



## STRATEGIC FORECASTS

**Emerging Economies Sustain the Global Economy**

**Soft Infrastructure finances Hard Infrastructure**

**Information Access helps Informal Sectors build Innovative Peer Economies**

**Informal Living Systems become a Major Consumer Category**

**Indian Small and Medium Business Networks are cross-cutting Asia**

**The Tata-fication of the World**

**Intelligent Infrastructure can make Emerging Economies Green**

**Energy Efficiency and Innovation**

**Energy Usage and Carbon Credit**

**Advertising will Personalize or be Left Behind**

**Interactive Television is the New Holy Grail**

**India builds its Brand Identity**

**Africa's Emerging Story**

**China and India invest Differently in Africa**

# Emerging Economies sustain the Global Economy

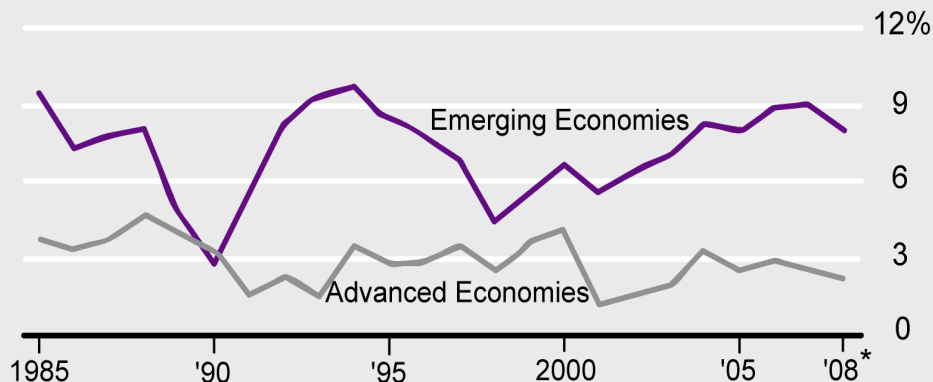
**Definition:** Emerging Economies have been experiencing rapid and sustained economic growth over the last 10 to 15 years. They do not seem to be significantly affected by economic slowdowns in the developed world.

The seven countries that are part of this report averaged **8.45%** real economic growth from 1996-2006 compared with **3.32%** for G8 countries.

## Emerging Economies are Driving Global Growth

Average Annual Change in GDP, 1985-2008

% Change from Previous Year



Source: International Monetary Fund

\* Estimate

- Strong and sustained employment growth is seen in the Service sector, while the Manufacturing sector is seeing variable change.
- Top-down hierarchies that reinforce educational and class boundaries are increasingly being replaced in these economies by extended networks with smaller power asymmetries.
- Informationalization leads to more diverse economies.
- Large capital outlays are unnecessary for information-oriented businesses.
- Service sector employment in these information economies involves continuous training and retraining of knowledge workers.
- Linear repetitive processes are replaced by just-in-time innovations that meet consumer needs in real-time.
- India and China barely affected by the global slowdown in 2001-2002.

**Emerging Economies grow despite Global Slowdown**

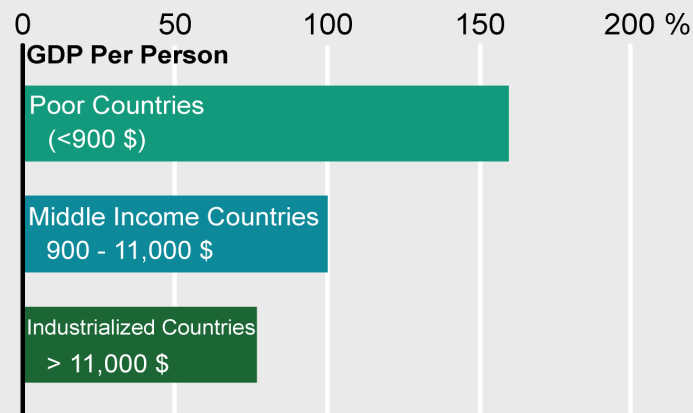
# Soft Infrastructure finances Hard Infrastructure

**Definition:** Soft infrastructure includes terrestrial, cable and satellite television, mobile coverage and broadband cable. Hard infrastructure includes highways, roads, bridges, water supply, sewage systems and electricity. In the rural countryside in Emerging Economies, telecommunications towers are now common, even though electricity, running water and sanitation systems are not yet in place.

