### Developing the E-Commerce Environment

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### Business Perspective on Current State of E-commerce

ABAC has requested Marshall to evaluate the state of e-commerce in a select number of APEC economies.

#### Areas of Focus
- Factors that promote e-commerce development
- Barriers to e-commerce development
- The role of international investment and trade

#### Developed Economies
- Japan
- United States

#### Developing Economies
- China
- Mexico
Research Methodology

89 interviews with CEOs, managers, lawyers, academics, consultants, and entrepreneurs

<table>
<thead>
<tr>
<th>Field of Expertise</th>
<th>China: 21</th>
<th>Mexico: 26</th>
<th>USA: 20</th>
<th>Japan: 22</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technology Start-ups</td>
<td></td>
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<tr>
<td>Intellectual Property</td>
<td></td>
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<tr>
<td>Online Content</td>
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<td>Entertainment</td>
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<td>Software</td>
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<td>Computer Hardware</td>
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<td>Network Backbone</td>
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<td>Manufacturing</td>
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Phases of E-Commerce Development

Level of Development

- Introductory
- Growth
- Maturity

Time

Private Sector

Government
Culture Finding

E-commerce development must be achieved within the context of a country’s cultural identity to ensure participant willingness to interact online.

Private Sector Finding

Private sector diffuses technology globally and reaches diverse consumers, helping to sustain e-commerce through growth and maturity.

Government Finding

Government plays a critical role in facilitating e-commerce by narrowing the digital divide and building trust among users, particularly in the introduction and growth phases.

Key Factors for E-Commerce

- Engage Private Sector
- Adapt to Culture
- Active Government Involvement

The Role of Government

- Government Finding
  Government plays a critical role in facilitating e-commerce by narrowing the digital divide and building trust among users, particularly in the introduction and growth phases.

- Narrowing the digital divide
  - Government funded initiatives
  - Effective regulation
  - Cultivating human capital

- Building trust among users
  - Online government services
  - Comprehensive legal framework
Government funded initiatives increase Internet use by delivering infrastructure to the masses.

<table>
<thead>
<tr>
<th>e-Mexico</th>
<th>e-Japan</th>
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<tbody>
<tr>
<td><strong>Goal:</strong></td>
<td>Goal: “Become the world’s</td>
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<td></td>
<td>most advanced IT nation”</td>
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<tr>
<td><strong>Status:</strong></td>
<td><strong>Status:</strong></td>
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<td></td>
<td>Highest broadband and</td>
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<td>wireless data usage; leader</td>
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<td>in m-commerce</td>
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<tr>
<td><strong>Success Factors:</strong></td>
<td><strong>Success Factors:</strong></td>
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<tr>
<td></td>
<td>• Subsidized FTTH for low</td>
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<tr>
<td></td>
<td>investment zones</td>
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<tr>
<td></td>
<td>• Targeted efforts to reach</td>
</tr>
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<td></td>
<td>all demographics</td>
</tr>
<tr>
<td></td>
<td>• Sponsored rollout of</td>
</tr>
<tr>
<td></td>
<td>infrastructure</td>
</tr>
<tr>
<td></td>
<td>• Partnered with private</td>
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<td></td>
<td>industry</td>
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</tbody>
</table>

Effective regulation can increase competition and drive usage by creating an attractive environment for users.

<table>
<thead>
<tr>
<th>Effective Regulation</th>
<th>More Competition &amp; Investment</th>
<th>Better Service &amp; Lower Prices</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Increased Usage</td>
<td></td>
</tr>
</tbody>
</table>

**Japan**

- NTT is forced to open its network
- Ownership restrictions lifted
- Spurs ADSL competition
- Global ISPs enter the market
- Prices fall
- Greater bandwidth
- Advanced services available
Effective regulation can increase competition and drive usage by creating an attractive environment for users.

- **Effective Regulation** → **More Competition & Investment** → **Better Service & Lower Prices** → **Increased Usage**

**Japan**
- Prices fall
- Greater bandwidth
- Advanced service available
- 79%: 2nd highest reach
- 30%: Highest penetration rate
- Next generation network build out
- Increased content development

**Government : Narrowing the Digital Divide**

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Government must provide a sufficient IT workforce to support growth through domestic or foreign sources.

"Our companies have a great need for educated IT resources but there aren’t enough qualified workers."

Business Development Manager, network equipment provider in Japan

**Local Labor Sources**
- Proper education must be provided.
  - Sufficient quantity of schools and programs
  - Schools cover necessary material and knowledge
  - Cultural acceptance of IT careers

**Foreign Labor Sources**
- Foreign labor policies must be flexible.
  - Visa programs for IT workers
  - Streamlined process to bring in or outsource foreign labor
  - Government assistance in helping local companies find foreign expertise when needed

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<Government : Narrowing the Digital Divide>
By offering government services online, countries are able to build trust of the Internet with their citizens.

A comprehensive legal framework protects consumers and businesses which encourages online transactions.

**Major privacy concerns**
- 70% of users won’t register demographic information online
- 42% enter false information instead

Source: GVU’s Tenth WWW User Survey
The Role of the Private Sector

Private Sector Finding

Private sector diffuses technology globally and reaches diverse consumers, helping to sustain e-commerce through growth and maturity.

**Diffusing technology worldwide**
- Multi-National Corporations (MNCs)

**Reaching diverse consumers**
- Small/Medium size Businesses (SMEs)

Private Sector Finding: Diffusing Technology Worldwide

By sharing technology through global expansion, MNCs increase online participation.

