**Changing the World: Entrepreneurship:**
How Innovation and Entrepreneurship Changes the World
-Jack M. Wilson

## Chapter 15 Entrepreneurship and Innovation are Global

### *Entrepreneurship is Global by Nature*

Two generations ago, a potential entrepreneur might simply ignore the rest of the world and focus on their little corner. While that might still be possible for smaller salary substitute ventures or family businesses, it is a foolish strategy for those who want to build larger public entrepreneurial firms.

World markets are larger and faster growing then domestic ones, and many new ventures have taken advantage of that opportunity to grow their venture.

Changes in technology, transportation, and trade liberalization have made international trade more accessible to companies, especially new entrepreneurial firms. Things that were difficult to do a couple of generations ago are now much easier and done routinely.

Furthermore, in a global economy, consumers worldwide choose from a wide variety of goods and services. They are no longer restricted to good and services that are produced locally. Like so many things about globalization, there are those who see mostly positives in that change, and there are others who see it as being negative. If you had walked into the shopping districts of Boston, London, Munich, Moscow, Beijing, and Tokyo in 1980, you would have seen radically different stores, goods, and services. If you do that today, you will notice that many of the same stores are selling many of the same products in all of those places. In older shopping districts at least the architecture is different, but in the newer ones, even the architecture is starting to look similar.

Collectively, the movement of goods, labor and capital across national borders is part of a growing trend toward globalization—the creation of an integrated interdependent world economy. This has been the primary trend for the last half a decade, although we are now seeing growing nationalist movements in many countries that are pushing back against the free movement of people, goods, and ideas. Only time will tell how much this will change the climate for entrepreneurship.

Entrepreneurs are on the cutting edge in creating international businesses; they are often the first movers into new markets, new products, and new services. They often cross national borders themselves to follow their dreams of building new ventures.

Firms that choose to remain domestic may miss great opportunities and often face increased risks.

For example, a company that has achieved the enviable position of having one-third of the US consumer market for its products has only a 1.5% share of the global market, 98.5% of the market is still available[1].

Why do countries care about these things? It is because the evidence is overwhelming that those countries that do entrepreneurship best tend to be the countries that have the highest Gross Domestic Product per person (per capita GDP). The more innovative and entrepreneurial that a country is the larger is their GDP per person.

The economic development of countries is very dependent upon innovation. For the countries this means jobs for their citizens, global influence for their institutions, and a better standard of living in the country.

Consider this graph which shows the global innovation index as a function of the per capita GDP (adjusted for the purchasing power in the region)[2].

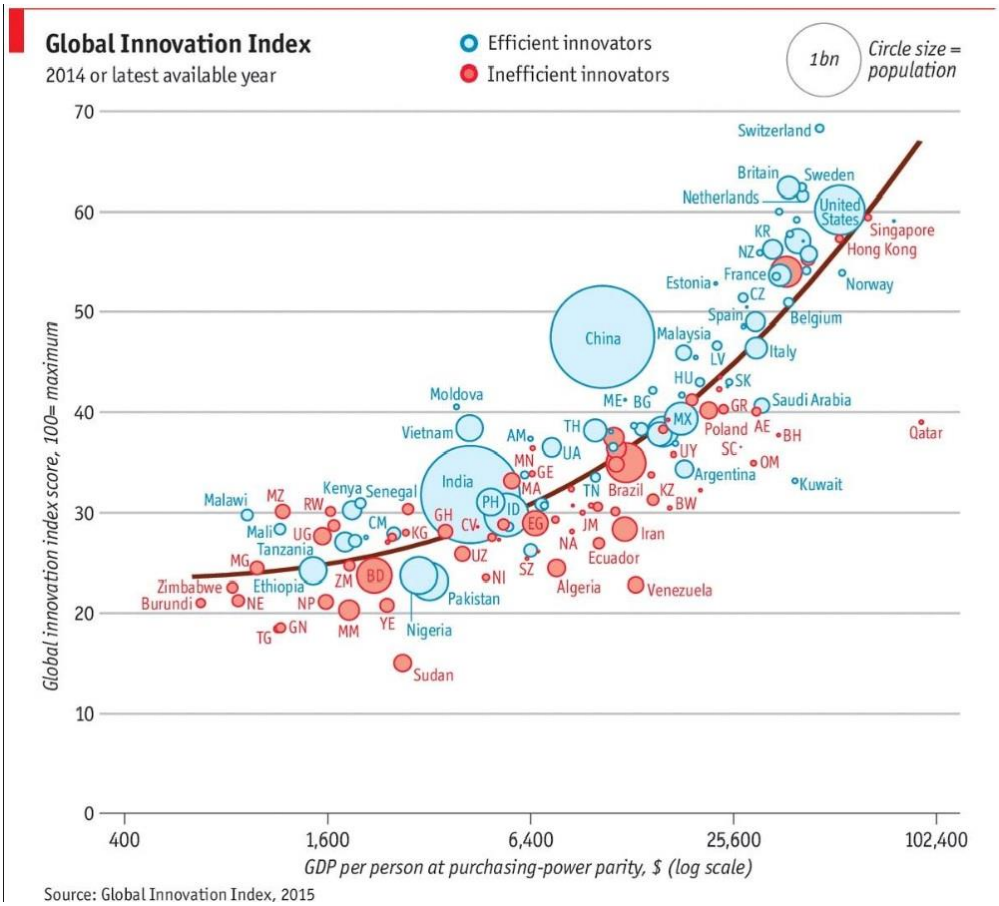


**Figure 1 Global Innovation versus per capita GDP**

[1] http://data.worldbank.org/indicator/IC.BUS.NREG/countries

[2] http://www.economist.com/blogs/graphicdetail/2015/09/global-innovation-rankings?fsrc=scn%2Ffb%2Fte%2Fpe%2Fed%2Ftheinnovationgame

