ICT IN MALAYSIA: POLICY, REGULATION & INDUSTRY

PROGRESS (1996-2000) AND PROSPECTS (2001-2005)

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1. INTRODUCTION

THE BIG PICTURE

- Human Capital 23 m

- Vision 2020

- Long-term Outline Perspective Plan

- Five-year Development Plan

- K-Economy

- ICT policy, regulation and industry

2. PROGRESS, 1996-2000

1. Utilization of ICT
2. National IT Agenda
3. Development of the Multimedia Super Corridor
4. MSC Flagship Applications
5. Development of Communications Infrastructure
6. Electronic Commerce
7. Human Resource Development for ICT
8. Funding for ICT Industry

2.1.1 - UTILIZATION OF ICT: ICT Expenditure by Sector, 1995-2000

Total expenditure on ICT increased 9.2% p.a. in 1996-2000.

Big spenders on ICT:	1995	2000	AAGR
Banking & Finance	27%	15%	-4%
Manufacturing	13%	16%	19%
Distributions	8%	10%	16%
Government	10%	8%	7%
Home	2%	8%	44%

2.1.2 - SELECTED ICT INDICATORS, 1995-2000

Indicator	1995	2000
PC (units installed)	610,000	2,200,000
PC per 1,000 pop.	29.5	95.7
Tel.lines/1,000 pop.	161.7	204.8
Tel.Subscribers	3,332,447	4,650,410
Mobile Phones	700,000	2,717,000
Internet Subscribers	13,064	1,157,384

2.2 National IT Agenda

- The objective is to transform the nation into knowledge-based society in line with V2020.

- NITA has Five Strategic Thrust Agenda:

  1. E-Economy,   2. E-Public Service,   3. E-Community,   4. E-Learning,   5. E-Sovereignty.

- Strategic Thrust Implementation Committee (STIC) was established to monitor the implementation.

- More than 60 initiatives implemented.

2.3 Development of MSC

- Established in 1996.

- Multimedia Development Corporation (MDC) was established to develop and promote MSC.

- By the end on 2000, a total of 429 companies was granted MSC status.

2.4 MSC Flagship Applications

1. The multimedia development applications
   1. Electronic government
   2. Smart schools
   3. Multipurpose cards
   4. Telehealth
2. Multimedia environment application
   5. R&D
   6. Worldwide manufacturing web
   7. Borderless marketing

2.4.1 Electronic Government

- Objective- to improve government operations in terms of its internal process and delivery of services to the public and to business. Under this Flagship, six pilot projects were implemented:
  1. Electronic Service
  2. Electronic Procurement
  3. Generic Office Environment
  4. Human Resource Management Information System
  5. Project Monitoring System
  6. Electronic Labor Exchange

2.4.1 E-Government (cont.)

2.4.1.1 E-Services

Issuance and renewal of driver's license.
Fines processing.
Driving test scheduling.
Utility payments.

2.4.1.2 Electronic Procurement

To benefit 20,000 large and small suppliers to government's offices.

2.4.1 E-Government (cont.)

2.4.1.3 Generic Office Environment

A generic set of tools was developed such as document management, messaging system, electronic meeting and decision tracking, which could assist the functioning of core process, thus facilitating day-to-day operations and management of government offices.

2.4.1.4   Human   Resource   Management Information System (HRMIS)

Phase I of the project involved 10 pilot agencies to benefit 150,000 users.

2.4.1 E-Government (cont.)

2.4.1.5 Project Monitoring System

Tracking progress of projects' implementation.

2.4.1.6 Electronic Labor Exchange (ELX)

A one stop center for labor market information accessible to the public, both locally and overseas. The objectives were to improve the mobilization of the nation's human resources and to ensure that manpower utilization was optimized through the systematic matching of job seekers to job vacancies.

2.4.2 MSC Flagship: Smart School

- Pilot project implemented in 90 school. Schools were equipped with state-of-the-art multimedia/computing equipment and provided with comprehensive teaching-learning materials for four subjects, namely, Malaysian language, English, science, and mathematics.

2.4.3 MSC Flagship: Multi Purpose Card

- It was targeted to be issued to two million selected users by the end of this year. The card will include data on identity card, driving license, immigration entry/exit record, and health information.

