CB(1)1314/98-99(02)

Report on
Strategic Assessment of the
Proposed Cyberport Development in
Hong Kong

December 1998

Arthur
Andersen

**Business
Consulting**

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* PCC, Pacific Convergence Corporation, is the private sector proponent of a proposed cyberport development in Hong Kong.

CHAPTER 1

CHAPTER 1

BUILDING A FRAME OF REFERENCE

I. *An Introduction to "Cyberport"*

Cyberports are to information distribution as what seaports have been for cargo handling and airports have been for passenger movement. They are integrated facilities that give customers fast, convenient access to advanced telecommunications services by satellites, fibre optics, microwave and other networks. Cyberports are promoted, developed and operated both by private-sector businesses seeking profit, and by public-sector organisations seeking to create jobs and improve services to communities.

Apart from having state-of-the-art telecommunications facilities for both global and local communications, an increasing number of cyberports are built with real estate development. In most cases, the development objectives of the real estate-based cyberports are (i) profits from real estate development and/or (ii) as an economic development programme to maintain or improve an area's competitiveness in the local and global markets, to generate jobs, as well as to attract investors both internationally and locally.

A. Characteristics of Real Estate-based Cyberports

- Merging communications, real estate and economic development in a truly revolutionary way and fostering a new approach to urban planning and development.
- Containing pre-wired intelligent buildings which are connected to the cyberport's advanced network.
- Offering tenants direct access to sophisticated technology to provide seamless transport of information within and outside these buildings.
- Bringing together companies with common interests, who benefit not only from direct access to the common communications technology, but also to the skills and expertise of each other.
- Being referred to as "Synergy Centres".

B. Types of Real Estate-based Cyberport

- Intelligent Complex

  Each building is interconnected by fibre optics to an Operations Centre from which tenants can access virtually any long-distance facilities they need.

- Intelligent City

  A large-scale multi-billion-dollar real estate development to transform aging metropolitan centres into "Intelligent Cities".

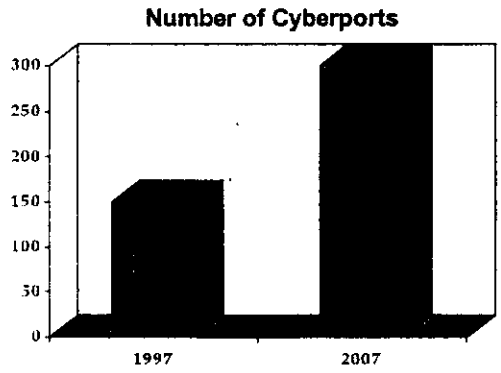
- Intelligent Infrastructure

  The infrastructure consists of several separate facilities ringing the city, all connected by high-speed communications lines, interwoven in the fabric of the hinterland and functioning in effect as a single cyberport.

C. Evolution of Cyberports

There are over 150 cyberports in operation or development around the world, ranging from standalone satellite antenna hubs to multi-billion-dollar real estate developments.

As information technology evolves, there will continue to be major economies of scale and benefits for businesses concentrating in cyberport environments. According to the World Teleport Association, the number is expected to double in the next 10 years.



II. *Case Studies*

To facilitate the strategic assessment of developing a cyberport in Hong Kong, three case studies have been performed to build a frame of reference regarding the following aspects of the developments:

- Role and objectives;
- Investment and ownership;
- Key features;
- Tenants and major business activities;
- Key success factors; and
- Key achievements and benefits.

The locations for case study have been selected based on:-

- The nature of the cyberport developments (being real-estate based in nature);
- The ownership structure of the developments (covering public, private and hybrid ownership);
- Recommendations from the World Teleport Association; and
- Specific request by the Steering Committee.

As a result, the following three developments were selected:

- Software Technology Park at Bangalore, India;
- Staten Island Teleport at New York, the United States; and
- Focus Teleport at Berlin, Germany.

Please refer to Appendix I for a list of cyberport authorities, operators and tenants interviewed.

C. Case Study 1 : Software Technology Park of Bangalore

Bangalore, the capital of Karnataka State, is India's fifth largest city. It has a population of 4.8 million and an area of 2,208 sq. km.

In 1991, the Department of Electronics ("DoE") set up a Software Technology Park in Bangalore ("STP-Bangalore") as an autonomous organisation to provide a conducive environment for software development entrepreneurs operating under the STP Scheme (see page 25).