As the Economist notes:

> *"Which is the world's most innovative country? Answering this question is the aim of the annual Global Innovation Index and a related report, which were published this morning by Cornell University, INSEAD, a business school, and the World Intellectual Property Organisation[3]. The ranking of 140 countries and economies around the world, which are scored using 79 indicators, is not surprising: Switzerland, Britain, Sweden, the Netherlands and America lead the pack. But the authors also look at their data from other angles, for instance how countries do relative to their economic development and the quality of innovation (measured by indicators such as university rankings)."*

The leaders of the pack and those that fall near the bottom left on the graph appear to come in where one might expect them to do so. It is also interesting to look at some of the outliers. For example, Qatar, Kuwait, and Venezuela fall far below the trend lines.[4] Each of these countries has substantial resources in petroleum that provide a higher per capita income without the need to be as innovative. It is beyond the scope of this course, but worth noting, that economists have long studied economies that rely on a single resource and have identified many problems and future challenges with this kind of economy. For this reason, many of these kinds of economies are working hard to diversify their economies, build great universities, and foster a more innovative culture. The overall trend is quite clear. Innovation and per capita GDP are correlated.

[3] http://www.wipo.int/publications/en/details.jsp?id=4193

[4] Economist; https://www.economist.com/graphic-detail/2018/07/12/arab-states-are-losing-the-race-for-technological-development

The group has also created an index of "Innovation Quality" and use universities, patents, and citations to the literature as metrics to measure innovation quality.

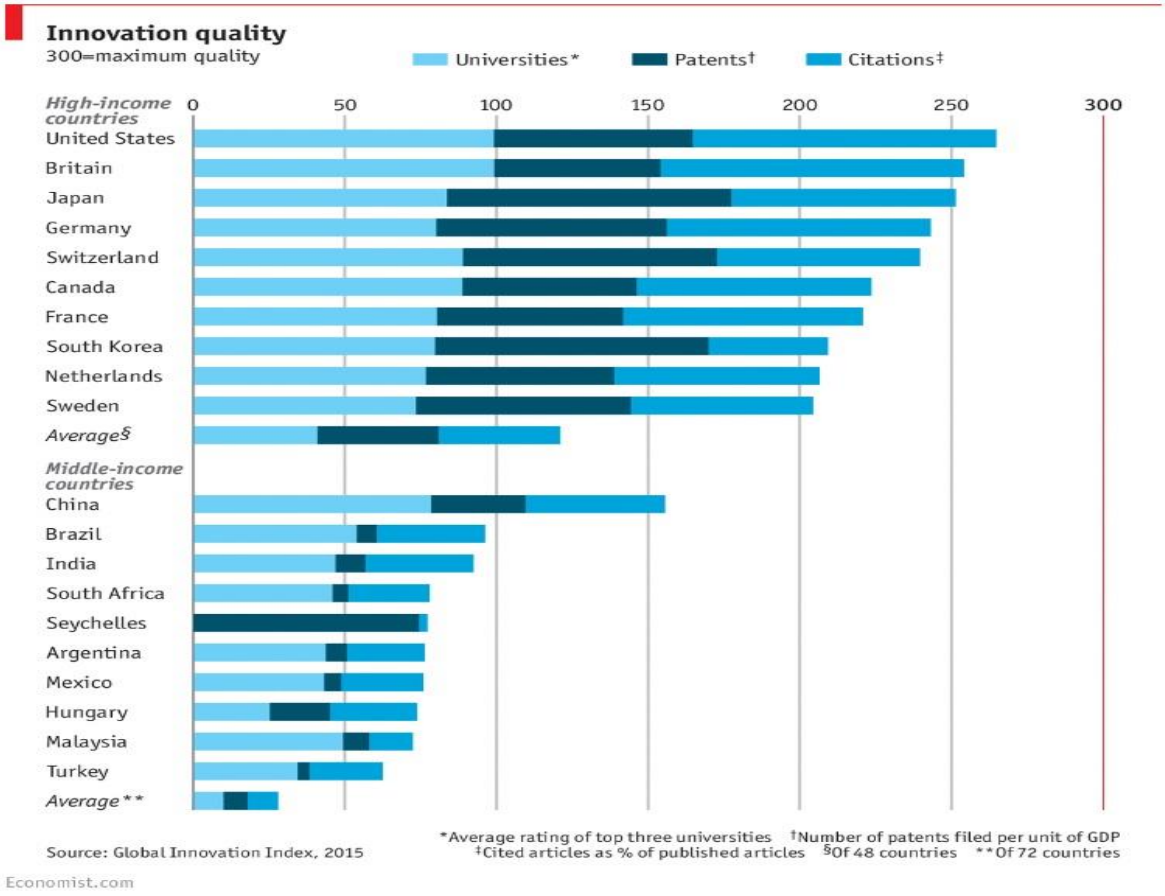


**Figure 2 Innovation Quality**

It makes clear just how important universities are to the process of innovation. It is important to point out that the presence of great universities also helps generate a larger flow of new patents and creates an opportunity for more citations to the literature.

Bessant and Tidd have identified four factors in the success of organizations[5]:

1. The *national system of innovation* in which the firm is embedded, and which in part defines its range of choices in dealing with opportunities and threats.
2. The *power and market position within the international value chain*, which in part defines the innovation based opportunities and threats that it faces.
3. The *capability and processes of the firm*, including research, design, development, production, marketing, and distribution.
4. *External awareness*: The ability to identify and exploit external sources of innovation, especially international networks.

