

# Achieving the Benefits of Connectivity and Global E-Commerce

Catherine L. Mann

Institute for International Economics

<CLMann@IIE.com>

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Electronic Commerce Strategies:

The Basic Elements of an Enabling Environment for E-Commerce

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•This presentation is based on Global Electronic Commerce: A Policy Primer by Catherine L. Mann, Sue E. Eckert, and Sarah Cleeland Knight, published by IIE in 2000. This volume addresses how e-commerce is changing the way businesses and consumers create, sell, and buy products. It addresses how policymaking should adjust to a more global, more networked, more information-rich marketplace and how governments can effectively harness rapidly changing technologies and partner with domestic and foreign private sectors to reap gains in economic well-being. It contains examples and synthesizes observations drawn from field work in a dozen economies.

•Further analysis of the relationship between e-commerce and the broader concept of the New Economy is presented in the Report, The New Economy and APEC, prepared by Catherine L. Mann and Daniel H. Rosen in conjunction with the Economic Committee of APEC, which was presented to and endorsed by APEC ministers and leaders at their Summit in Shanghai China October, 2001. This Report is available for download at [www.IIE.com](http://www.IIE.com), and a bound reprint will be available in August 2002.

## Stages of Innovation and Uptake: Countries are at different points



- **Process:** Doing old things (inventory, accounting) better
- **Product:** New products & services contingent on Internet
- **Markets:** Global, information rich, network benefits

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- Most of you are familiar with the "stages of innovation" of the Internet and e-commerce.
- Initially, technology capital can be applied within the existing structure of business relationships. Gains come from doing "old" activities more efficiently.
- Then new products and services and new relationships come about because of the information and networks of the Internet.
- Finally, whole new marketplaces in time (24 hours of the day used effectively in a global marketplace), in geography (digital products and employment services offered without regard to distance), and information/data (new ideas, new concepts for products and services gleaned from information collection, aggregation, and analysis).

## Potential of E-Commerce

- Productivity and Growth
  - Real, large, and not just for the first-mover
- Trade concentration of e-commerce
  - Global value chain, from textiles to tourism
- Development potential
  - Rural access to health, education

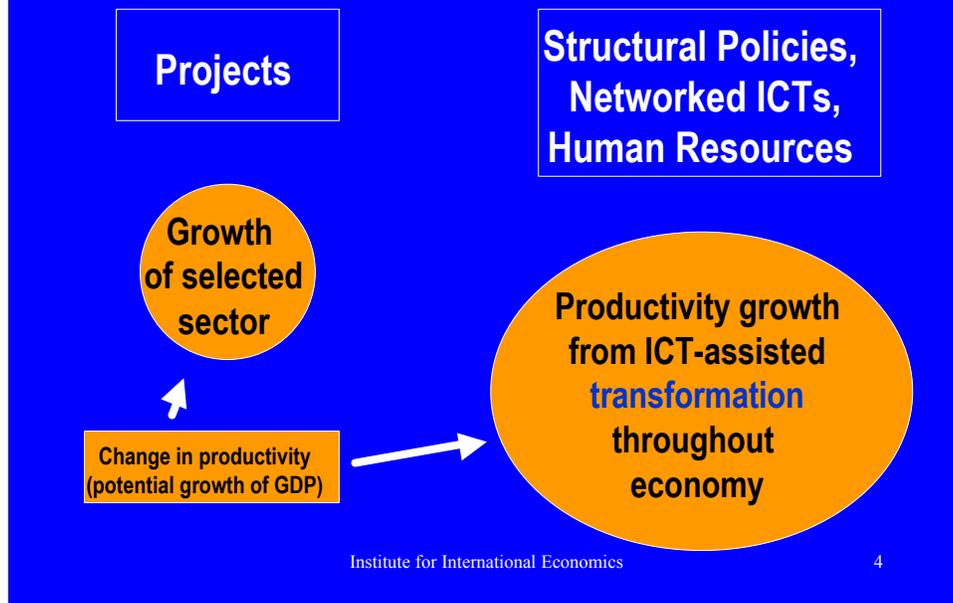
***A commitment to e-commerce is a commitment to growth, trade, and economic development***