The Emerging Economies have grown **140%** in the trade of high technology in the last 10 years.

## Net Before Road

Growth in Modern Technology Usage  
Usage Index Early 1990s to Early 2000s



Source: World Bank

- In many Emerging Economy environments, especially in rural areas, soft infrastructure is encountered even in the absence of hard infrastructure.
- Soft infrastructure enabled informational access partially compensates for the erratic availability of hard infrastructure like transportation and electricity.
- Soft infrastructure roll-out will increasingly depend on private players to lead the way.
- Access to new technologies puts the formal sector of these economies on a more even playing field with the developed world and energizes the informal sector to reach the levels of the formal sector.
- The installation and use of soft infrastructure generates and attracts the capital resources necessary to build the more expensive hard infrastructure.
- The informational access provided by the soft infrastructure substitutes or supplements incomplete hard infrastructure.

Net before Road

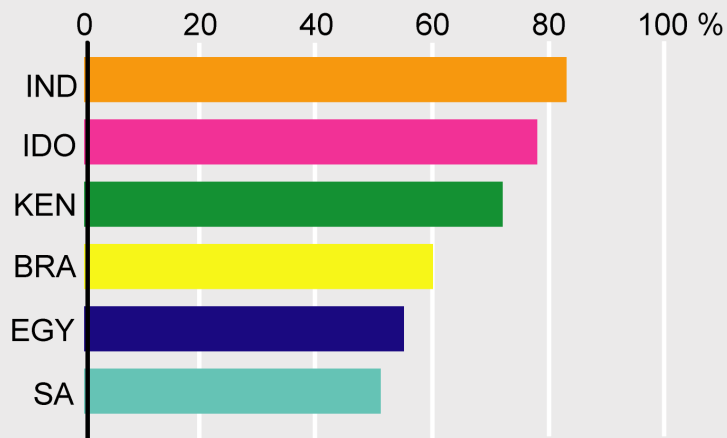
# Information Access helps Informal Sectors build Innovative Peer Economies

**Definition:** Emerging Economies have large and dynamic informal sectors, which are using informational systems in unprecedented ways to bring about new prosperity and business opportunity. By the informal sector we mean urban settlements that lack legal authorization, contribute minimally to national taxation and lack basic services and infrastructure.

According to the International Labour Organization, approximately **85%** of all new employment opportunities around the world are created in the informal economy.

## Substantial Employment in Informal Sector Informal Employment in Non-Agricultural Sector

% Change, 1994-2000



Source: International Labour Organization

- The vast majority of retail outlets in most Emerging Economies are in the informal sector.
- Pirating will continue until more appropriate price points are reached.
- 'Pirating' can be harnessed as user generated content. Mass-customization is one of the drivers of the informal economy.
- The informal sector adds value by being the first to respond and cater to emerging customer needs.
- The informal economy is a threat to the market share of formalized business but it can be converted into a more enriching partnership.
- The success of the informal economy depends on its networking abilities. The informal economy is becoming the networked economy.

Understand the Ways of the Informal Economy

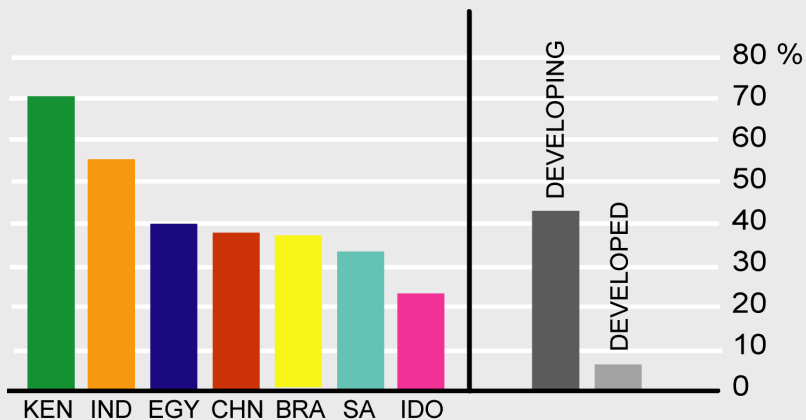
# Informal Living Systems become a Major Consumer Category

**Definition:** Informal citizens need to charge their phone, cook, manage waste and learn-all without regular access to infrastructure. Businesses will increase their market share by tailoring products and services to meet these unmet user needs. By informal living systems we mean life in built environments that are only partially connected to the grid and the formal legal mechanisms of the state.