[5] *Innovation and Entrepreneurship*, 3rd ed., by John Bessant and Joe Tidd; John Wiley and Sons; West Sussex, UK (2007).

Global Entrepreneurship has flourished over the last 50 years. Major changes in world governments, economic systems, and cultural interactions have created an environment in which entrepreneurship has become a significant factor in regional economic development, global geo-politics, and even cultural change.

There have been three significant issues that have enabled much of this innovation.

1. **Technology advances**: The incredible advances in technology –particularly in computing and the internet, but also in the life and medical sciences.

2. **Trade Liberalization**: The dismantling of barriers to trade and the movement of goods and ideas across borders that has found expression in world trade organizations like the WTO and in multi-national trade agreements like the European Union (EU), North American Free Trade Agreement (NAFTA) and many others.

3. **Freer movement of people**: The opening of borders to a much freer movement of people who emigrate and immigrate to find better opportunities in education and employment.

***Technological Advances***

It is hard to overstate the importance of the rise of computing, communication, and internet technologies to the creation of the world we live in today.

Tom Friedman in his book "*The World is Flat*" gives one of the best expositions of how technology and globalization have changed the world.

I cover his work and some of the criticisms of his work in more detail in my text on Global Entrepreneurship[6] in the chapter: "Types of Opportunities for Global Entrepreneurship,".

The internet has been an enabler of the global supply chain as we shall see later in this chapter.

As social media has spread around the world, it has enabled like-minded individuals to communicate without regard to borders and has enabled the good, the bad, and the ugly. It facilitates global business, global political movements, internet dating, and even terrorism.

Medicine has become a global issue with both disease propagation and enabling collaborative efforts to use advances in the life sciences to fight disease.

[6] http://www.jackmwilson.net/Entrepreneurship/GlobalE/JMW-GlobalEntrepreneurship-TOC.htm

### *Eliminating Restrictions on Trade and Investment*

For most of the past half century, the trend has been to remove barriers to trade and the movement of goods and ideas across borders.

Toward that end the world has created global organizations like the World Trade Organizations (WTO) which creates a framework for rules for trade amongst nations that adhere to the WTO. The General Agreement on Tariffs and Trade (GATT) set out rules for tariffs and trade and eventually merged into the WTO.

The World Bank was created to provide capital to developing countries to enable them to join the groups of trading nations.

The Global Entrepreneurship[7] (GLE) text has a chapter on Global Finance which considers some of the methods that can be used to finance global ventures for those who wish to explore in more detail.[8]

Multi-national trade agreements like the European Union (EU), North American Free Trade Agreement (NAFTA) and many others created trade openings among the signatories.

The Southern Common Market (Mercosur) was formed in 1961 to enable trade among South American nations.

By 2016 this movement toward free trade was beginning to encounter some resistance from populist movements in many countries. In the US, it became an issue in the Presidential campaigns. It was a factor in leading the United Kingdom (UK) to vote to leave the European Union (EU). Populist movements in many of the EU countries are threatening to derail many of the changes we have seen over the past half century.

My Global Entrepreneurship[9] text has a chapter on Free Trade in which I consider the economic theories underlying free trade and also some of the critiques that threaten to disrupt the former global consensus.[10]

### *Freer Movement of People across Borders*

The ability of people to move across borders to find opportunities in education, employment, and entrepreneurship has enabled entrepreneurship in ways that did not exist in the past. Later in this chapter, we will look at the role that emigration and immigration has had on the development of entrepreneurship and how it has affected both the home country and the host country.

---

[7] http://www.jackmwilson.net/Entrepreneurship/GlobalE/JMW-GlobalEntrepreneurship-TOC.htm
[8] http://www.jackmwilson.net/Entrepreneurship/GlobalE/9-GlobalFinance.pdf
[9] http://www.jackmwilson.net/Entrepreneurship/GlobalE/JMW-GlobalEntrepreneurship-TOC.htm
[10] http://www.jackmwilson.net/Entrepreneurship/GlobalE/6-GlobalEcon-FreeTrade.pdf

The online text for Global Entrepreneurship[11], Chapter 2[12] addresses in more detail the effects of global changes like:

- The opening of China to the west after President Nixon's visit in 1972.
    - Educational exchanges like the Chinese US Physics Education Agreement (CUSPEA) brought thousands of Chinese students to US universities. Trade and foreign direct investment began soon thereafter.
- The end of the cold war and the dissolution of the former Soviet Union.
    - This allowed freer movement of people and ideas across borders and re-created nations in eastern Europe that embraced capitalism and entrepreneurship as a potential path toward catching up with the economic development of the west.
- The formation of the European Union with a common market and borders that were opened under the Schengen Agreement.
- A movement toward democratic capitalism and away from socialist oligarchies.

### *Global Supply Chains*

Global Supply Chains often allow smaller firms to find a spot. Companies produce goods and services in a value-chain, a sequence of value-added steps.

For example: An auto manufacturer would purchase raw materials, manufacture sub-assemblies, assemble complete cars, transport them to markets, sell, and service them. Traditionally, these steps were conducted in a single location, but no longer is that the case. Today these components are sourced from many different regions and brought together in a variety of assembly points until the final product is complete.

As trade barriers were reduced, communication and transportation expenses began to fall. This made it easier to have an interconnected (or "Flat") world. In an interconnected world with free trade, firms could begin to move parts of their value chain to different locations - locations where entrepreneurs could offer more innovative or cost-effective solutions than local suppliers.