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- What are the implications of the stages of innovation and usage?
- An economy does not have to be at the frontier of technology to get gains from the process and progress of reforms that underpin e-commerce. Since both technology capital and the environment in which it is used matter, at least some aspects of e-commerce could be driven by “low-tech” cell phones or faxes in one country, weekly visits to an Internet café in another, or widespread use of broadband in a third. For policymakers in emerging and transition economies, this implies that each economy can enjoy at least some of the benefits of the e-commerce by following its own path, with its own resources. That said, economies with superior resources as well as a superior policy environment reap the greatest gains. For example, in Sri Lanka, fishermen use cell phones to call associates in the fish market in Colombo to get information about what is selling and ‘real-time’ prices for their fish, which increases their power in negotiations. In Morocco, a micro-credit enterprise businesses with 36 offices around the country is linking the computers into those offices rather than fax the daily credit reports to the head office, making account consolidation quicker and less error-prone.
- The global potential inherent in the Internet and e-commerce has strong implications for trade competitiveness and participation in the global value chain of production (whether of textiles or tourism). Creating a more facilitating environment confers an advantage for global participation and trade competitiveness. For example, Dell computer’s web-site sends information about a new on-line order to plants all over the world that produce components, which significantly reduces time to build and costs of inventory. Plants that cannot keep up with this real-time technique cannot be part of Dell’s highest value chain.
- Creating a facilitating environment also may enable superior delivery of health and education services. For example, in Vietnam, a web-site for a health clinic started by providing information, but soon began taking appointments and filling orders, leading to both an expanded business and happier clients.
- All told, there is not conflict between e-commerce objectives and development goals: A commitment to e-commerce is a commitment to growth, trade, and economic development.

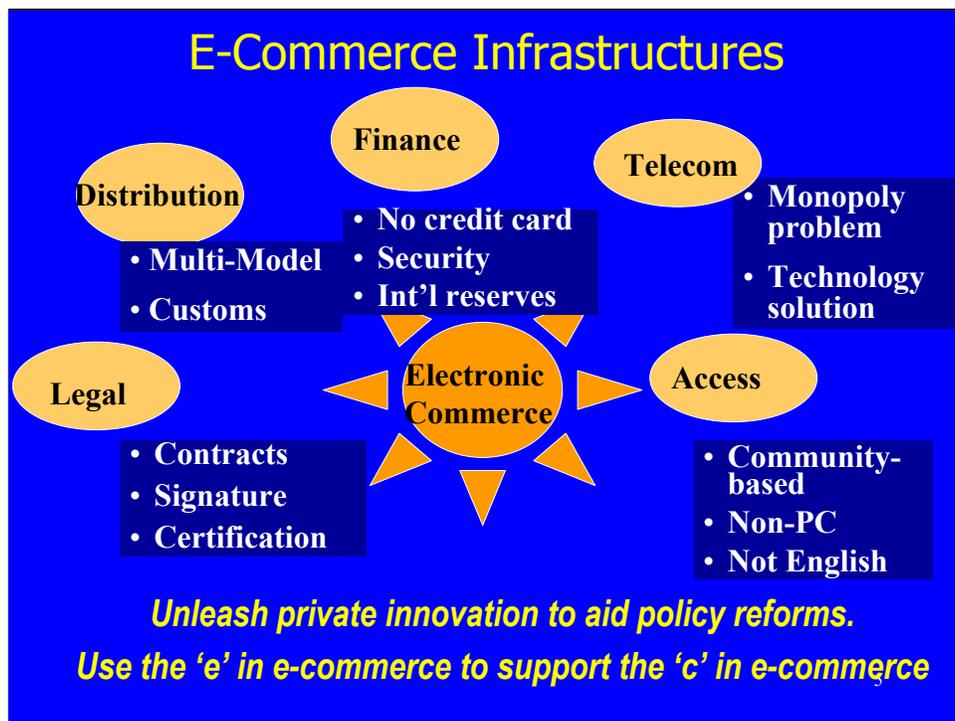
## Complementary E-commerce Strategies



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- There are two complementary approaches to e-commerce policy.
- Some economies have focused on specific projects or technology parks, for example. There are benefits to these approaches by building awareness and islands of success.
- However, to gain the full potential of e-commerce, it should *transform* the activities of business, consumer, and government activities. Transformation is best assisted through the *package* of structural policies, networked ICTs, and human resources. The package creates an environment where technology is diffused and used *more effectively* to raise productivity growth throughout the *whole* economy.
- Of course, why do we care about productivity growth at all? Labor productivity growth is the foundation for gains in real wages. An economy with higher overall productivity growth can support faster GDP growth without generating inflation. All told, higher productivity growth means higher sustainable living standards.