Today  $1/6^{\text{th}}$  of the world's population lives in informal cities. This will increase to  $1/4^{\text{th}}$  by 2020.

## Informal Settlements Large Population Living in Slums

% of Population in Slums, 2001



Source: United Nations Human Settlements Programme

- Hard infrastructure and formalized municipal services are unbuilt or erratic in informal living systems.
- Local trust networks emerge where state bureaucracy is absent.
- Local trust networks gain value by tapping into latest technology platforms.
- Decentralized energy infrastructure such as biomass, solar power and compost toilets are the new generation of leapfrog technologies.
- Widespread telecommunication networks ease the asymmetries between the organized and the informal sectors of the economy.
- Informal markets for intellectual property continue to coexist with newly organized corporate retail outlets, with each catering to different consumer segments.
- Increasingly sophisticated knowledge exchanges occur across geographies and classes in informal sectors.

**The Self-built Sector is Self-scaling**

# Indian Small and Medium Business Networks are cross-cutting Asia

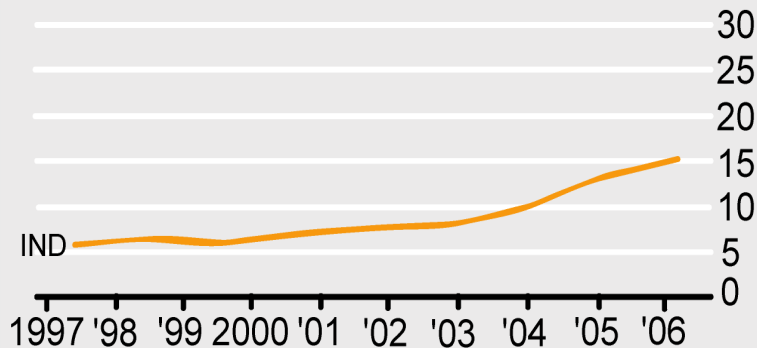
**Definition:** Indian manufacturing houses are setting up production in Vietnam and China. They coordinate with global retail houses and manage design and quality. The smaller east Asian countries already have substantial trade relations with China but they are now opening up to Indian investments as well. Vietnam has already received Indian investment in its steel industry from Tata Steel and Essar.

India's exports to ASEAN countries increased from 10.41 billion US \$ in 2005-06 to 12.56 billion US \$ in 2006-07, registering a growth of **20.67%**.

## India Investing More in ASEAN Countries

India ASEAN Trade

Investment in Billion US \$, 1997-2006



Source: Export Import Data Bank,  
Ministry of Commerce and Industry, GOI

- Indian large business houses take the lead in cross-cutting Asia in search of new investment scenarios.
- They are interested in manufacturing, retail and the energy sectors.
- Small and medium businesses explore opportunities in drugs and pharmaceuticals, healthcare, outsourcing engineering services and auto components.
- Larger Indian enterprises like Tata, Essar and Reliance are keen on the energy sector, especially the hydrocarbon and power sectors.
- India's Mekong-Ganga Cooperation with Thailand, Myanmar, Cambodia, Laos and Vietnam will help it play an important role in the infrastructural development of these regions, especially in transport and telecom.
- Preliminary research and surveys have also been completed on the possibility of setting-up a railway line from Delhi to Hanoi.