### *The free flow of people and ideas*

The free flow of people and ideas has enabled a globalization of research and development. The world's largest firms perform only about 25% of their innovative activities outside of the home country. Overall, the proportion of R&D expenditure made outside the home nation is growing, albeit slowly, from less than 15% in 1995. (Bessant and Tidd)

Since the late 1990s, European firms –and especially those from France, Germany, and Switzerland –have been performing an increasing share of their innovative activities in the

[11] http://www.jackmwilson.net/Entrepreneurship/GlobalE/JMW-GlobalEntrepreneurship-TOC.htm
[12] http://www.jackmwilson.net/Entrepreneurship/GlobalE/2-GenerationalChangeInWorldEnvironment.pdf

USA, in large part in order to tap into local skills and knowledge in such fields as biotech and IT. Boston has been a huge beneficiary of that trend –especially in BioTech. GE recently decided to move it's headquarters to Boston to move closer to a center of research on the internet of things (IOT). Microsoft went around the globe to open an R&D Center on the edge of Tsinghua University in Beijing China to tap into the large flow of intellectual property being created at this technological university.

***The cross-border movement of intellectual property***

Intellectual property—patents, trademarks, copyrights, trade secrets, and other proprietary processes—represent the top of the economic food chain. Intellectual property can move across borders without transportation costs, giving it high profit potential. By every measure, the transfer of intellectual property across borders is increasing at record rates. Many countries, and China is an example, require that companies entering their markets do so with joint ventures that require some formal technology transfer. In 2017, this became a hot political issue as the President publicly criticized and pushed China to reduce some of the restrictions which were considered to be unfair.

Informal, or even illegal, technology transfer is an increasing challenge to firms who are globalizing. **Spillovers** refer to the movement of ideas and know-how from one part of the economy to others. While it often just happens, many countries have policies to make it more intentional.

Theft of intellectual property through cyber methods, both criminally and state sponsored, is an increasing challenge for companies and for the world's law enforcement agencies – including the FBI in the US. Balancing these risks against reward is one of the great challenges of global entrepreneurship.

The Boston/Cambridge area has particularly benefited from the second bullet as biotech firms have wanted to locate in Kendall Square to be near to the very best R&D on the subject.

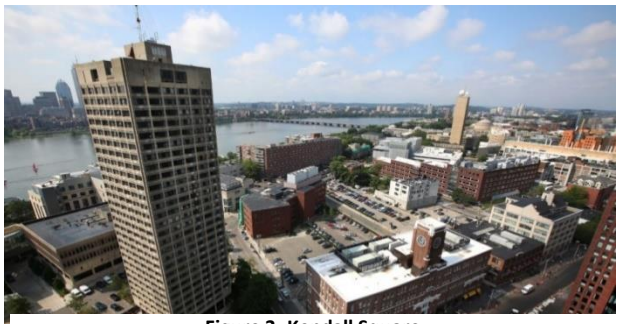

**Figure 3 -Kendall Square**

Biogen, Genzyme, Amgen, Novartis, Alnylam, Vertex, Microsoft, Google, Millennium, and 150 others all crowd into the small space on the north side of the Charles river.!

There is a thriving, albeit much smaller, biotech cluster in Worcester that depends upon the presence of the UMass Medical School for its Nobel Prize winning research and the UMass Medical Center as a suitable place for clinical trials.

The UMass Lowell Mass Medical Device Development Center (M2D2) benefits both from its links to the UMass Medical School and from its proximity to the eastern Mass medical industry.

US Companies also want to be close to the sources of innovation in other countries. Microsoft, for example, made a huge investment in China with 500 engineers on the edge of the Tsinghua University Campus and did this at a time when they were not able to sell much in China at all. They wanted to be close to what they saw as a significant source of intellectual capital and intellectual property.

**Figure 4 Microsoft in Beijing China**

Many countries, especially including China, demand that any foreign direct investments in their country be accompanied by opportunities for technology transfer in the other direction. They want access to outside intellectual property. China produces 75,000 people with higher degrees in engineering or computer science and India 60,000 every year. Major countries cannot afford to be provincial. They cannot ignore globalization.

Here is how The Economist described the situation in "The World Turned Upside Down.[13]"

> *"The world's biggest multinationals are becoming increasingly happy to do their research and development in emerging markets. Companies in the Fortune 500 list have 98 R&D facilities in China and 63 in India. Some have more than one. General Electric's health-care arm has spent more than $50m in the past few years to build a vast R&D center in India's Bangalore, its biggest anywhere in the world. Cisco is splashing out more than $1 billion on a second global headquarters—Cisco East—in Bangalore, now nearing completion. Microsoft's R&D center in Beijing is its largest outside its American headquarters in Redmond. Knowledge-intensive companies such as IT specialists and consultancies have hugely stepped up the number of people they employ in developing countries. For example, a quarter of Accenture's workforce is in India. "*
>
> *"Both Western and emerging-country companies have also realized that they need to try harder if they are to prosper in these booming markets. It is not enough to concentrate on the Gucci and Mercedes crowd; they have to learn how to appeal to the billions of people who live outside Shanghai and Bangalore, from the rising middle classes in second-tier cities to the farmers in isolated villages. That means rethinking everything from products to distribution systems. "*

[13] http://www.economist.com/node/15879369

### *Innovation at the "Bottom of the Pyramid"*

In the restaurant business it is well known that there are many more customers at the bottom of the income pyramid than there are at the top. McDonalds has many more customers than Legal Seafood. Conventional wisdom is that those at the bottom of the pyramid cannot afford goods and services at prices that make firms profitable.