“The push for new technology comes from big companies.”
former CEO of high-tech start-up in Mexico

Best Practices

Infrastructure Demands

Value Chain Effects

Domestic Technology Adoption and Diffusion

<Private Sector: Diffusing Technology Worldwide>
Wal-Mart: Diffusing Technology Globally

Competitive advantage through efficient use of IT worldwide

Integrated Supply Chain – Satellite System – Standardized Supplier IT Platform
Electronic Data Interchange – Online Store

SMEs extend e-commerce by expanding into new markets currently untapped by MNCs.

• SMEs grow by gaining competitive advantages
• As SMEs grow, the number of niche markets that were previously unserved decreases

E-commerce market potential

MNC 1
MNC 2
Government

<Private Sector: Diffusing Technology Worldwide>

<Private Sector: Reaching Diverse Consumers>
Netflix: Unique On-Line Business Models Reach Niche Markets

- Founded in 1998; IPO in 2002
- New business model: “Unlimited DVD rentals for a flat monthly fee.”
- Over 2.2M subscribers: +72%
- Revenues of over $500M: +96%
- All customer interaction takes place online
- Broadband video-on-demand service (est. 2005)

The Role of Culture

E-commerce development must be achieved within the context of a country’s cultural identity to ensure participant willingness to interact online.

- Adapting processes
- Adopting technology
A country’s e-commerce activities must be aligned with existing consumer behaviors and infrastructure.

**Adapting processes**
Consumers have existing purchase behaviors
- Credit cards vs. cash
- Preference for in-person transactions

**Adopting technologies**
Existing infrastructure influences technology migration
- Fixed line vs. wireless
- Costs of existing infrastructure

Both Supported by Existing Culture

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**Settlement in Japan: Adapting Process to Existing Behaviors**

**Consumer Behavior**
- Low credit card usage during introductory stages of e-commerce
- History of paying bills at convenience stores such as 7-11

**Resulting action**
Even as credit card usage increases, e-commerce companies ship consumer orders to local 7-11 where fulfillment takes place
Technology Adoption in China: Taking Advantage of Existing Infrastructure

**Existing Infrastructure**
- Low credit card penetration
- Low fixed-line penetration

**Resulting action**
Mobile phone subscriber growth surpasses PC growth. E-commerce switches to M-commerce, where orders and fulfillment are handled via SMS services.

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Key factors for e-commerce

- Engage Private Sector
- E-Commerce Growth and Development
- Active Government Involvement
- Adapt to Culture
Roles for Growing E-Commerce

- **Introductory Phase**
  - Government Funded Initiatives
  - Effective Regulation
  - Cultivate Human Capital

- **Growth Phase**
  - Online Government Services
  - Establish an Effective Legal Framework

- **Maturity Phase**
  - Multi-National Corporations
  - Small/Medium Enterprises

Key Considerations

There is no one “right” solution for e-commerce.

Developmental Phases

Cultural Factors

Private Sector

E-Commerce Growth and Development

Government

Culture
Thank You!

Exhibits
Exhibit 1: Fixed and Mobile Subscribers (per 1,000 people)

- China
- Japan
- Mexico
- United States

Source: World Bank

Exhibit 2: Telecom Penetration in China

- Fixed Line Penetration
- Mobile Penetration

Source: Morgan Stanley Research
Exhibit 3: Broadband Reach (% of households)

Source: European Telecom Newsletter, June 2003

<table>
<thead>
<tr>
<th></th>
<th>United States</th>
<th>Japan</th>
<th>Mexico</th>
<th>China</th>
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<tbody>
<tr>
<td>89%</td>
<td>79%</td>
<td>34%</td>
<td>2%</td>
<td></td>
</tr>
</tbody>
</table>

Exhibit 4: Number of Computers & Mobile Phones in Mexico (in ‘000s)

Source: COFETEL. Dirección General de Tarifas e Integración Estadística / ITU

<table>
<thead>
<tr>
<th>Year</th>
<th>Computers</th>
<th>Mobile Phones</th>
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<tbody>
<tr>
<td>1998</td>
<td>(NA)</td>
<td>(NA)</td>
</tr>
<tr>
<td>1999</td>
<td>(NA)</td>
<td>(NA)</td>
</tr>
<tr>
<td>2000</td>
<td>4,000</td>
<td>7,000</td>
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<tr>
<td>2001</td>
<td>6,000</td>
<td>10,000</td>
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<tr>
<td>2002</td>
<td>8,000</td>
<td>12,000</td>
</tr>
<tr>
<td>2003</td>
<td>10,000</td>
<td>14,000</td>
</tr>
</tbody>
</table>
Exhibit 5: Why Users Don’t Purchase Online - Mexico

- I don't know if they will send me the products: 36%
- I am afraid to give out my credit card number: 39%
- I don't have a credit or debit card: 42%
- I like to see what I buy: 55%

Source: Mexican Internet Association, 2004

Exhibit 6: Number of SMS Messages in China ( billions of messages)

Source: Morgan Stanley Research
Exhibit 7: Internet Portal Revenue Breakdown – China

<table>
<thead>
<tr>
<th>Company</th>
<th>Advertising</th>
<th>Gaming</th>
<th>Messaging</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sina</td>
<td>34%</td>
<td>6%</td>
<td>60%</td>
</tr>
<tr>
<td>Sohu</td>
<td>39%</td>
<td>4%</td>
<td>58%</td>
</tr>
<tr>
<td>NetEast</td>
<td>16%</td>
<td>44%</td>
<td>40%</td>
</tr>
<tr>
<td>Tom</td>
<td>3%</td>
<td>15%</td>
<td>82%</td>
</tr>
</tbody>
</table>

Source: Morgan Stanley Research

Exhibit 8: Cash as Percentage of Private Consumption Expenditure, 1998

Source: Bank of Japan