C.1 Role and Objectives

STP-Bangalore's objective is to promote exports from the software and service industries by facilitating all the statutory services, strengthening the communication infrastructure and increasing quality consciousness in the industry. Specifically, it is: -

- To advise the software industry on Government policies and approval procedures;
- To establish and provide data communication facilities, computer facilities and infrastructure facilities including office space and general amenities;
- To promote development and export of software and services through the provision of assistance in technology assessments, market analysis, marketing segmentation, marketing support and related areas; and
- To train professionals and to encourage design and development in the field of software technology and software engineering.

C.2 Ownership and Investment

STP-Bangalore is a non-profit organisation set up by DoE with a one-time grant of US$1.13 million for it to build its telecommunications infrastructure and to purchase land use rights from the State Government. However, DoE has internal guidelines requiring it to break even in three years.

C.3 Key Features of The STP Scheme

The STP scheme is a 100% export-oriented programme for the development and export of computer software using data communication links or physical media, including the export of professional services.

The following are examples of Government incentives offered under the STP scheme: -

- A STP project may be set up anywhere in Bangalore, and not at specific locations;
- 100 percent foreign equity is permitted;
- All imports of hardware and software are completely duty free;
- Corporate tax holiday is offered for a block of 5 years over the first 8 years of operation; and
- Where capital is invested by foreign entrepreneurs, know-how fees, royalty, dividends etc., can be freely repatriated after payment of income-tax due, if any.

C.4 Companies and Business Activities

There are 78 multinational corporations, 37 major Indian companies and 135 smaller companies registered in STP-Bangalore.

Software development is the most important business activity: -

- Sony, Phillips, Lucent Technologies, Texas Instruments are involved in the development of high-technology software including systems software.
- Oracle develops software related to operating systems, porting, Relational DataBase Management System (RDBMS) and applications.

- Motorola develops high-end communications software as well as software related to video conferencing, multimedia, etc.
- Citicorp develops custom-made products for the banking industry.

About 60 percent of the major Indian companies operating in STP-Bangalore are involved in the development of application software.

The smaller companies operating there are mostly engaged in research and development: -

- 14 companies are involved in R&D related to the design of very large scale integrated circuit ("VLSI");
- 26 companies are involved in R&D for the communications industry; and
- 53 companies are involved in the design of systems software.

Some companies are also involved in the provision of training facilities, e.g. Ashok Leyland Limited.

C.5 Key Success Factors

- Supply of Technical Talents

  Factors contributing to the continuous supply of technical talents in Bangalore include: -

  - Presence of Renowned Educational Institutes

    The wellspring of Bangalore's abundant technical talent is the Indian Institute of Science which was founded early in the twentieth century.

Also present are other strong research and educational institutions such as: Indian Space Research Organisation, Hindustan Aeronautics Limited/ADA, Indian Institute of Management, various engineering colleges, etc., which help to build up a technology base in the city. A software engineering training institute was also established in Bangalore by the Central Government, with assistance from the European Community, to increase productivity and quality standards of software professionals.

- Modern world culture brought about by early clustering of industries in Bangalore

  The presence of the educational institutes prompted the Indian Government to locate some large, state-owned, hi-tech companies in Bangalore, including electronics, telecommunications, aeronautics, information services and other hi-tech firms. The advent of these industries and the socio-economic and cultural evolution they heralded exposed Bangalore to a different culture and a more modern world-view.

  Young women, for example, took up the challenge and ventured forth to work in these industries; many of them were perhaps the first women from their families to do so. They paved the way for later generations of female software professionals who came out in large numbers.

- Quality of Life

  The State Government has sought to improve Bangalore's attractiveness to technical talents by improving the city's living and working environment for software professionals.

A recent analysis of the feedback from non-resident Indians has shown that Bangalore is the most preferred location for those who want to return to India for good.

- Influx of Talents

  There is an inflow of software professionals into Bangalore as they are attracted by the concentration of information service industry there, which they felt could provide them with better career opportunities.

- Competitive Rates

  The pay of an Indian software specialist ranges from about US$10,000 to US$50,000, which is substantially lower than in the U.S. where capable programmers could easily cost about US$50,000 to US$100,000 a year.