U of Michigan professor C.K. Prahalad debunked that notion.[14]

.

Bill Gates comments that this "offers an intriguing blueprint for how to fight poverty with profitability." Three billion people (almost half the world) live on less than $2.50 per day.[15]

Here are some examples of Examples of Innovation at the Bottom of the Pyramid:

- The Tata Nano Car
  - http://www.jackmwilson.net/Entrepreneurship/Cases/Case-Tata-Nano.pdf
- Selco –Harish Hande -UML Graduate
  - http://www.jackmwilson.net/Entrepreneurship/Cases/Case-SolarElectricLight-HarishHand.pdf
- D-Light
  - http://www.jackmwilson.net/Entrepreneurship/Cases/Case-d-light.pdf
- EcoSchool
  - http://www.jackmwilson.net/Entrepreneurship/Cases/Case-EcoSchool-Africa.pdf
- Grameen Banks and Industries –Muhammad Yunas
  - http://www.jackmwilson.net/Entrepreneurship/Cases/Case-MuhammadYunas.pdf
- GE hand held EKG device
- The BioBubbler is a low cost water filtration device invented by a UML student who won the 2014 Difference Maker Competition for "Significant Social Impact."
  - https://www.uml.edu/Innovation-Entrepreneurship/DifferenceMaker/Meet-the-DifferenceMakers/DM-BioBubbler.aspx

### *National Systems of Innovation*

We see significant variation in how companies and countries participate in global innovation. Innovation (using patents as a proxy variable) is positively influenced by the size of the economy, foreign competition in the domestic market, public expenditure on Research & Development, and the availability of venture capital.

---

[14] "The Fortune at the Bottom of the Pyramid;" C.K. Prahalad; University of Michigan; 2004.

[15] http://www.globalissues.org/article/26/poverty-facts-and-stats

Innovation is negatively impacted by the presence of large numbers of small and medium size firms (a fragmented market), high corporate tax rates, and high levels of economic prosperity which can lead to complacency.

Some factors lead to specific innovative opportunities including high levels of local demand (particularly when face to face contact is required.), local availability of natural resources, local pricing variation (high prices drive desire for substitutes), and local availability of specific skill sets –especially in machinery and manufacturing.

There is a trade-off of competition versus domination in some regions. For example, Germany is a leader in Chemicals with three large firms –BASF, Bayer, Hoechst. That rivalry keeps them each competitive. Japan has strength in consumer electronics and automobiles with a cluster of strong firms in each. Companies often work to reach a near monopolistic position by acquiring or simply defeating their rivals. This often leads to reduced competition and reduced innovation.

In the long term this reduced completion can be deadly to the company when other competitors (often in other countries) emerge and the former monopoly finds it hard to innovate and compete. The auto industry in the 70s and 80s was an example. Ford, General Motors, and American Motors seemed to have the US market to themselves. They were relatively content to divide the market and innovation and quality improvement was not a high priority. Along came Japan with quality models from Honda and Toyota, and suddenly the competitive environment changed. The US firms found it very hard to adapt to the new environment.

### *The Rise and Fall of the BRICS*

The Rise and Fall of the BRICS provides a more recent example of emerging economic competitors. The term BRICS refers to : **Brazil, Russia, India, China, and South Africa.** The term was introduced by Goldman Sachs in 2001 as "BRIC," and South Africa was added in 2010 after petitioning to join what had become a formal group. In 2006 the BRICS heads of state met informally while attending a meeting at the United Nations. Their first formal meeting occurred on June 16, 2009 in Yekaterinburg Russia at the invitation of Russia's Dimitri Medvedev.

These emerging economies were seen by many as the engines of global growth. With that recognition came increased influence. The group has called for the replacement of the dollar as the main reserve currency and has entered a variety of political frays. It has not always gone well for the BRICS. By 2015, we were seeing Russia suffering from world economic sanctions, Brazil mired in a corruption and constitutional crisis, China experiencing slow growth, and South Africa struggling politically and economically[16]. The

[16] http://www.bloomberg.com/news/articles/2016-03-18/zuma-and-rousseff-united-in-misery-as-corruption-threaten-gains

story continues to unfold. In 2021, the Bloomberg magazine did an excellent follow-up to the fate of the original four BRIC economies[17]. They concluded that China and India have surged while Brazil and Russia have languished.

More information on the BRICS, Brazil, Russia, India, China, and South Africa,[18] can be found in the area chapters of *Global Entrepreneurship*.[19]

### *Global supply chain networks*

The rise of small-firm supply chain networks has created countless entrepreneurial opportunities around the world. *Global sourcing* is the process of partnering with world's best suppliers to provide customers with the best quality product or service at the best possible cost. Global sourcing is a critical tool for firms in developed countries as it allows them to lower the average labor cost by mixing high paying knowledge jobs in the developed economy with lower paying lower-skilled jobs in the lesser developed country.

Global supply chain management is more comprehensive than global sourcing. In global supply chain management, firms integrate their entire supply chain globally -- from raw materials to finished delivered goods -- to provide high levels of customer satisfaction and higher profits. Firms increasingly rely on supplier networks around the globe to improve their quality and efficiency.