**Collaboration with India drives ASEAN growth**

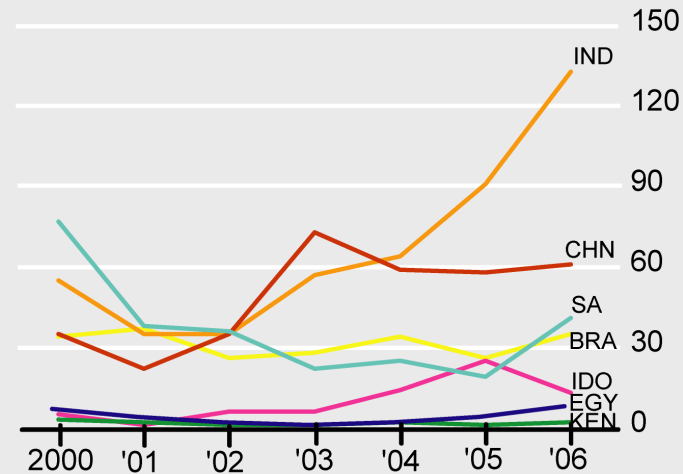
# The Tata-fication of the World

**Definition:** Regional Indian and Chinese multinationals have always known improvisational innovation. Soon they will embrace systemic innovation. Collaboration with regional multinationals have helped global business enter the emerging markets faster. Now the process will be reversed. Regional multinationals will be more in the news everyday.

Tata has **98** companies. With annual revenues of around **30 billion US \$**. Cross border merger and acquisitions by the seven emerging economy countries increased by **15%** from 2001 to 2006.

## Emerging Economies Invest Globally

Total Deal Value by Country  
In Millions of US \$, 2000-2006



Source: United Nations Conference and Trade Development

- Regional multinationals make money at home and in developing markets first. India invests in South-East Asia, China in Africa.
- Most Emerging Economies have a substantial unfulfilled consumer base. This is not the case with Russia or Singapore which is why they are not the most promising Emerging Economies.
- The strongest base for regional multinationals is their home turf. They retain a strong hold on their internal market by selling to the growing middle-class at home.
- Their current innovation strategy is to figure out how to make money in low price point markets.
- They are also gaining credibility, new markets and avoiding foreign trade restrictions by acquiring companies in the developed world.
- The next large knowledge corporation to shape global business will arise from the Emerging Economies.

**Competition breeds Innovation as Globalization becomes a Two Way Process**



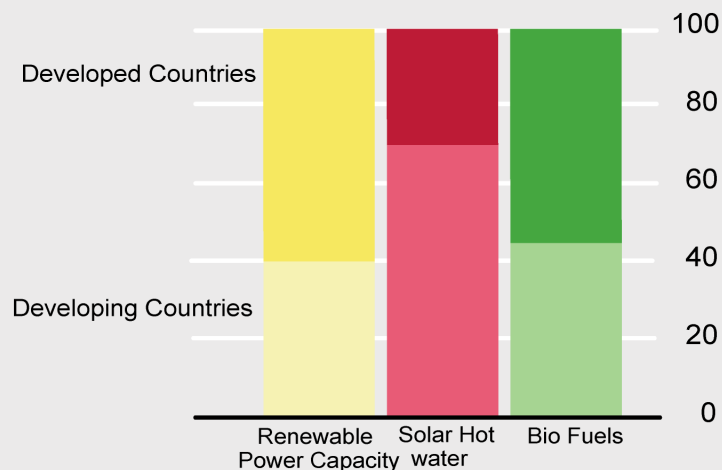
# Intelligent Infrastructure can make Emerging Economies Green

**Definition:** By Intelligent Infrastructure we mean infrastructure that uses embedded data collection and feedback mechanisms to become more responsive to user needs and respond in real time to changing conditions.

Total world consumption of marketed energy is projected to increase by **57%** from 2004 to 2030. The largest projected increase in energy demand will be from the Emerging Economies.

## Energy Options for Emerging Economies

Renewable Energy Capacity  
% of Selected Energy Used



Source: World Watch

- Irregular electricity will drive energy innovation.
- More people will gain access to infrastructure but service will be intermittent in order to provide for all.
- Ability to pay becomes a prerequisite for getting uninterrupted or premium access to infrastructure.
- Frustration with irregular or unbuilt top-down state utilities creates localized and privatized utilities at many levels of society.
- Infrastructure gets smarter as utilities becomes more diffuse and users make energy decisions that are appropriate for them.
- The intelligence about energy needs and requirements is best known to the user. Power decisions will be progressively taken by consumers.
- Industry can drive innovation in this sector by closely studying user needs and circumstances.

