

**Ecosystem Aware
Global Supply Chain Management**



Innovations in Supply Chain Ecosystem

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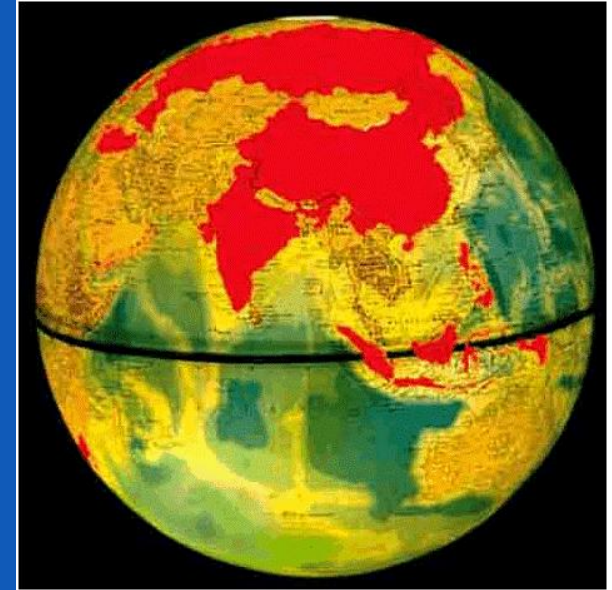


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World Scientific

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What are Emerging Markets?

- Emerging markets are countries having increasing disposable incomes, large young populations and markets with characteristics as high-growth, high-potential, and high-risk, a consequence of economic liberalization.
- Most of these are protected economies for decades & have poor industrial infrastructure.
- Governments liberalized the economies to attract foreign investments in Manufacturing, Services & Infrastructure and introduced initiatives such as PPP & SEZs.
- Politics & Social issues are very important for Businesses.
- Most populations live in rural areas with poorer connectivity than their urban counter parts. Rural development is largely in the hands of the government.

Emerging Markets

-  Brazil
-  Chile
-  China
-  Colombia
-  Czech Republic
-  Egypt
-  Hungary
-  India
-  Indonesia
-  Malaysia
-  Mexico
-  Morocco
-  Peru
-  Philippines
-  Poland
-  Russia
-  South Africa
-  South Korea
-  Taiwan
-  Thailand
-  Turkey

Source: Wikipedia

Emerging markets can be classified into two groups

- **The first group** consists of countries such as Mexico and those in Eastern Europe which are on the periphery of the industrially advanced continents such as North America and Western Europe.
- **The second group** are primarily independent production and consumption spaces such as China and India. In these countries, production is oriented predominantly towards the domestic market and these requirements are met predominantly by local production.

Emerging markets will be the World's Next Fount of Innovation

- Each week, nearly one-and-a-half-million people move to cities, almost all in developing markets.
 - China and India are seeing five time labor productivity growth as they move from agrarian economies to become manufacturing and service powerhouses.
- By the end of the decade (2020), roughly 40 % of the world's population will be middle-class (20% today).
- In the next decade, emerging-market economies, currently suppliers of low-cost goods and services , will become large-scale providers of capital, talent, and innovation.
- **To tap these new markets, organizations must reinvent business models, innovate new products and services**

What is Innovation?

Innovation is the search for, and the discovery, development, improvement, adoption, & commercialization of new processes, new products, and new organizational structures & procedures.

*“One cannot solve Emerging
Country Problems with the same
ways of thinking that other
countries have used to solve them”*

Think Different

Successful Innovation

Wider Innovation Policy Needed

- **Traditional science policy** is rooted in scientific discovery & invention followed by commercialization of new products and services.
- **A Wider innovation Framework** includes both the new to the market as well as new to the world innovations
- **Innovations in Management** (like Outsourcing) and Institutions (Policy, Regulation & Governance) need to be incorporated
- **Innovations due to convergence** (Finance with Mobile) as well as co-evolution (Globalization) are very important .
- **Science, Technology, Engineering, Regulations & Policy, Management (STERM)** contribute to innovations.