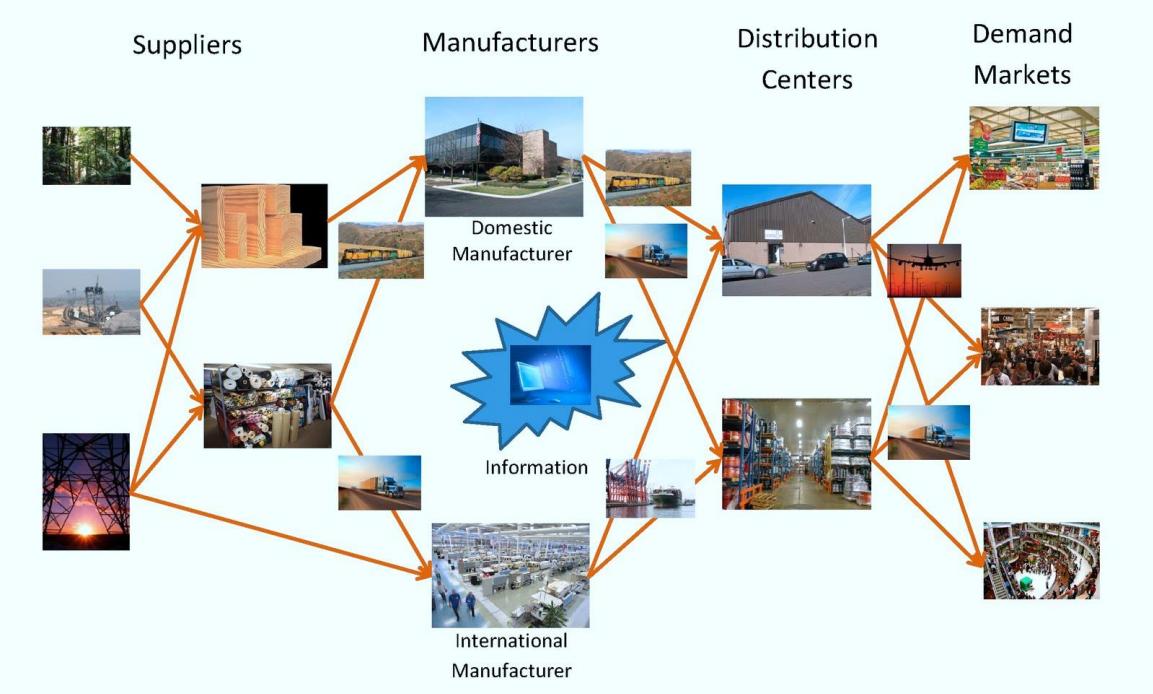


**Figure 5 Global Supply Chain (from Anna Nagurny)**

[17] https://www.bloomberg.com/features/brics-emerging-markets-jim-o-neill-2021/
[18] http://www.jackmwilson.net/Entrepreneurship/GlobalE/JMW-GlobalEntrepreneurship-TOC.htm
[19] http://www.jackmwilson.net/Entrepreneurship/GlobalE/JMW-GlobalEntrepreneurship-TOC.htm

Anna Nagurney, UMass Amherst Professor, has provided an excellent analysis of the role that networks and information flow can play in creating a global supply chain[20]. She has also illuminated the role of networks and information flow in the supply chain[21].

### *Apple and the Global Supply Chain*

Apple provides an outstanding example of a global supply chain for its iPhone.

**Table 1 . Apple iPhone 3G's Major Components and Cost Drivers**

| Manufacturer | Component | Cost (USD) |
|---|---|---|
| Toshiba (Japan) | Flash Memory | $24.00 |
| | Display Module | $19.25 |
| | Touch Screen | $16.00 |
| Samsung (Korea) | Application Processor | $14.46 |
| | SDRAM-Mobile DDR | $8.50 |
| Infineon (Germany) | Baseband | $13.00 |
| | Camera Module | $9.55 |
| | RF Transceiver | $2.80 |
| | GPS Receiver | $2.25 |
| | Power IC RF Function | $1.25 |
| Broadcom (USA) | Bluetooth/FM/WLAN | $5.95 |
| Numonyx (USA) | Memory MCP | $3.65 |
| Murata (Japan) | FEM | $1.35 |
| Dialog Semiconductor (Germany_ | Power IC Application Processor Function | $1.30 |
| Cirrus Logic (USA) | Audio Codec | $1.15 |
| **Rest of Bill of Materials** | | **$48.00** |
| **Total Bill of Materials** | | **$172.46** |
| **Manufacturing costs** | | **$6.50** |
| **Grand Total** | | **$178.96** |

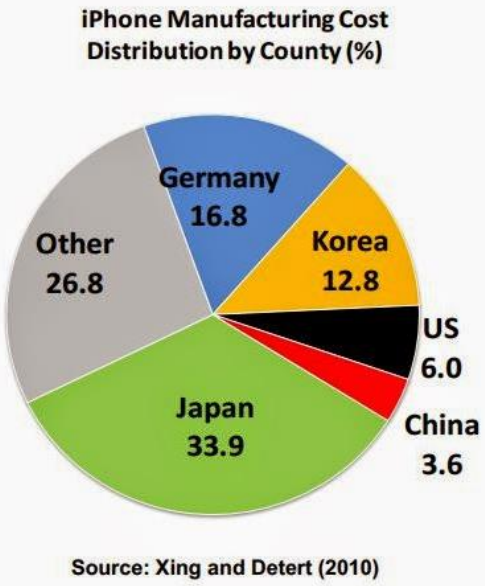


**Figure 6 Apple iPhone Global Supply Chain**

This supply chain has links in every corner of the globe.

[20] http://annanagurney.blogspot.com/2012/01/how-us-can-compete-and-win-in-global.html
[21] http://supernet.isenberg.umass.edu/dart.html


**Figure 7 Apple Supplier Map (Apple Computer)**

### *Boeing Supply chain*

Boeing is another outstanding example of a company that use a global supply chain to meet global market needs.