**Emerging Economies install Smarter Infrastructure**

**Definition:** Emerging Economies are energy scarce and therefore energy efficient. They are already creating innovative just-in-time and very local techniques for energy creation, redistribution and management. Increase in energy inputs result in consequent economic growth but Emerging Economies will have to chalk their energy usage well in order to keep their footprint light.

India has 17% of the world's population, it emits only 4% of the global greenhouse gases.

## Annual Change in Energy Usage & GDP

Across Six EER Countries\*  
% Change, 1982-2006



Source: British Petroleum;  
World Bank

\* Brazil, China, Egypt, India,  
Indonesia, South Africa

- Emerging Economies require energy to power new transportations, housing, public infrastructure, retail environments and service companies.
- As these economies grow, they will need more energy.
- Energy will become localized at the end of oil and other non-renewable resources.
- Localized solutions will draw on new technologies and prevailing renewable energy sources like wind, bio-fuel and solar power.
- Energy usage based on information and innovations in Biotechnology will be the new equation for the new energy economy.
- More capital is available in Emerging Economies to invest into energy infrastructure.
- The ways in which new capital investments into energy are made will substantially determine the environmental impacts of this increased consumption of energy.

**Information x Energy Systems x Biotech: The New Equation for the Sustainable Energy Economy**

# Energy Usage and Carbon Credit

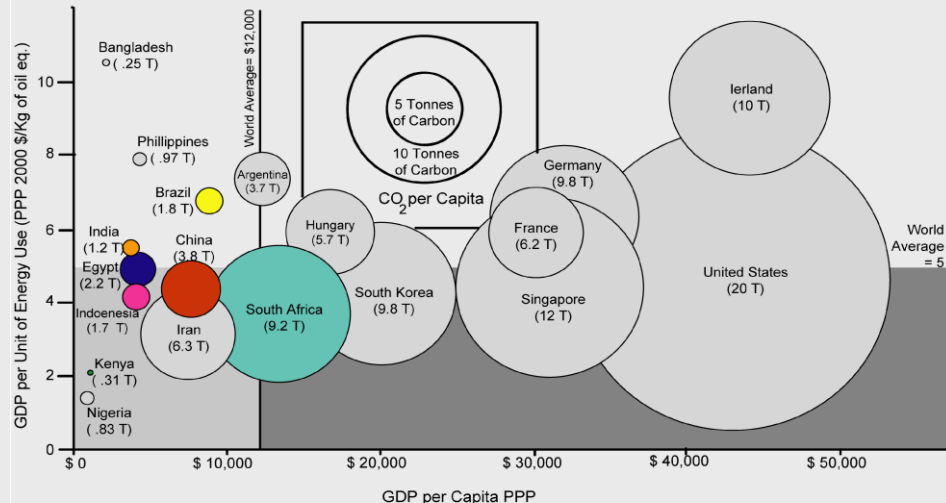
**Definition:** Emerging Economies have an option to select the trajectory of their energy growth. They are presently at the right juncture to decide the future of their energy usage.

Strengthened by low national carbon footprints they will dictate the terms of future international environmental treaties. Being energy efficient, they will also use their carbon credits to offset the deficits of the Advanced Economies.

Global carbon credit market is estimated to be around **30 billion US \$**, of which India and China together contribute to roughly **two-thirds of 5 billion US \$**.

## Emerging Economies Plan Energy Growth

Global Energy Development Growth  
In relative lightness



Source: Nationmaster

- Energy efficiency paths are being chalked out by Emerging Economies.
- They have an option of models before them.
- Making use of more traditional and non-renewable energy sources will make efficiency levels decline in the long run.
- Energy planning can create lighter footprints.
- With an orientation towards sustainable energy, India can go the Ireland way which has registered 8.1% of energy efficiency levels between 1995 and 2005.
- China has overtaken the United States in its total carbon emission but as per capita figures remain low, it needs to rapidly reorient itself to become more like Germany than the United States.
- The contest for carbon credit will be another area of India-China rivalry although China currently has a substantial lead.

