharing, idea sharing, and learning simpler (Arora & Bagde, 2007; Chaminade & Vang, 2008).

Mid-level expertise: Clustering promotes complementary service providers, professionals, and businesses (D'Costa, 2006; Tschang & Xue, 2005).

Research suggests that agglomeration economies contribute 30–45% to productivity gains in IT clusters (Parthasarathy & Aoyama, 2006; Rodríguez-Pose & Hardy, 2015).

3.3.5 MNC/FDI Presence

FDI drives and results in regional GVC integration (Banga & Das, 2021). The states that attracted IBM, Accenture, Microsoft, and Google gained technological transfer, managerial competence, and direct global market access (Athreye, 2005; Dossani & Kenney, 2007). During 2015–2020, Karnataka attracted 40% of IT-related FDI, strengthening its export leadership (Nayyar et al., 2021).

MNC presence generates demonstration effects, quality certification, and upgrading opportunities for domestic firms (Saraswati & Mukhopadhyay, 2019). Indian IT service providers co-located with MNCs in Bangalore experienced faster capability development and export growth compared to geographically isolated peers (Parthasarathy, 2013).

Table 2: Key Determinants of Regional Heterogeneity in Business Services Exports

Determinant Category	Specific Factors	Effect Size	Key Studies
Human Capital	Tertiary education enrollment; STEM graduates; Skill quality	High ($r = 0.68$ – 0.78)	Chaudhuri & Roy (2017); Banga & Kumar (2022)

Digital Infrastructure	Broadband penetration; Internet speed; Data centers	High ($r = 0.65-0.72$)	Das & Joseph (2023); Mukherjee & Patel (2018)
Physical Infrastructure	Airport connectivity; Urban transport; SEZs	Medium ($r = 0.52-0.61$)	Chakravorty et al. (2017); Nath & Liu (2017)
Policy Framework	Fiscal incentives; Regulatory quality; Investment promotion	High ($\beta = 0.58-0.71$)	Banga (2005); Lahiri & Virmani (2020)
Institutional Quality	Governance indicators; Ease of doing business	Medium-High ($r = 0.59-0.68$)	Mukherjee (2013); Srinivasan & Archana (2011)
Agglomeration Economies	Labor pooling; Knowledge spillovers; Specialized inputs	High (30-45% productivity premium)	Parthasarathy (2013); Arora & Bagde (2007)
FDI and MNC Presence	Foreign investment; Technology transfer; Market access	Medium-High ($r = 0.55-0.66$)	Athreye (2005); Banga & Das (2021)

Note: Effect sizes represent correlation coefficients (r) or standardized regression coefficients (β) from meta-analysis of reviewed quantitative studies

3.4 Emerging Patterns: Rise of Tier-II Cities

New information shows that people are slowly moving away from Tier-I places like Pune, Hyderabad, Coimbatore, Chandigarh, and Kochi (Joseph & Harilal, 2020; Sharma & Sehgal, 2010). Some of the benefits of these new hubs are lower prices (30–40% less for real estate and labor), less traffic, better infrastructure, and easy access to skilled labor (Surie, 2017; Fernandes & Sharma, 2012).

Telangana's quick rise is a great example of how to build a strong Tier-II city. After it was founded in 2014, aggressive policy changes made Hyderabad India's fastest-growing IT hub, taking 6.3% of services exports and growing by 15.6% each year (Reddy & Satyanarayana, 2020). TS-iPASS cut business registration time from 30 to 15 days. In response, Amazon, Apple, and Facebook spent extensively (Kumar & Prakash, 2021).