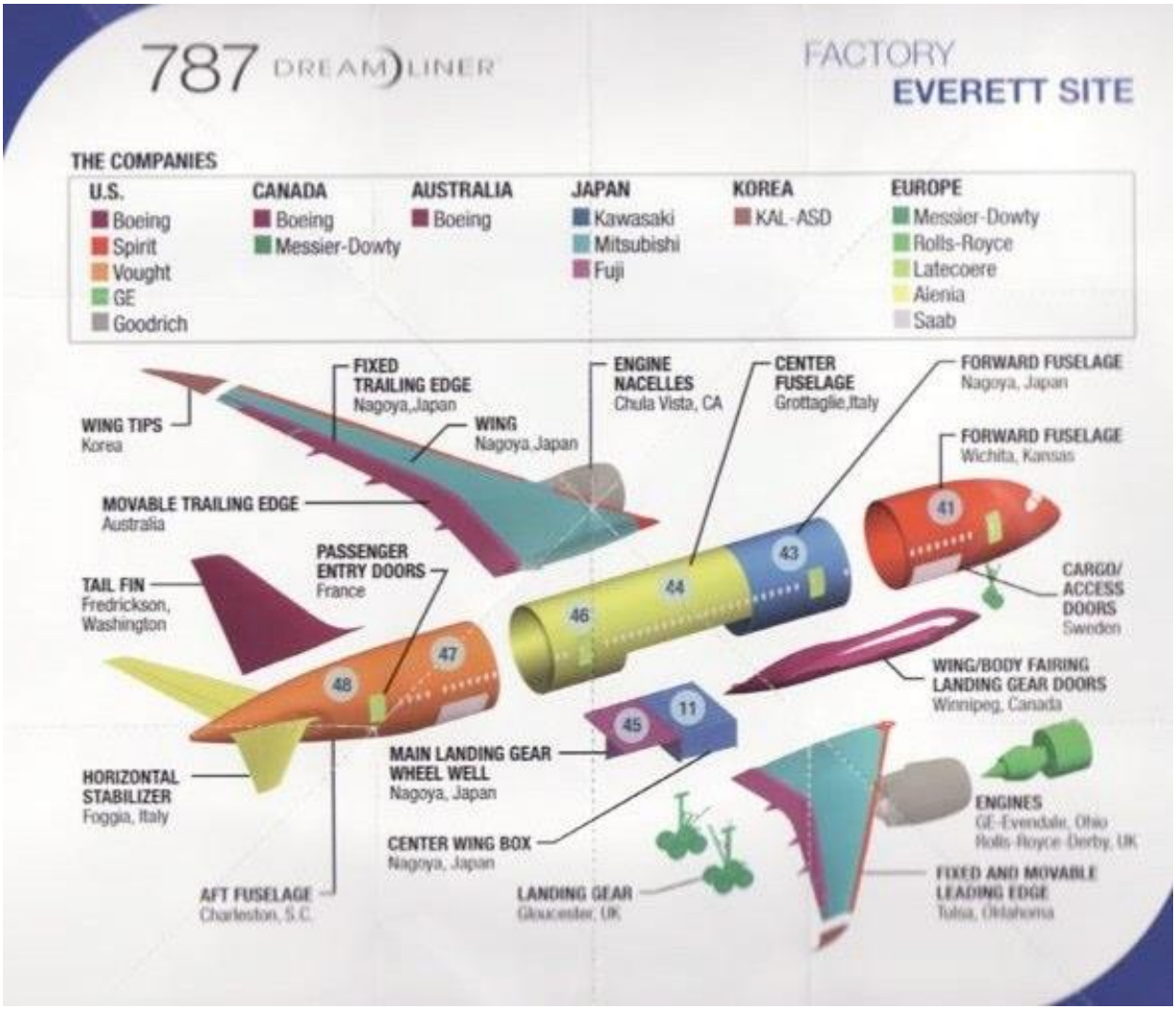


**Figure 8 Boeing Supply Chain (courtesy of Boeing)**

The most forward part of the fuselage of the Boeing 787 is made in Wichita Kansas, but the next section back is made in Nagoya Japan, and the center of the fuselage is made in Italy! Other parts are provided by France, the United Kingdom, Australia, and Charleston, SC! The process is coordinated over the internet and the entire plane can be brought together in various sites.

***Succeeding in the Global Supply Chain***

For small entrepreneurs to succeed in a global supply chain environment, they need to be interconnected with their dominant buyers and suppliers across the globe. They also need to cost effectively transport their goods and services to distant markets.

A few decades ago commercial airfreight was not an option, but today, air cargo is the most reliable and cost-effective means of shipping. Many modern production management practices, including the just-in-time inventory techniques so important to multinational corporations, rely heavily on global air cargo.

Ocean shipping costs have fallen by as much as 80% over the last fifty years. Sea freight has become seamlessly integrated with domestic rail and truck transportation; firms can now ship goods as easily across the globe as they once did across town.
Because of deregulation and new technologies, telecommunication costs have dropped significantly in the post WWII era. New communications technologies have made it cost efficient to separate value-adding steps of production and use --the value chain--in ways that were not previously feasible.

The global economy has also become interconnected along the Internet. Recent data shows over 800 million people use the Internet worldwide, and that number will top 1 billion users in 2006. The Internet has become a dynamic force in both business-to-consumer (B2C) and business-to-business (B2B) markets. B2B e-commerce now generates in excess of $1.5 billion in revenues.