  However, this advantage may be steadily eroded as demand for software talent increases and exceeds supply, generating upward pressure on salaries especially at the mid and senior executive levels. Today, annual increases of 25 to 30 percent have become commonplace, and outstanding talents can expect even 50 percent increases annually.

- Inflow of Foreign Software Companies

  The inflow of foreign software companies is also crucial to the development of STP-Bangalore.

In the 1980s, an Indian-born scientist working for Texas Instruments ("TI") championed the establishment of an offshore software development facility in India. His past association with his alma mater, the Indian Institute of Science of Bangalore, in addition to availability of managerial and technical talents in that city, inspired him to choose Bangalore in spite of the conveniences offered by Bombay and New Delhi.

TI became a beacon for attracting hi-tech companies like Digital Equipment, Hewlett Packard, and Motorola. When Motorola, for example, was selecting a location for its first joint venture in India, the presence of TI, Hewlett Packard and Digital Equipment in Bangalore became a key factor in relieving the anxieties of Motorola's top management in Illinois.

The subsequent entries of many others, including IBM, have significantly strengthened the claim of Bangalore as the hi-tech capital of India.

- Set-up of STP-Bangalore

  - Availability of Advanced Communication Links

    In 1991, DoE built a 64-kilobyte, high-speed satellite link that could be shared by a number of software houses through a radio link with the main satellite station. Software developers are able to link up on a point-to-point basis with their counterparts in the U.S. or with a public data network.

    STP-Bangalore also built a network using its own internal revenues. Starting from 1994, tenants of STP-Bangalore could apply for a leased line with the Videsh Sanchar Nigam Limited ("VSNL") which is the only international telecom carrier in India.

- Provision of Investment Incentives, e.g.
  - Software houses are being offered prime land at below-market prices as well as faster availability of power connections;
  - Sales tax on software has been eliminated;
  - Duty-free export zones have been set up; and
  - More liberal conditions are allowed for majority stakes by foreign investors.

C.6 Key Achievements and Benefits

- Return on Investment

  STP-Bangalore, as a non-profit organisation, has achieved breakeven in less than 3 years.

- Software Companies Attracted

  Approximately 250 companies were attracted to STP-Bangalore (see page 25).

- Creation of Jobs

  The inflow/set-up of software companies has directly created 30,000 jobs. Besides, another 200,000 jobs have been created indirectly from the development of the area.

- Investment in Software Industry
  - Inflow of Foreign Investment

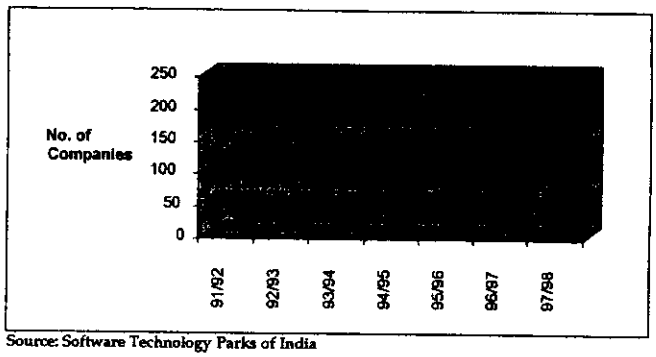
    Foreign investment of approximately US$475 million has come into Bangalore through the STP. In 1997/98, the amount of foreign investment was approximately US$17 million.

- Development of Local Entrepreneurial Initiatives

  The growth in foreign investment in software industry has also led to the development of local entrepreneurial initiatives. In 1997/98 alone, resident investment amounted to approximately US$53 million.

- Growth in the number of companies

  The number of companies registered under STP-Bangalore has grown significantly. Most of these companies are engaged in software development.



Source: Software Technology Parks of India

- Growth in Software Industry

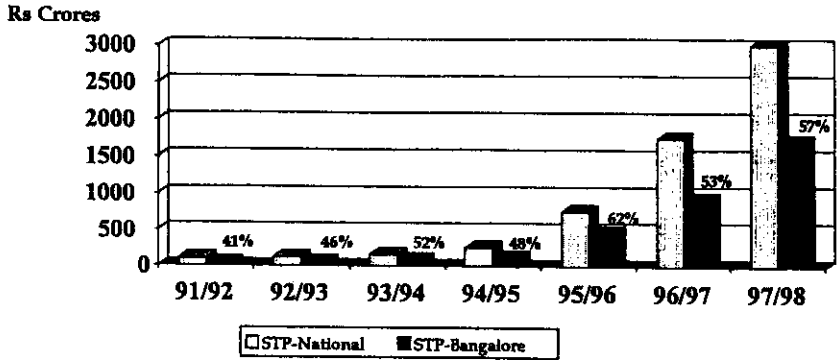
  Bangalore is the hub of India's software industry which is its fastest growing industry. The software industry in Bangalore is growing at a rate of 60 percent a year. In 1996/97 Bangalore's software industry had an approximate turnover of US$1 billion.