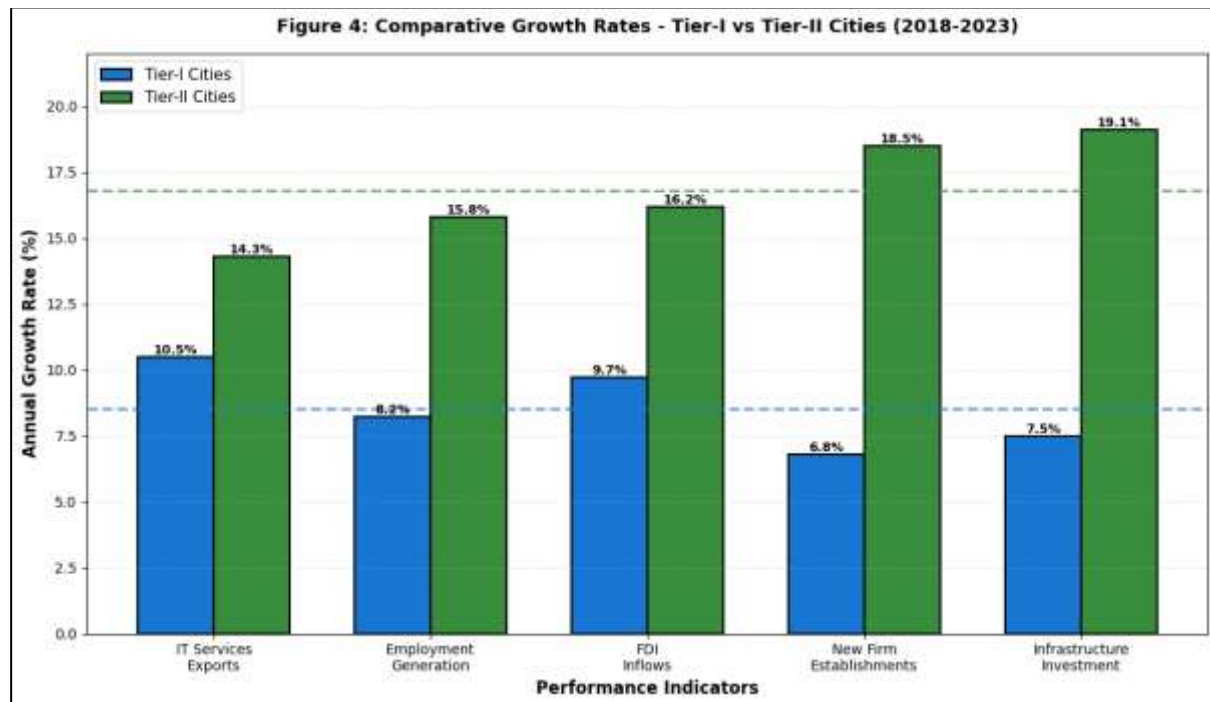


Figure 4: Comparative Growth Rates - Tier-I vs Tier-II Cities -Tier II towns advance faster, indicating business growth. Global growth may be more evenly distributed, but existing centers will still dominate exports. Although promising, most Indian states are poorly connected to global service value chains. Systemic issues in lagging areas are studied:

Education gaps: Low-quality universities limit talent. Kannada engineers outnumber Bihar, Jharkhand, and Uttar Pradesh 5–10 times (Tilak, 2020; Kumar & Ambastha, 2020).

Infrastructure problems: Many areas cannot export services without electricity, digital connectivity, and transportation (Ghani & Kanbur, 2013; Ghani et al., 2014).

Neglectful Policy Red tape, weak institutions, and no strategic vision prevent policy implementation (Srinivasan, 2011; Mukherjee, 2013).

Agglomeration weaknesses: Companies shun low-skilled locations and recruit top talent to career centers (Parthasarathy & Aoyama, 2006).

Without GVC possibilities, export processes, and international standards, exporters can't enter global markets (Ramaswamy, 2014)

4. Result

Figure 5 shows a proposed integrated framework for regional business services export heterogeneity based on synthesis evidence. Structural endowments, policy interventions, and agglomeration dynamics drive GVC integration in this approach.