In many countries, the growth of the Internet and of electronic commerce is being stymied by problems with key infrastructures. In many cases, the root of these problems is with the policy environment. However, the sense of urgency that policymakers are feeling to get on the Internet bandwagon is initiating new approaches to reform to create a facilitating environment. The private sector, both domestic and foreign, is playing a bigger role.

#### In Telecommunications:

- For example, in many countries the telecommunications system remains a monopoly controlled by the government. Service is poor and costs are high. However, policymakers find it politically difficult to take "head-on" the powerful telecommunications ministry. Privatization alone may not yield a better outcome. For example, in Morocco, the state-run telecom authority was privatized, but without any independent regulator in place. The country traded a public monopoly for a private monopoly, which is no more responsive to market demand than was its predecessor.
- Policymakers are looking to technological solutions to increase competition and provide superior service at lower costs. For example, in Singapore, the Information Development Authority is considering award a value-added-services license to a well-know firm to conduct broadband trading. However, ultimately, the authority would need to award a facilities-based license to this firm, something that has so far not been allowed.
- Vietnam offers another example of how policymakers are inviting in new technology to help create competition. As it stands now, the monopoly provider charges independent ISPs at a higher rate than they charge their own ISP. And, the single international gateway for Vietnam is slow and costly. To generate some increased competition, the government is building two software parks which will have satellite links; the government expects to regulate these prices at a lower level and they expect that most ISPs will reside in one of these parks in order to get the benefit of the lower pricing.

#### In terms of access:

- Access is a second area where countries offer important business opportunities. For a variety of reasons, ranging from financial to cultural, most countries will not follow the US model of the home-based or work-based PC as the means of access.
- Instead a community oriented access point, such as kiosks in gas-stations in El Salvador or after-school community sessions in schools in Japan are examples. Access via a non-PC device is another opportunity; Linux-based hand-held units are being used in Honduras to help farmers negotiate better prices for their produce and to connect them to information at the agricultural extension station.
- Access in the language that is not English has already created profitable businesses– Spanish and Chinese content is the fastest growth. Once customers can use the Internet, they will want content and business transactions to be done in their own language.



### **Notes Continued . . .**

#### In the Financial Sector:

- Problems in the financial system are a huge impediment to the development of electronic commerce. Policymakers play a very big role in determining the playing field for financial institutions. Technological solutions offered by the private sector seem to offer excellent prospects for business as well as for improving the environment for business to do business.
- For example, in many countries, policymakers simply do not want a credit culture to develop. And, whether because of fraud or foreign exchange volatility, the actual rates for international credit card usage are too high--5 to 7 percent of each transactions in Taiwan and Bulgaria for example--for this to be a viable approach to electronic commerce transactions. Devising alternative approaches to on-line payment is a huge opportunity that would be welcomed by policymakers and business alike.
- On-line security is a major factor affecting the development of electronic commerce and secure financial products is a large and underserved market in many countries. For example, unlike US law, in many countries, including Taiwan and China, holders of credit or debit cards are liable for the full amount of any charges on their cards, regardless of whether the card or number is stolen. Holders of cards often don't use them because of the fear of insecure transactions. In some countries, such as in Thailand and Bangladesh, they are right to worry--there are few to no secure servers so that indeed everyone on the Internet can have access to the numbers!
- Private sector approaches to on-line security, on-line payments are desperately needed to jump-start the development of e-commerce in many countries. The key is for policymakers to encourage these innovations rather than discourage them.
- Finally, Central Bank authorities in some countries are quite concerned that allowing international purchases over the Internet will undermine their ability to track and control the use of foreign exchange. Because countries are concerned that they might "run out" of foreign exchange (as for example happened with Thailand, Korea, and Russia several years ago), Central Banks need a greater ability to, at minimum, track transactions on a real-time basis. No longer is overnight clearing (as for example in Taiwan, Sri Lanka, or Morocco) sufficient.