Innovations Created Block Buster Industries

- **Products:** Nano, Video Games, Cell phones, Search engines, IPod, Wikipedia
- **Services:** E-mail, e-retail, Face book (social networking), Solar Power
- **New technology solutions** to redesign of services (water, power, gas, construction, banks, education) to be intelligent and smart
- **New Business models:** Containerization, Outsourcing, BPOs, FDI, Sell direct, e-retail, ATMs, Clouds, PPP, Orchestration, e-bay

Innovations Created Block Buster Industries

- **Industrial Clusters**, Special economic zones (China), Freight corridors, New Universities,
- **New Logistics and IT Infrastructure**: Digital delivery (Amazon), Suez & Panama canals, Containerization
- **Government regulations**: Process patent, Deregulation of Telecom & Airlines, VAT, Green, Free trade agreements, SEZs, PPP, WTO, New labor laws, etc

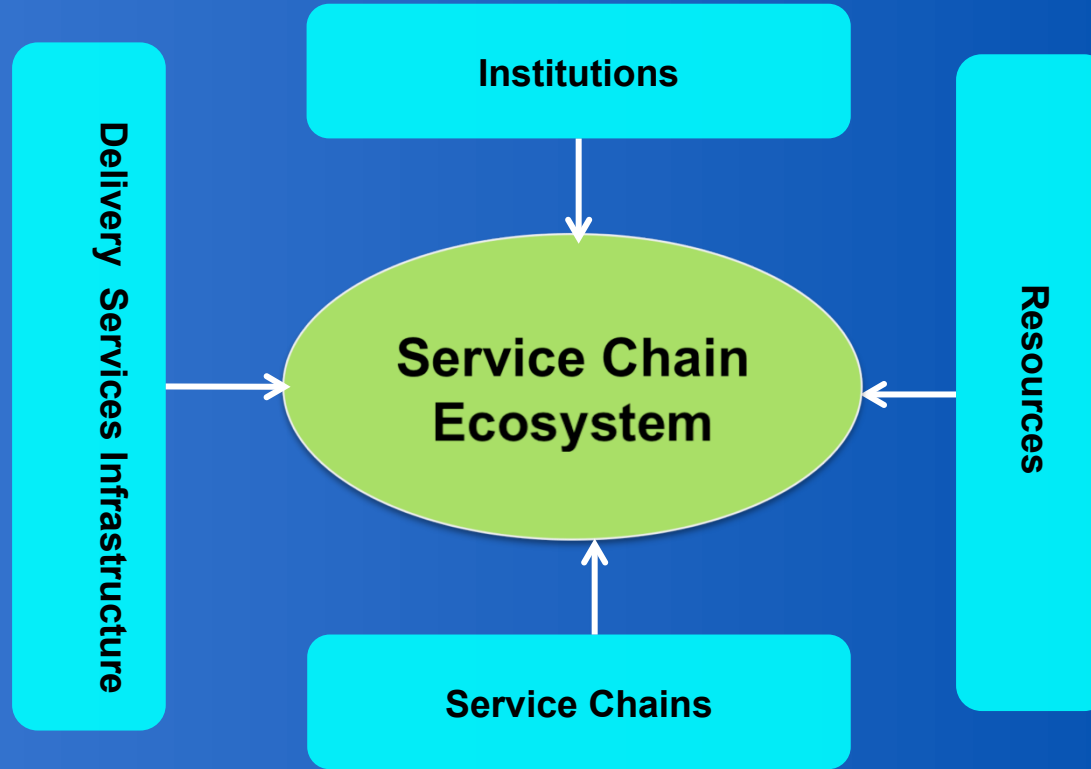
What is Successful Innovation?