- Growth in Software Exports

  The export of Bangalore's IT industry totalled US$350 million in 1996/97. This accounted for more than 50% of India's exports under the national STP scheme.

The growth in software exports of companies registered under STP-Bangalore is illustrated below, together with comparative statistics for STP-National: -

Exports from Software Technology Parks of India



Source: Software Technology Park of Bangalore (unaudited figures)

- Supply of Technical Talents

  - Creation of IT talents

    The STP-Bangalore has facilitated creation of IT talents. It has led to the development and diffusion of IT talent in other parts of India through the mobility of employees.

  - Low Employee Attrition Rate

    Employee attrition rates underscore Bangalore's attractiveness as a place to live and work. While the nation-wide attrition average is around 30 percent on an annual basis, the corresponding figure for Bangalore is only 20 percent. The higher averages at other locations often reflect the flow of talent from those places to Bangalore.

- Follow on Expansion Projects

  The achievements of STP-Bangalore have led to the development of other technology parks. For example: -

  - International Technology Park

    This is a joint venture among Indian private sector - Tata Group, Karnataka Industrial Areas Development Board and a consortium of Singaporean companies. Its total investment amounts to US$450 million and is designed for technology-oriented companies in electronics, information technology, telecommunications and related industries. The first phase was completed in 1998. When fully operational, it will offer: -

    - 172,000 m^2 of office space;
    - 135,000 m^2 production facilities; and
    - 826 residential apartments.

  - Electronics city

    Electronics city is an area of 134 hectares developed exclusively for the electronics industry. Multinational corporations attracted include Motorola, Infosys, Siemens, ITI, Wipro, etc.

D. Case Study 2 : Staten Island Teleport of New York

The Staten Island Teleport ("SIT") is situated on Staten Island, 11 miles away from Manhattan, New York.

SIT was initiated by the Port Authority of New York and New Jersey ("PA") in 1982 in recognition of the need for a cyberport as an infrastructure to keep ahead of other financial, broadcast and communication centres in the Information Age.

SIT was the first intelligent and highly secured business park dedicated to the integration of communications and real estate. It started operations in 1985. Since then, it has been recognised as the global model for similar developments.

D.1 Role and Objectives

SIT intertwines cyberport and economic development, its objective is to address the need for a sophisticated communications system in the Metro New York region in order to support the requirements of heavy data industries such as financial services, telephony and broadcasting.

D.2 Ownership and Investment

SIT is a public/private joint venture among PA, the City of New York and Teleport Communications Group ("TCG", a joint venture between Merrill Lynch Communications Inc. and Western Union Communications Systems, Inc.). The public sector contributed approximately US$80 million out of a total investment of about US$865 million.

Below is a more detailed analysis of contributions made by the different investors: -

Site Preparation and Infrastructure	PA	70
Roads, Drainage and Sewage Services	City of New York	10
Superstructures	TCG Teleport Associates Telehouse *(all private sector investors)*	100 550 35
Regional Fibre Optic Network and Associated Communications Equipment	TCG	100
		865

D.3 Key Features

- Current Land Use

  SIT is a 40-hectare real estate development. It houses five Class A office and specialised buildings of 120,000 m^2: -

  - Teleport I is developed by Teleport Associates ("TA"), a private sector real estate company. It is a multi-tenant building housing major tenants such as TCG/AT&T Local Services, PageNet and Allstate Insurance;

  - Teleport II & III are multi-tenant buildings housing American Express, Met Life and State Farm Insurance;

- Merrill Lynch Building includes a data centre leased to Empire Blue Cross and Blue Shield; and

- Telehouse Building is developed by a joint venture of several Japanese companies and AT&T. It houses computers, servers, Internet companies/Internet service providers, and Web-server firms.