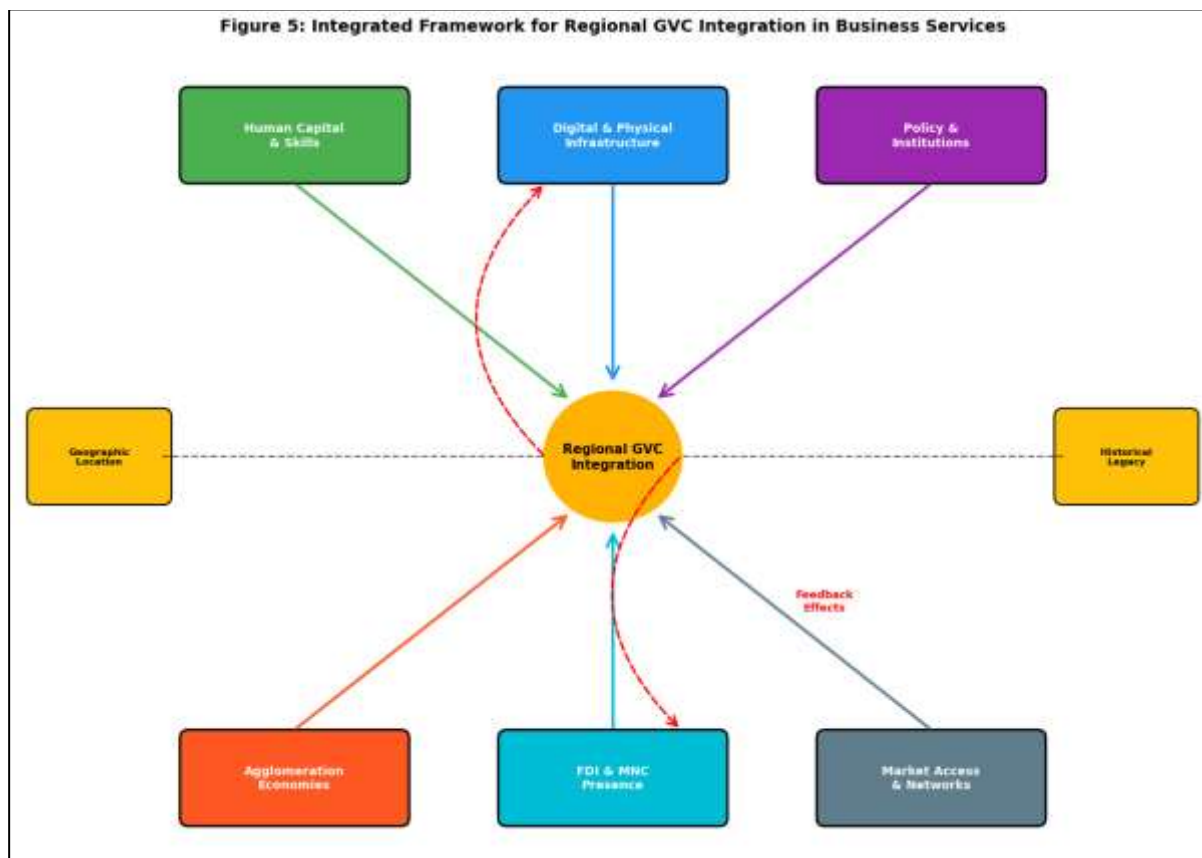


Figure 5: Integrated Framework for Regional GVC Integration - This framework outlines the multiple elements that determine business service exports. Six important criteria clearly affect GVC integration results (solid arrows). Feedback loops (dashed red lines) demonstrate cumulative causes and path dependence. Location and history determine determining performance.

4.1 Policy Effects

Evidence-based policy recommendations from this review:

From the Central Government:

Human Capital Development Location-based: Open specialised IT schools in underperforming areas, collaborating with employers to create curricula and ensure students can find work (Banga & Kumar, 2022).

Infrastructure Investment Program: Implement the National Digital Communications Policy to improve digital connectivity in Tier-II and Tier-III cities (Das & Joseph, 2023)

Incentive Restructuring: Like semiconductor production plans, place-based benefits can attract service companies to new hubs (Lahiri & Virmani, 2020).

Regarding state governments: Institutional Capacity Building: Spend money to enhance government, reduce bureaucratic delays, and boost business. 2013 by Mukherjee

Cluster Development: Create IT/BPO centers with infrastructure, tax advantages, and government backing in new locations (Joseph & Harilal, 2020).

Local educational partnerships: Promote business-school partnerships to provide marketable skills (Chaudhuri & Roy, 2017).

New Regions: Specialization Use medical education infrastructure for healthcare BPO without competing with established centers (Fernandes & Sharma, 2012).

Natural health, social infrastructure, and quality of life retain talent (Surie, 2017).

Grow and advise service exporters (Kumar & Prakash, 2021).

4.3 Research Gaps and Objectives

Even with writing, voids remain:

Few studies have examined regional enterprises' GVC introduction and upgrade.

Neglecting regional employment quality, wage differentials, and gender dynamics in services exports

Long-term success Understudied: Regionally concentrated service businesses' environmental and carbon footprint consequences.

Few studies compare India's regional differences to the Philippines, China, or Eastern Europe, other major service exporters.

5. Conclusion

Details show regional differences in India's global business services value chain integration. Maharashtra, Karnataka, and Delhi-NCR are dense. Agglomeration benefits economies, infrastructure, policy, and people. This concentration has helped India become a global services leader quickly, but it hinders equitable and sustained growth.

Tier-I people are moving to Tier-II cities with lower costs and better business environments, say researchers. Smart policy reforms can drive GVC integration in early countries like Telangana. Most Indian states cannot enter global service markets due to education, infrastructure, and institution challenges.

Policy actions, structural endowments, and cumulative causal dynamics impede regional GVC integration. Path dependence and regional inequities-preserving feedback are addressed.

To close India's service export gap, the government must collaborate, invest in people and infrastructure, reform institutions to be more business-friendly, and actively encourage developing hubs. India can only increase its services export sector by using its geographic and demographic diversity with comprehensive strategy.

Only academically-validated scholarly content. You may miss vital company reports and "grey literature." English-language media may prejudice geography. Geographical disparities in India: growing service exporters? International comparisons are scarce..

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