**India and China compete in the Carbon Credit Scene**

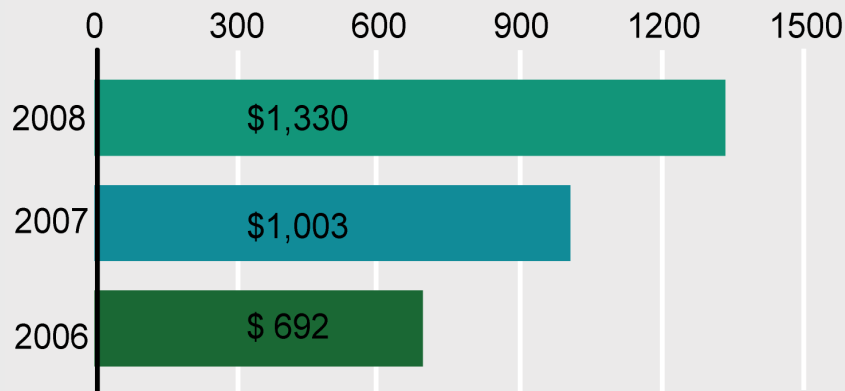
# Advertising will Personalize or be Left Behind

**Definition:** In an era of mass customization, advertising cannot just continue to push information. Inane and irrelevant messaging adds to information overdrive. Advertising will have to stop being generic and understand the versatility of today's consumer base. It must create new opportunities for learning, personalization and knowledge networking.

Emerging markets account for 1/5<sup>th</sup> of global expenditure on advertising. Developing countries will add 50 billion US \$ in ad-spending between 2008-2010 while developed markets will add only 38 billion US \$.

## Personalized Advertising Increases Value

Worldwide Video Game Advertising Spending  
Annual Growth Rate, 2006-2008 (in Millions of \$)



Source: eMarketer

- Nothing less than a "New Advertising" will be required to cater to the sophisticated Information Economies.
- All advertisements become increasingly contextual, customized and relevant to the viewer.
- Advertisements will empower users rather than develop mindless consumerism.
- Company communication with users become educational and conversational.
- Advertisements are no longer about product placement but about product relevance.
- Advertising and education will integrate in interesting ways when it comes to learning new platforms, technologies and software.
- Internet and the gaming scenario will be the two biggest platforms for personalized advertising. Toyota has tied up with Xbox to market its Yaris.

**Market Messaging becomes Targeted, Personalized, and Contextualized**

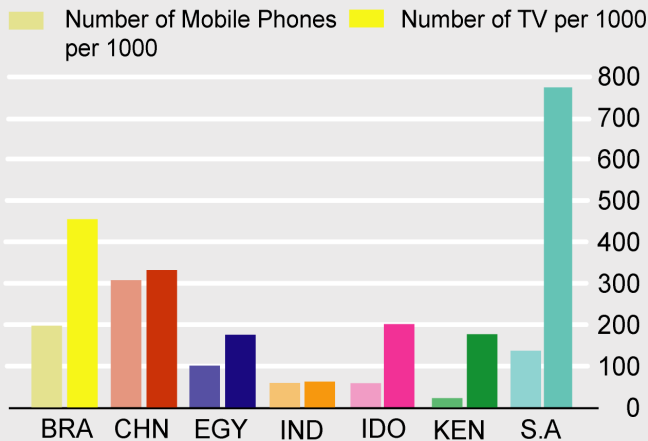
# Interactive Television is the New Holy Grail

**Definition:** Many Emerging Economy families do not read or use computers but they have television sets. They want this platform to do more - to be more a part of their lives and not merely breed company messages. They want to create interactive content and project it within their homes.

Approximately **25%** of cable households in China are planning to migrate to interactive TV.

## Increasing Technology Penetration

Preferred Technology Platform  
Number of Users per 1000



Source: CIA World Factbook

- Seemingly no company has any clue about what users really want in their home media.
- Slow Personal Computer adoption continues to be pointed out to suggest slow adoption of interactive media in Emerging Economies.
- Slow growth in Personal Computers does not mean that Emerging Economies are not developing rich media and interactive platforms.
- Success of local karaoke bars, game parlours and interactive educational content providers prove the potential of interactive platforms.
- Interactive television is not just about movie selections or voting, it needs to make more customizable content.
- Mobile phone continues to be the computing device that is most adopted.
- New technology ecologies are emerging- Mobile technology predominate in India vs Personal Computers in Brazil vs Television in South Africa.