- Rental Charges

  The monthly rent in SIT is in the range of US$25 per square meter. Although it is lower than that in top grade office districts such as the 5th Avenue in Manhattan, it is relatively higher than the average commercial rate in the neighbouring areas.

  The rental for computer space in the Telehouse can be over US$80 per square meter per month.

- Key Communications Infrastructure

  SIT's communications facilities include:-

  - A Telecentre consisting of a 4.5-hectare radio-frequency shielded area which provides access to all domestic and Atlantic Intelsat Satellites. There are currently 23 earth stations in full operation;

  - A 600+ mile regional fibre optic network linking the Telecentre to a satellite transmission facility; and

  - High speed transmission lines, e.g. OmniRingsm DS3: (45 Mbps) - an option for high-capacity requirements.

The SIT's fibre cable system network links 650 buildings throughout the greater metropolitan area, including the New York City boroughs of Manhattan to Princeton of New Jersey. This brings satellite earth stations from remote "interference-free" areas to the door step of the business communities that need local access to satellite communications services and enables world-wide information exchange quickly, efficiently and cost-effectively.

- Security System

  The PA offers a highly secured environment through the security system in place and the redundancy built into the infrastructure. The Telecentre also provides backup systems through the use of battery systems. This was especially evident after the bombing of the World Trade Centre.

D.4 Tenants and Business Activities

SIT has about 50 tenants. The 50 tenants cover a number of information intensive industries with heavy data storage and transmission requirements - financial services (including securities firms and insurance companies); call centres; Internet hub providers; data storage providers; printing, media, and broadcasting (radio, TV) companies; technical service providers and related businesses.

Companies that have operations in SIT include: -

- Merrill Lynch
- American Express
- Sanwa Bank
- Metropolitan Life
- TCG/AT&T local Services
- Globe Cast
- Worldcom
- theglobe.com (Web developer)
- Nomura Securities
- Industrial Bank of Japan
- Tokai Bank
- State Farm Insurance
- Telehouse
- Statac Mobile
- American OnLine
- ERI (Emergency Disaster Recovery)

Their key business activities are data processing, computer centres, secondary call centres as well as communications, data and Internet businesses.

D.5 Key Success Factors

- Demand for Advanced and Secured Communications Infrastructure

  The development of SIT is primarily driven by the needs of major information intensive companies (e.g. financial services) in the areas of advanced communications infrastructure such as Telecentre, regional fibre-optic network, and high-speed transmission lines; as well as the need for a highly secured environment with security and back-up systems.

- Availability of Local Talents

  New York has a pool of highly trained workforce. Seven out of the top 50 universities in the United States are located in the New York State.

- Provision of Government Incentives
  - Inexpensive power - PA offers power at government rate, which is about half the cost of a Manhattan site;
  - Annual tax credit for employees;
  - Elimination of sales tax on construction materials; and
  - Waiver in real estate tax.

D.6 Key Achievements and Benefits

- Return on investment

  Annual positive cash flow has been generated for the PA since the 7th year of operations.

- Quality Tenants

  SIT has attracted about 50 tenants (see page 37).

- Creation of Jobs

  SIT has created 3,000 on-site direct employment. With multiplier effect, the direct and indirect jobs created would be around 4,600 jobs.

  It is also believed that substantial additional off-site employment has been created as a result of new businesses being developed throughout the region connected to SIT.

- Nurtured Successful Tenants

  TCG, the anchor tenant, has become the largest operator of local, alternative-access fibre optic networks in the United States, with systems running in over 30 cities. Its annual turnover amounted to US$494 million in 1997. Its market valuation exceeded US$11 billion in early 1998.

  In addition, Telecentre has become one of the East Coast's most active landing sites for about 100 TV, video and related broadcast channels.

- Fostered New Media Industry

  SIT has fostered the development of an entirely new industry in New York: the new media industry engaged primarily in the business of digital publishing. Since 1995, the new media employment in New York City has been up by 105% and it is now a US$2.8 billion industry.

- Further development of SIT

  TA is currently negotiating with the PA to build up to three more buildings similar to Teleport I, II & III in the SIT.

E. Case Study 3 : Focus Teleport Berlin

Focus Teleport is situated on the site of a former grain mill in Berlin-Tiergarten.