E-commerce is not just for large business; Evertek Computer Corporation, which sells new and refurbished computers and parts, has business in more than 80 countries, booked through internet portals. MacNeill Engineering Company, headquartered in Marlboro MA discovered that the golf shoe companies to which they had sold spikes and other components had moved their manufacturing to China. Rather than close their doors, they created a global company with some of the manufacturing being done closer to the customers and also created a retail line of goods for the US and international markets. [Champ: a Case Study][22]

[22] http://www.jackmwilson.net/Entrepreneurship/Cases/Case-MacNeillUSA-Champ.pdf

***Entrepreneurship is an Emigrant thing too***

Migrant Brainpower is an important component of entrepreneurial activity[23],[24]. It is interesting that Indian inventors seem to need to leave home to file a patent (48.7%) while the German inventor usually does so at home -only 7.5% are done abroad.

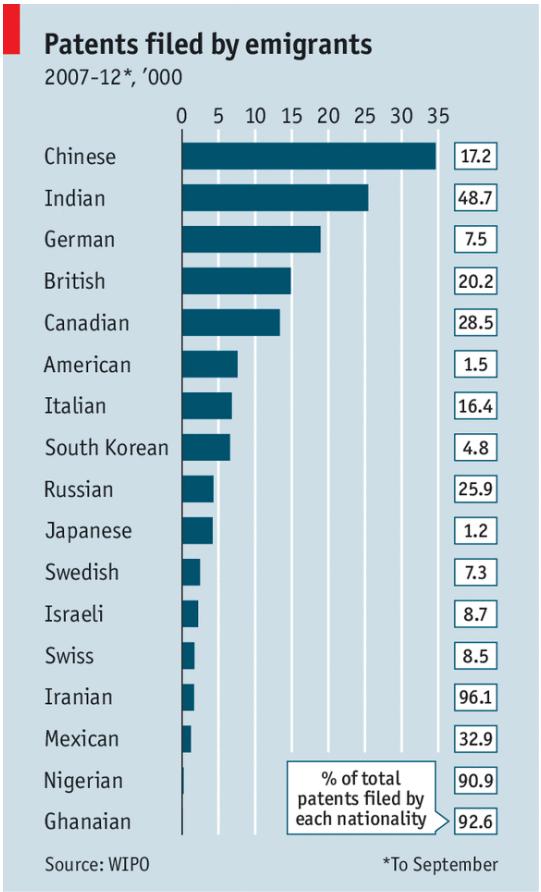


**Figure 9 Emigrant Patents**

Technically, this only shows patents and not entrepreneurship, but it indicates how influential immigration is upon innovation. This diaspora of innovation often becomes a source for new ventures as well as a built-in support structure. In many cases it also provides a stream of revenue flowing back into the originating country.

Harvard Business Review noted that[25] "*Many entrepreneurs have taken advantage of ethnic networks to formulate and execute a global strategy. The culture, values, and social norms members hold in common forge understanding and trust, making it easier to establish and enforce contracts.*"

*"Through diaspora networks, global entrepreneurs can quickly gain access to information, funding, talent, technology—and, of course, contacts. In the late 1990s, for instance, "*

[23] http://www.economist.com/news/international/21656175-migrant-brainpower
[24] http://www.economist.com/news/international/21656176-governments-believe-their-diasporas-can-solve-all-sorts-problems-they-are-picky
[25] Harvard Business Review; Daniel Isenberg; Dec.2008

*"Boston-based Desh Deshpande, who had set up several high-tech ventures in the United States, was keen to start something in his native India. In April 2000, he met an optical communications expert, Kumar Sivarajan, who had worked at IBM's Watson Research Center before returning to India to take up a teaching position at the Indian Institute of Science in Bangalore. Deshpande introduced Sivarajan to two other Indians, Sanjay Nayak and Arnob Roy, who had both worked in the Indian subsidiaries of American high-tech companies. The trust among the four enabled the creation of the start-up Tejas Networks in two months' time. Deshpande and Sycamore Networks, the major investors, wired the initial capital of $5 million, attaching few of the usual conditions to the investment. Tejas Networks has become a leading telecommunications equipment manufacturer, generating revenues of around $100 million over the past year*."

"Desh" Deshpande has demonstrated how emigration and networking tend to knit entrepreneurship together. After founding several networking companies in the US that he sold for billions, he has been an active supporter of entrepreneurship at MIT, UMass Lowell, Canada, and India. He founded the Merrimac Valley Sandbox to support entrepreneurship in northeastern Massachusetts and then expanded to other regions and changed the name to eForAll.[26] He also involves regions from Canada where he went to the University and India where he emigrated from.

He has also founded the *Deshpande Symposium on Innovation and Entrepreneurship in Higher Education* with a conference that is hosted each year at UMass Lowell.[27]

His many contributions are covered in a Case study[28].

**Figure 10**
**Gururaj "Desh" Deshpande and Jack Wilson**

***Collection of interesting videos on Global Entrepreneurship***

- The Global Entrepreneurs Program | AIESEC
  - A student's viewpoint
  - https://www.youtube.com/watch?v=aH8oZxBmI6Y
- Mark Zuckerberg Live with President Obama after the Global Entrepreneurship Summit at Stanford

[26] https://eforall.org/
[27] https://www.deshpandesymposium.org/
[28] http://www.jackmwilson.net/Entrepreneurship/Cases/Case-GururajDeshpande.pdf

  - https://www.youtube.com/watch?v=6ByyepnhOiI
- INTERNATIONAL ENTREPRENEURSHIP - John Kraft
  - https://www.youtube.com/watch?v=feX59UcgyP4
- How To Become A Global Entrepreneur
  - https://www.youtube.com/watch?v=Den6AfP4sPY
- International entrepreneurship in the information age (Lucia Piscitello)
  - https://www.youtube.com/watch?v=gDTu3nIpnJg