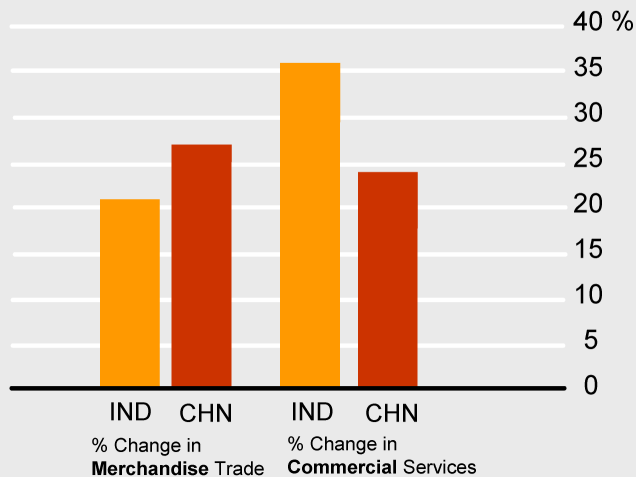
**Create Interactive Software for Hardware that People Own**

**Definition:** China floods global markets with non-branded products. Indian companies are known for their brand value. China will lead in merchandise sales but Indian service enterprises will become the global brands of tomorrow. Indian service sectors are collaborating with global enterprises to provide world class services in order to establish themselves as global names to reckon with.

12 Indian companies lead the third annual 'Forbes Asia Fabulous 50 List' against 7 companies from China.

## Manufacturing and Service Growth

Growth in Merchandise and Service Export Sector  
% Change Annually, 2006



Source: World Trade Organization

- Brand values are far from trivial. The worth of the top ten global brands in 2006 (almost 400 billion US \$) was more than the Gross Domestic Product (PPP) of the world's 80 poorest countries (350 billion US \$).
- Brand development builds the soft power of Emerging Economies.
- Branding is not only about companies and products, it is about all things with recall value.
- Chinese manufacturing products are available everywhere but without adequate branding they have low global footprint.
- Indian businesses successfully market products under their own names.
- Indian brands capture global consciousness while China rolls out its products in anonymity.
- Indian organisations enter global consciousness like never before.

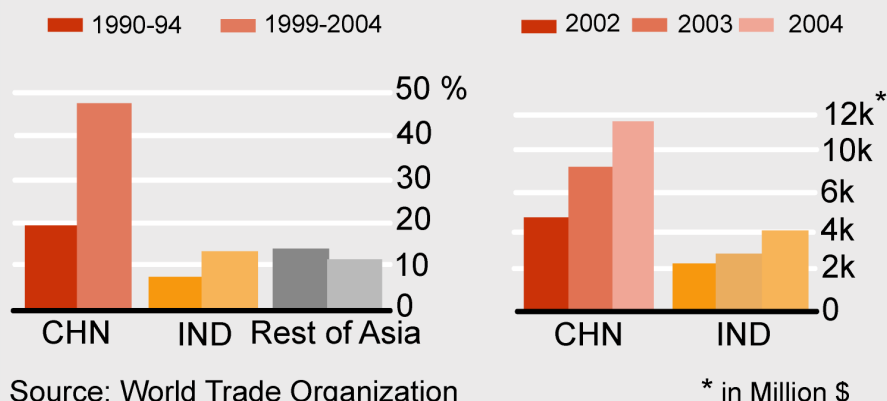
**China is the Factory of the World, India its Laboratory**

**Definition:** Indian and Chinese trade and investment in Africa has begun with access to natural resources and new markets for the sale of their products. The interest of these two economies present an opportunity for Africa to grow by providing goods and services to Asia. Africa has an interesting choice before it in terms of the kind of future developmental partnership that it seeks.

From 2000-2005 Africa exports to Asia grew by **20%**.  
Asian exports to Africa grew by **18%**.