In 1985, a private real estate company, Immobiliern- Treuhand und Vermogensanhage AG ("ITAG"), purchased the site and turned it into a high-end architectural development, changing the nature of the area and establishing it as a high-tech information-application zone.

E.1 Role and Objectives

Focus Teleport of Berlin ("FTB") was set out to be a high-tech business services centre for enterprises in the information and communications industries. The objectives of FTB are: -

- To address the need for a sophisticated telecommunications-supported facility in Berlin in order to attract companies in the communications and information technology business; and

- To act as a catalyst and synergy centre in order to advance the region's position in an increasingly competitive market where advanced telecommunications are deemed essential to doing business.

E.2 Ownership and Investment

FTB was funded entirely by the private sector. ITAG has invested a total of DM250 million in the four-phased real estate development: -

Phase	Year of Completion	Area of Intelligent Office Space Completed (m^2)
1st	1989	40,000
2nd	1991	10,000
3rd	1993	25,000
4th	1994	10,000
		85,000

Deutsche Telekom has built the telecommunications infrastructure in FTB, which includes broadband fibre optic network and satellite communications.

E.3 Key Features

- Surrounding Areas

  FTB is located close to the Berlin/Tegel Airport, the city centre as well as new development areas and commercial services. Hotel and residential areas are also found along the boundary of FTB.

- Communications Infrastructure

  FTB provides advanced communications connections to attract information technology and telecom-related businesses to the project, which include: -

  - ISDN services;
  - broadband fibre optic network;
  - satellite communication links; and
  - customised services utilising the extensive cable shafts in the design of the project.

  The broadband fibre optic networks have linked up firms with new and promising forms of telecommunication that were not available as standardised services in Germany until the second half of the 1990s. The state-of-the-art architecture provides companies with quality and high-speed advantages in telephony, telex, videotex, and telefax services. The transmission of both still and moving pictures – even picturephones – are possible as are parallel multi-service operations.

- Current Land Use

  The built-up areas now covers 7.4 hectares, 90% of which is used for office buildings while the remaining 10% is reserved for educational, conferences, leisure and residential purposes.

- Rental Charges

  Monthly rental charges are in the range of DM28-35 per square meter. This is slightly lower than the DM40 levels charged for top grade office in downtown Berlin.

- Business Services

  In addition, FTB offers business services which include:-

  - Fast communication with state-of-the-art media like videoconferencing facilities which help to reduce tenant's time in organising a business meeting or a presentation of the latest product;

  - All kinds of secretarial work assembled for a specific project or short term lease tenants; and

  - Other supportive services, e.g. medical services, law firms, advertising agencies, a travel agency, producers of presentation videos, etc.

E.4 Tenants and Business Activities

There are over 120 businesses in FTB, comprising a good mix of companies such as innovative beginners, venture capitalists as well as multinational corporations such as:-

- Microsoft Gmbh
- SAP Berlin
- Unisys Gmbh
- Digital Equipment Gmbh
- Ford-Werke
- Toshiba Medical System
- General Medical System
- NCR Gmbh
- GE Information Services
- EDS Gmbh
- Lucent Technologies
- Tektronix Gmbh

Most of the tenants are engaged in R&D activities (e.g. Daimler Benz for car-software-systems), operating systems; and telecommunications. Other business activities include artificial intelligence, CAD/ EDP training, computer animation, media and broadcasting.

E.5 Key Success Factors

- Availability of a Highly Educated Workforce

  FTB is surrounded by several renowned institutions for research and development such as: the Institute for Telecommunications, the Centre for Production Engineering, the Solid State Laser Institute, and the Technical University of Berlin.

  The institutes supply FTB with professional and highly specialised know-how in fields like expert systems, artificial intelligence, satellite communication, CAD or EDP training, computer animations, video production, studio technique, multi-media programmes, software development and other highly specialised technological areas.

- Set-up of FTB

  - Tenancy Restriction

    From the beginning, ITAG took great care to find a good tenant-mix, focusing only on companies in the information and communications industries.

This industry focus has made possible the development of an enormous synergy potential. Informal exchanges of ideas and working contacts among tenants have developed into firm business contacts.

- Advanced Telecommunication Links (also see E.3 Key Features)

  Prerequisite for this development was and still is the connection to advanced telecommunications.