- Innovation involves acting on the creative ideas to produce products or services that make a tangible difference in their use.
- Innovations leading to commercial success are of interest in both Developed & Emerging markets
- Block buster industries are generally a result of co-evolution and convergence of several innovations
- **There were several innovations in recent times that have revolutionized the way we live, the way we communicate, the way we work and the we way spend our leisure time.**

Innovation Framework

**Ecosystem Aware
Global Supply Chain Management**

The Basic Ecosystem



**Investment Climate
Co-Evolution**

Innovations

Innovations in Supply Chain Networks

- **Product and Value Chains**

- Low cost high quality blockbuster products: Nano, Video Games, Cell phones, iPod, Search engines, www, Wikipedia
- Designing products for efficient logistics: *Modularization*, Process Standardization
- Distributed manufacturing, JIT, TQM, Procurement.
- New technology solutions: Redesign services (water, power, gas, construction, banks, education) to be intelligent and smart, UID, e-health records, Clouds
- Market Channel Innovation: Supply chain visibility, Joint Inventory management, CPFR, RFID, , Direct to customer, Home delivery, e-retail, International markets through JVs, Packaging for all sections of populations
- New Business models: Outsourcing, BPOs, FDI, Sell direct, e-retail, PPP

Innovations in Supply Chain Networks

- **Institutions**

- Government regulations: Process or Product patent, Deregulation of service industry (Telecom & Airlines), VAT, Free trade agreements, WTO , New labour laws, Competition act, land acquisition act, etc
- Green, Customs for perishable goods, Trade, Hygiene, Regulations on packaging, formulations, pricing, procurement like APMC act, Essential commodities act, Minimum support price for PDS
- Social factors, Labor unions, NGOs

Innovations in Supply Chain Networks

- **Delivery Services Infrastructure**
 - *Supply hubs, Cross docks, Postponement, Product recalls,*
 - **Shared services:** Containerization ATMs, Clouds, Orchestration, e-bay, social networking :Face book, Linked in, Twister, Canals: Suez, Panama
 - Cold chain, Packaging, Sensor networks for visibility, Delivery with bad infrastructure, Distribution backbone, Linking Ports and airports into the global transportation network
 - **Soft Infrastructure:** Trade facilitation, e-approval, e-letter of credits

Innovations in Supply Chain Networks

- **Resources**

- Water, Power, Financial Institutions, Research institutions & Universities, Product development and Testing laboratories, Creating new industrial clusters, Special economic zones, Talent.
- New technology solutions to redesign of services (water, power, gas, construction, banks, education) to be intelligent and smart, UID, e-health records, land records

Co-evolution & Convergence

- “Convergence” refers to fusion of technologies in two fields to generate innovations and commercial opportunities.
- The use of one industry’s principles fundamentally change the opportunities available within the other.
 - Transportation + IT = Logistics (Information replaces inventory)
 - Manufacturing + Logistics + Trade liberalization = Outsourcing, Global supply chain
 - Finance + IT = Internet Banking, ATMs, on line Money transfer, Online trading
- Co-evolution refers to the adaptive response of one species to genetic change in another species, which itself becomes genetic (**Vertically Integrated to Globally Distributed**)