## Steady Rise of Indo-China

India and China as Destination/Source of African Exports/Imports % and Value Growth



- Growing Indian and Chinese economies and their respective middle classes increase the demand for natural resources and goods from Africa.
- Trade and investment between Sub-Saharan Africa and China and India is increasingly rapidly.
- Africa is the new investment destination with saturation seeping in, in the south-east Asian markets.
- Current Chinese investments in Africa are primarily resource related whereas Indian investors have a long history of integrating into the African market and adding value to its exports.
- Economically and technologically competitive Indian and Chinese companies investing in Africa fosters regional and global integration of Africa.
- Africa decides the nature and future of its trade with these economies – provide natural resources or skilled labour. Exporting natural resources increase trade deficits while becoming the outsourcing destination will create employment opportunities and improve indigenous economies.

**Africa chooses its Future Growth Trajectory**

# China and India Invest Differently in Africa

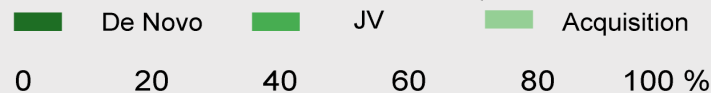
**Definition:** The Africa portfolio of India and China are variable in nature. While India focuses on new markets for both imports and manufacturing outsourcing, China is progressively getting involved in African policy-making having geo-strategic interests. Indian businesses help Africa develop its different sectors while China profits by building Africa's infrastructure.

Africa's exports to China grew by **48%** annually 1999-2004 compared to **14%** for India. **86%** of Africa's exports to China and India are oil, metals, and agricultural raw materials.

## India Invests Differently

Form of FDI Entry to Africa

% of Investment in Different Venture Types



Source: World Bank

- Africa's exports are mostly in raw form with little or no value addition.
- China provides African businesses with more machinery and material inputs than India for both commercial and non-commercial purposes.
- China helps build Africa's infrastructure to facilitate its own access to resources. 70% of China's import from Africa is crude oil.
- Indian companies undercut production costs by outsourcing to Sub-Saharan Africa. It will first outsource manufacturing and then the service sector. The time gap between the two will be short.
- Chinese companies establish themselves as de Novo ventures finding fewer benefits in integrating into African markets. Indian companies looking for long-term investment plans, prefer to integrate.
- African exports growth will develop its infrastructure, education and implement higher quality standards.

**In Africa, China builds the Infrastructure and India creates the Jobs**





## About the Authors

**Dr. Aditya Dev Sood** has directed diverse projects involving user research, new product concepting, user experience and service design. His work is informed by a strong sense of business modeling and future forecasts in areas related to technology, design and innovation. He frequently speaks on issues related to innovation and design in both academic and industry forums and runs various innovation workshops on behalf of CKS.

**Sayalee Joshi's** ethnographic research work is based on a keen sense of usability and user experience issues. She is highly experienced in visual studies, rural networks and marketing management which have emerged through her training in design and work in rural economies.

**Nita Soans** has been involved in a number of user research, user-interface design, and Color, Material and Finish studies. She also runs various innovation competitions and workshops on behalf of CKS.

**Saswati Saha- Mitra** works on diverse projects involving user research, sociability patterns, cultural analysis and sociological and quantitative data analysis.

**Zackery Denfeld** is accomplished as a computer scientist, DJ, videographer, ethnographer, and qualitative researcher.

**Gabriel Harp** is a promising design ecologist with interests in providing effective and lasting interactions between the life sciences, education, information technology, business, art and design.

The **EER team** consists of a dynamic group of experienced researchers coming from the fields of Architecture, Communication Design, Engineering and Cognitive Science. They are extensively trained in visual cultures, quantitative data analysis, business modeling, innovation management and user experience design.

The **Center for Knowledge Societies (CKS)** is the world's leading research, design and innovation organization specializing in emerging technologies for emerging economies. CKS has worked with global corporations in diverse sectors as telecommunications, rural marketing, automotive and aviation sectors, furniture and home décor and financial services. CKS has offices in Bangalore and New Delhi in India. It has also established global research partnerships in China, Indonesia, Brazil, South Africa, Kenya, and Egypt, which enable us to undertake projects and reports covering multiple economies.