E.6 Key Achievements and Benefits

- Return on Investment
  - Annual rental income is about DM30 million;
  - Rental yield is 8-10% per annum; and
  - Capital appreciation of the real estate development amounted to DM125 million as of 1997.

- Number of Tenants Attracted

  There are 120 information and communications companies (see page 43). The total investment of these tenants is estimated to be in the range of DM300 to DM400 million.

- Creation of New Jobs

  About 2,500 direct and 3,750 indirect jobs have been created under this initiative.

- Other Developments in the Alt Moabit Area

  The success of the FTB has helped to stimulate other developments in the area and nearby neighbourhood, including the relocation of the Ministry of Interior and the development of the Mediport (another version of the cyberport designed specifically and creating for the medical industry another 500 new jobs).

- Growth of Information and Communication Sector

  In 1996, there were more than 2,100 businesses employing over 23,000 people in the information and communication technology sector in Berlin. The rapid development and diffusion of these technologies in other sectors are expected to lead to dynamic growth.

- Further Development of FTB

  The success of the FTB has prompted its developer to undertake further extensions. Additional office space of 25,000 m^2 is expected to be completed by the Year 2000.

III. Summary

The following table summarises some of the key characteristics, success factors as well as achievements/benefits of the three selected developments: -

Key Characteristics	Key Success Factors	Key Achievements/ Benefits
• Inclusion of private sector investment/ funding • Real estate-based • Shared facilities with advanced communications links	• Existence of information intensive industries • Clustering of pools of talent • Specialisation/ restriction of tenants • Premium and/or high-tech business and communications architecture • Convenient location • Government incentives • Presence of supporting facilities	• Stimulates investments and creates jobs • Breeds successful tenants • Attracts inflow of foreign investment and stimulates growth of information service industry • Generates spin-off benefits to facilitate growth of other information-intensive sectors (e.g. financial services)

CHAPTER 2

CHAPTER 2

STRATEGIC ASSESSMENT FOR HONG KONG

I. Basis of Assessment

Although a private sector proponent has presented a specific proposal to develop a cyberport in Hong Kong, we suggest the Government to look beyond the specifics of that proposal and evaluate the cyberport concept on its own merits, in the broader context of Hong Kong's strategy for the future.

The strategic assessment should be to understand: -

- how a cyberport would potentially impact Hong Kong's economy at large; and
- how it should be aligned with Digital 21, the information technology strategy for Hong Kong, to make the territory "a leading digital city in a globally connected world".

In performing such assessment, we have drawn our insights from

- the experience of other developments (see Chapter 1), and
- the results of interviewing potential cyberport users coming from the following sectors: -
  - software companies;
  - Internet Service Providers;
  - content and media companies; and
  - education and training content companies.

  Details of the potential cyberport users interviewed and their profiles are set out in Appendices II and III.

II. *Insights from the Case Studies and Interviews with Potential Cyberport Users*

A. Insights from the Case Studies

- Development of an economic infrastructure (i.e. a composition of human resources, capital, technology, regulatory framework) has an impact on the growth of an economy.

- A cyberport could be an important element of the economic infrastructure, reinforcing the growth and development of other elements, in particular:-
  - technical talents;
  - capital investment in: -
    - information service industry;
    - other information-intensive industries; and
    - real estate development; as well as
  - communications technology and capability.

- However, when extrapolating the case studies to Hong Kong, the role and objectives of the cyberport should be considered carefully. The role and objectives are very much dependent on the circumstances that lead to the development of the cyberport. This will also affect the features and set-ups of the cyberport.

B. Insights from Interviews with Potential Cyberport Users

There is fairly consistent feedback from interviewees that the primary role of a cyberport in Hong Kong should be an infrastructure to provide data management/processing capabilities and equipment at a shared cost to companies operating in: -

- the provision of transaction services for trade and retail;
- information services;
- software engineering; and
- other information intensive industries (such as financial services, telecommunications, as well as media and entertainment).

Availability of the cyberport is important to the growth of these sectors in the following ways:-

- Transaction Services for Trade and Retail

  A cyberport could offer state-of-the-art telecommunications facilities that small and medium enterprises could not afford on their own. This would help promote transacting commerce electronically among themselves and with the overseas counterparts.

- Information Services

  The availability of shared data management/processing facilities is considered to be the biggest appeal offered by a cyberport.