### **Notes Continued . . .**

#### In terms of distribution:

- Distribution, including customs, is an area that can trip-up e-commerce transactions, and slow the process from real-time to a long-time. Countries are coming to realize that bad roads can be just as damaging to e-commerce as are bad telecommunications. Again, the sense of urgency is propelling policymakers to attract private businesses to help them create an environment more conducive to Internet business development.
- A good example is Sri Lanka, where textiles and apparel are a very important export market. The private sector invested in the necessary technology to move up the value-chain from underwear to fashion garments, which requires a fast information links to the buyer and a much quicker turn-around in the production of the garments. While the producers were able to perform on the faster basis, they were stymied when faced with getting their product to the airport, through customs, and onto an airplane.

#### In terms of legal systems:

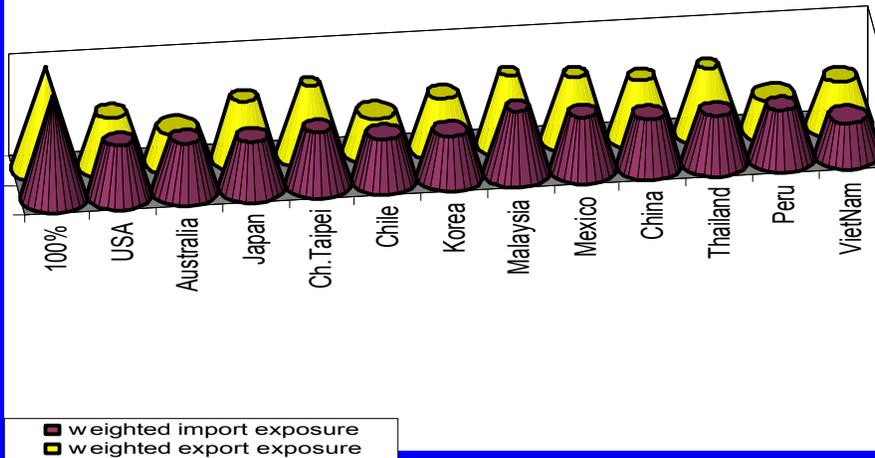
- Finally, legal systems in many countries offer tremendous opportunities. Not only are necessary laws governing electronic contracts and signatures necessary, but more broadly a culture of law and a rule of law are necessary. Simply writing new laws will do little to support the development of e-commerce if the culture is one of corruption and evasion.

#### Overall assessment:

In the end, policymakers are looking to and making room for the private sector to aid them in undertaking the policy reforms to achieve an environment more conducive to the development of e-commerce.

## Implications for Trade Competitiveness

The taller the trade cones, the more the trade of an economy is concentrated in sectors that use information technologies intensively, making the policy environment that much more important to maintain trade competitiveness



- The globalization of production and trade in goods and services is associated with increased use of information technologies and transformation of economic activities. Some industry sectors in the leading economies are using e-commerce particularly intensively. Production partners who do not or cannot effectively use these technologies run the risk of losing their position in the global value chain. Notice that many of the developing countries in this example have export sectors that are more demanding in their use of e-commerce as compared to some of the industrial countries.

- “The New Economy and APEC” provides a tool for policymakers to assess the extent to which the trade of their economy is concentrated in the goods or services that are the heaviest users of technology. If their trade is so concentrated, then shaping the proper policy environment through structural reforms is that much more important.