2.4.4 MSC Flagship: Telehealth

- Was implemented at 83 clinics and hospitals. The program includes:
  - Teleconsultations
  - Mass Customized/Personalized Health Information and Education
  - Continuing Medical Education.
  - Lifetime Health Plan.

2.4.5 MSC Flagship: R&D

- Was designed to create a cluster of collaborating multimedia R&D centers and firms to produce leading-edge products and technologies while at the same time encouraging local high-tech start-ups and increasing local R&D activities. For this, MSC R&D Grants Scheme was established in 1997 and 19 projects approved under this Scheme, includes development of multimedia products and services.

2.5. Development of Communications Infrastructure

- By the end of 2000, extensive fibre optic network was installed covering 62,000 kilometers linking states and major towns across the country.

- For MSC, a fiber optic backbone network covering 360 kilometers was completed. The MSC broadband infra. Consisted of 4 major rings, each ring having a bandwidth of 2.5 gigabits per second scalable to 10 Gbps.

- For internet and wireless technologies, 6 ISP, and 43 ASPs licenses were issued.

2.6. Electronic Commerce

- National Electronic Commerce Committee was set-up to formulate a framework aimed at promoting and coordinating the development of e-commerce.

- A study on Electronic Commerce Strategic Direction for Malaysia was undertaken.

- 27 local financial institutions work jointly to support on-line transaction over internet between customers and merchants.

2.6. E-Commerce (cont.)

- As part of the effort to promote e-commerce, various laws and regulations were enacted to regulate activities in cyberspace.
    - The Digital Signature Act 1997
    - The Copyright (Amendment) Act 1997
    - The Computer Crimes Act 1997
    - The Telemedicine Act 1997
    - The Communications and Multimedia Act 1998

2.7. HRD for ICT

- The demand for ICT workers (comprising hardware engineers, software engineers, system analysts, computer programmers and technical support personnel) increased from 88,160 in 1998 to 108,200 in 2000. This represented a rapid growth of 10.7 per cent per annum compared with the overall employment growth 3.7 per cent during the same period.

- On the supply side, there were 170 private institutions and 28 public institutions offering ICT courses as at October 1999. About 20,260 students graduated from these institutions in 1999.

2.7. HRD for ICT (cont.)

- Multimedia University established in 1998.Offered multimedia-based courses at the undergraduate and post-graduate levels. Taking 4,500 students a year and now has 9,000 students.

- With the anticipated rapid growth in e-commerce, many public and private institutions offered business studies courses with e-commerce content. 1,398 graduated in 1999, and 6,075 new enrollments for the same year.

- ICT-based training was also given emphasis among the working population to upgrade their ICT knowledge and skills.   Under the Human Resource Development Fund (HRDF), RM101.6 m or 14.7 % were disbursed for ICT-based courses during the Seventh Plan period.   This involved the financing of 296,800 training places.

2.8. Funding for ICT Industries

- The issue – 'Access to venture capital is regarded as a prerequisite to develop enterprises based on innovative ideas and good business models. However, there was a lack of such capital, especially for the early stages of business development due to the reluctance of the traditional banking system to provide financing for these high-risk ventures as well as the lack of expertise to undertake a proper assessment of the project proposal.'

- In view of those concerns, the Government established a RM500 m ICT Fund in 2000 to provide financing to high-technology and ICT-based firms.

2.8 Funding for ICT Industries(cont.)

- MSC Venture Corporation was set up in 1999(as a wholly-owned subsidiary of of the MDC). Provided funds to business at start-up, growth, and pre-initial public offer stages of development.

- Malaysian Exchange of Securities Dealing and Automated Quotation (MESDEC) was established to provide an alternative avenue of fund raising for technology and high-growth companies without a tract record as well as start-up companies.

3. PROSPECTS (2001-2005)

– Creating Competitive Environment

– Upgrading and Expanding ICT Infrastructure

– Enhancing Human Resource Development in ICT

– Promoting Electronic Commerce

– Fostering Local Capabilities in Content Development

– Rolling-out the MSC Flagship Applications

– Nurturing ICT-based SMEs

– Promoting R&D on Soft Factors

3.1 Creating Competitive Environment

- Easy licensing requirement for new service such as ISP and Voice over Internet Protocol (VoIP).

- To remove user tariff control.

- Open up key bottleneck infrastructure elements such as loop and transmission towers.