Global Manufacturing Result of Virtuous Co-evolution

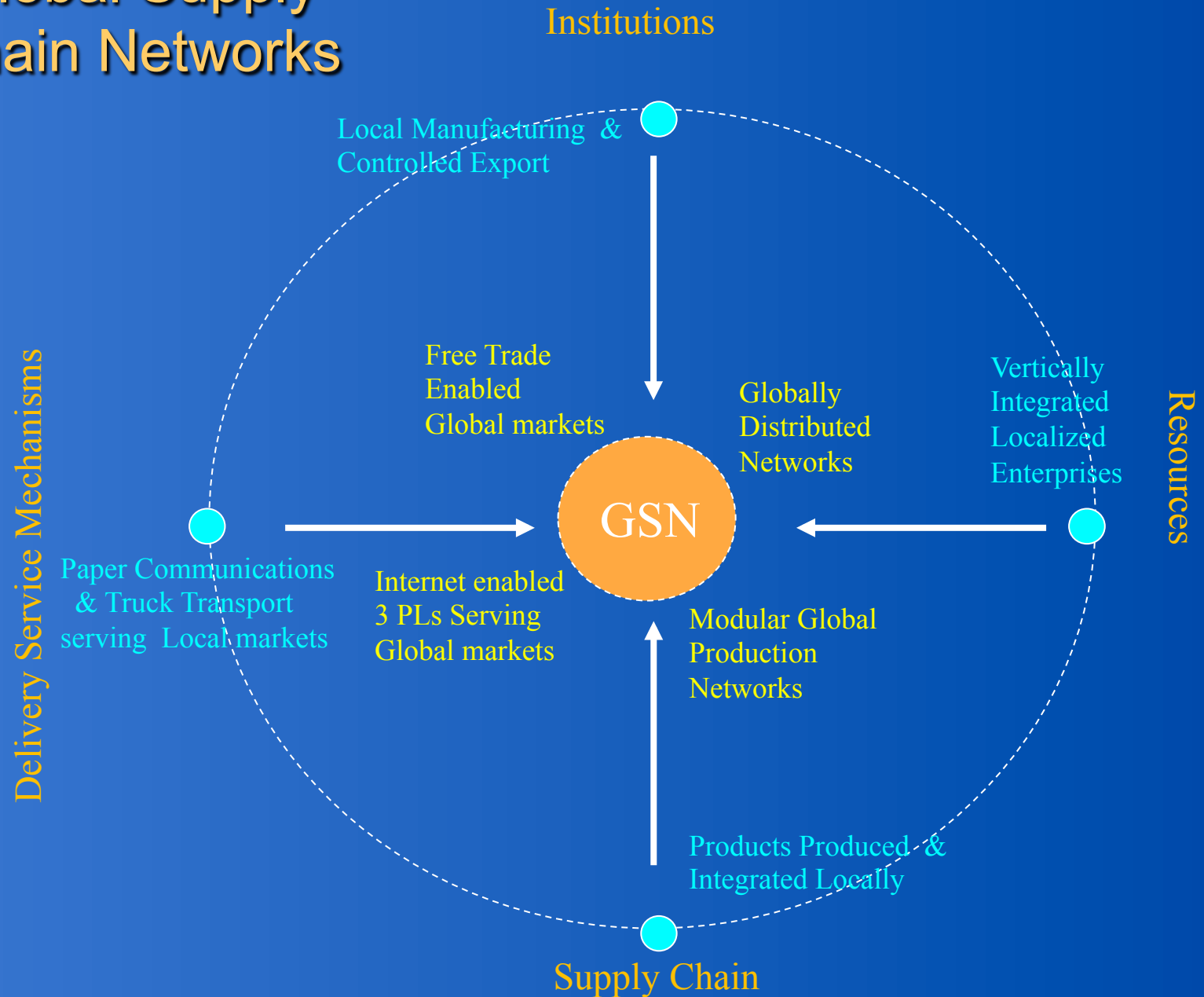
- Modularization of products and services had lead to local outsourcing within USA and later to outsourcing to low cost countries such as Mexico, China etc.
- Countries started liberalizing their economies and reducing the tariffs further encouraging outsourcing.
- The Internet has enabled error free secure communication among partners and also interconnection of company computer systems.
- Ports, Airports have been developed to enable transport of people and also freight of raw materials as well as intermediate goods . Trade facilitation and other innovations have helped the rapid processing of goods transfer across the borders.
- **Contract manufacturers and Third party logistics providers have proliferated boosting outsourcing in other sectors**

Globalization has become the genetic order of manufacturing and service industries

Ecosystem Aware

Global Supply Chain Management

Global Supply Chain Networks



Conclusion

- Emerging market innovations are to be socially responsible, environmentally friendly and audio-visual technologically advanced, delivering high quality products at affordable prices in accessible locations to their populations
- Co evolution of innovations in resources, delivery, Government supporting policies and in supply chains and convergence of technologies need to be orchestrated