## Entrepreneurship: Beyond Top-Down Policy Reform

- Build awareness at the local level
- Promote existing community leaders & entrepreneurs
- Access and incubators within communities serve community interests and build on community strengths

### *Government intervention shapes the environment*

- *Pilot project successes can be copied*
- *Projects do not become fiscal 'sinks'*
- *Technology parks incubate not 'hot-house'*

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- Structural reform and policies to shape a policy environment conducive to transformation and effective use of information and technology are necessary but may not be sufficient for e-commerce to diffuse throughout an economy.
- Fostering entrepreneurship is necessary, but this is a policy area that requires a different approach to the top-down, or government initiated, policy reforms in services infrastructures. Entrepreneurs are leaders--in whatever region, forum, or community they populate. Even in the most destitute areas, there are trusted, respected risk-taking visionaries. Innovation, ideas of how to use effectively information and technology for the benefit of a local community will only come from that local community. Innovation and entrepreneurship cannot be forced down from top and in general, 'fly-by' consultants also will not really know how the locals might best apply the tools of e-commerce.
- Government and NGOs can still play an important role in fostering these entrepreneurs: Building awareness of the possibilities is key. Pilot projects with community input may give shape to local vision, and show success. Technology parks can incubate.
- While the temptation is to be very directed, government assistance in this process needs to be light-handed in order to preserve local incentives and interests, to avoid permanent subsidy projects, and to ensure diffusion out of "technology parks" into the real world of the local economy. Government's role principally is in shaping the environment, not determining how to best to do business in that environment.

## Government as Leader: A Litmus Test for Policy Reform

- **Appoint a Visionary**
  - **Use E-commerce goal to promote domestic reforms and ensure extension of E-commerce to rural, health, education goals**
- **Create an inter-agency public-private team to transform activities of gov't**
  - **Start with customs, taxes, procurement for efficiency and transparency**

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•Government is a big business in many countries. It should be an exemplar in using e-commerce, both to show the way, as well as act as a test of the policy environment that is being created for private e-commerce. If government cannot do e-commerce because of poor infrastructures, then likely private firms cannot do it either.

•Appoint a “Domestic Champion.” This Senior Policy Figure should have the highest charisma, stature, and authority. This person must have the vision of what electronic commerce can offer a country and will emphasize the cross-cutting nature of the Internet and the synergies that it creates among key service sector infrastructures.

•Such a person can fashion pro-active alliances among government agencies and businesses that wish to promote liberalization, deregulation, and competition to achieve the benefits of Internet technologies. Such a Minister can help ensure that private sector competitors—both domestic and foreign—actively engage in creating the new environment in which both they and new firms can flourish.

•Create “Internet E-Government Teams” to make government a leader in the network economy. Just as private firms are changing the way they do business, the Internet and electronic commerce will change how government performs its core functions, including raising tax revenues, procuring goods and services, and providing for the needs of the public. To both lead the way and pave the way for economic benefits to accrue, governments must proactively embrace the new environment. The Internet e-government team will help put government activities on-line.

•The Internet team is composed of global consultants, local private sector firms, and people from within the specific agency of government. The team is a “systems integrator” with the agencies of the government as clients. After putting the agency “on-line” (with equipment, software, and training) the team moves to the next agency.

•A key advantage is that the team leaves systems in each agency that will work together. So, for example, the tax authority will be integrated into the customs authority with clear benefits to the fiscal balance overall. A second key advantage is that technology transfer—hardware, software, and human capital—is part of what is delivered. The global private sector has a very important role to play as both support structure and key member of the team.

## To Conclude

- Transformation is the outcome of E-commerce
  - Yields productivity benefits
  - Improves trade competitiveness
- Structural policy reforms
  - Shape the environment where transformation takes place
  - Are tougher to do than technology policy
  - Require domestic commitment and leadership
  - Need complementary local entrepreneurship
- Consequences of differential progress?
  - A widening productivity gap between reformers and non-reformers
  - A challenge to the goal of shared prosperity

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•Transformation *is* structural adjustment. Without transformation of activities, the benefits of the e-commerce will not be evident. Moreover, without transformation, trade competitiveness is risk.

•Structural policy reforms are key to shape the environment where transformation can take place. These reforms, because they are comprehensive are more difficulty than a “technology policy”. These reforms go to the heart of the relationship between the policy and economic environment. Therefore, they require domestic commitment and leadership at the top. By the same token, since the transformation takes places at the individual firm or community, local vision is needed too.

•Almost without question, there will be differential progress in terms of reforms. What are the consequences? There is great potential for a widening productivity gap among developing countries. How should regional and international organizations respond?