- To enforce fair interconnect rates and practices.

- A research center is about to be established, to keep continuous tab on the dynamic of global ICT industry, to assist the industry in benchmarking and to provide advice to the Government on policy planning in the ICT industry.

3.2 Upgrading and Expanding ICT Infrastructure

- Connection trough out country will be up graded to 10gbps using the Wavelength Division Multiplexing (WDM) technology.

- Asymmetric Digital Subscriber Line (ASDL) technology will be installed to support multimedia applications.

- A migration to third generation (3G) mobile communication technology, which will provide mobile internet to consumers.

- To address the digital divide, including providing satellite communication to remote areas.

3.3 Enhancing Human Resource Development in ICT

- By 2004, another 122,910 undergraduate students will be enrolled in ICT and related engineering courses.

- Firms are encouraged to give in house training or send their workers for training on ICT. To facilitate this,the government will provide tax incentives to reduce the cost of training to firms.

3.4 Promoting Electronic Commerce

- To implement proposals identified under the study on Electronic Commerce Strategic Directions for Malaysia.

- A law on personal data protection will be introduced to address privacy concerns. This will enhance trust and confidence in e-commerce, especially on security and privacy for consumers.

3.5 Fostering Local Capabilities in Content Development

- The Government will provide financial assistance to promote the production and distribution of locally created content, especially creative multimedia content based on local culture.

- Eight production studios will be built in an area called E-Village. These studios will provide the state-of-the-art production and post production facilities for creative multimedia innovation and R&D. Once completed it will serve as regional center for multimedia and content development.

3.6 Rolling-out the MSC Flagship Applications

- The smart school concept will be expanded to cover 8000 primary and secondary schools.

- The implementation of other flagship applications will also be intensified.

3.7 Nurturing ICT-based SMEs

- An ICT fund will be established to provide financial support, especially to SMEs and ICT start-up companies.

- The government will continue to provide matching grants to SMEs to finance e-commerce activities such as web page development and hosting.

3.8 Promoting R&D on Soft Factors

- The impact of ICT development on society will be studied.

4. DEVELOPMENT ALLOCATION FOR ICT-RELATED PROGRAMMES AND PROJECTS, 2001-2005

Program/Project	RM	%
Flagship Applications	1,824.9	35.4
E-Government	434.8	
Smart School	401.1	
Telehealth	400.0	
Multi Purpose Card	418.1	
R&D Cluster	1.9	
Cross Flagship	169.0	

4. ALLOCATION (cont.)

Program/Project	RM	%
Computerization	1,641.8	35.4
R&D	300.0	5.8
Bridging the Digital Divide	1,098.0	21.3
Infodesa	30.2	
Internet Desa	3.0	
Universal Service Provision	119.8	
Computer for rural schools	945.0	
Others	294.4	5.7
TOTAL	5,159	100.0

5. CONCLUSION

- **ICT related institutions created in the last 5 years**
  - Ministry of Energy, Telecommunication and Multimedia
  - Malaysia Communications & Multimedia Commission
  - MSC Development Corporation
  - National IT Council
  - NITA Strategic Thrust Implementation Committee
  - National Electronic Commerce Committee
  - The Controller of Certification Authority, 1998
  - Multimedia University, 1998
  - MSC Venture Corporation
  - Malaysian Exchange of Securities Dealing and Automated Quotation (MESDAQ)
  - Certifying Agency for Communication Equipments

5.1 CONCLUSION (cont.)

- ICT Policy initiatives in the last 5 years
  - National IT Agenda, 1996
  - Multimedia Super Corridor

- ICT laws/ regulations enacted in the last 5 years
  - The Communications and Multimedia Act, 1998
  - The Communications and Multimedia Commission Act, 1998
  - The Digital Signature Act 1997
  - The Copy Right Act 1997
  - The Computer Crimes Act 1997
  - The Telemedicine Act 1997
  - The Electronic Government Act 1997

5. CONCLUSION (cont.)

- Many things we have done but certainly many more we need to do. Key in our endeavors is to aggressively enhance our human capital, so that every single citizen is empowered to be a meaningful 'stakeholder' in this global trend.

- For more information, please visit websites: http://www.ktkm.netmyne.com.my/

  http://www.cmc.gov.my/
  http://www.mdc.com.my/