  It is further commented by the interviewees that the physical dispersion of intelligent buildings poses significant limitations on business expansion for information services providers (e.g. transmission problem for voluminous data).

- Software Engineering

  Shared facilities would help promote start-ups (examples are companies concentrating on Web-based applications) due to lower operating costs.

- Information-intensive Businesses

  Most interviewees indicated that information-intensive businesses (e.g. financial services, telecommunications, etc.) could form a large user group. The use of the cyberport as a shared facility could help them lower their operating costs and allow them to offer more price-competitive products to stimulate growth.

III. *Subject of Assessment*

Taking into account sectoral needs and Digital 21 strategies, there is broad consensus among the interviewees that a cyberport in Hong Kong (if pursued) should be: -

"..... an infrastructure to provide data management/ processing capabilities and equipment at a shared cost to companies operating in:-

- *transaction services for trade and retail;*
- *information services;*
- *software engineering; and*
- *other information intensive industries (such as financial services, telecommunications, as well as media and entertainment)."*

It is envisaged that the cyberport would possess a number of features: -

- Advanced Communications Links

  The availability of high bandwidth capabilities at reasonable costs is important in order to facilitate the application of tomorrow's technology for today's industry, e.g. the capability of "gigabit bandwidths" to transmit "touch and feel".

- Shared Facilities

  These include data management/content centre, processing centre, communications and computer equipment as well as a shared work environment for research and development.

- People and Skills

  There will be a clustering of people skills in order to create a shared business/social environment and to enable cross-fertilisation of ideas and products among:-

  - content researchers and data analysts;
  - information/transaction processing specialists/system analysts; and
  - multi-media applications software engineers.

- Other Features

  Other features will include the ability to switch among telecommunications operators, proximity to customers and adequate transportation links as well as availability of land/site for future expansion.

The broad outlines of the cyberport as described above will form the subject of the strategic assessment.

IV. Potential Benefits to the Economy

A. Overall

By leveraging on Digital 21, the cyberport as described above is expected to benefit Hong Kong in the following ways: -

- Economic Activities Within the Cyberport Itself

  New economic activities will be created in the cyberport itself as a result of: -

  - quality tenants;
  - clustering of pools of talent;
  - specialisation in information-intensive industries; and
  - availability of premium and/or high-tech communications architecture at reasonable costs.

- Spin-off Benefits to the Economic Sectors

  Spin-off benefits are expected to be created in the following economic sectors: -

  - transaction services for trade and retail;
  - information services;
  - software engineering such as Web-based multi-media software development and applications; and
  - other information intensive industries, e.g. financial services.

- International/domestic Marketing Advantage in Enhancing Hong Kong's Competitiveness as a Regional Hub for the Information Age.

B. Examples of Shared Facilities and Key Benefits by Sector

The spin-off benefits to various economic sectors are further described below.

B.1 Transaction Services for Trade and Retail

Over 96% of the import/export trading companies in Hong Kong are very small (with fewer than 20 employees). The cyberport will offer state-of-the-art communications facilities that would not be economical for such companies or even larger enterprises to build at their own costs.

Examples of the shared facilities that could be offered by a cyberport are:-

(i) Global Telepresence Design/Cyber "Knock-off" Centre

This will be made possible by shared facilities and expertise such as high-powered broadband communications links, shared design terminals and graphic/product designers, for example: -

- Scanning Centre;
- Telepresence Workstations; and
- Optical Communications.

(ii) E-procurement Processing Centre

The centre will have two possible roles: -

- Transaction Processing Centre serving as a clearing house or processing centre for procurement activities and thus helping to streamline the supply chain and better position Hong Kong as an electronic entrepot.
- Regional Server Hub of established global e-commerce services hosting and processing Asian procurement and fulfilment transactions.

(iii) Internet Retail Store

In addition to serving local consumers, the Store will expand the market-reach of local retailers and enable them to tap into the global market.

The added values of Internet retailing, e.g. personalised new product information, access to discussion forum of product users, etc., will provide attractions to a new group of consumers to shop on-line.

Internet retail store, as a virtual retail store, will require less capital outlay and involve lower exit costs. It will thus enable a new group of entrepreneurs to engage in retail business, at the same time helping existing retailers to expand their business without significantly increasing their risks. One example is the eBay Internet auction - it is facilitating electronic retailing for many small and medium enterprises. Another possible set-up of Internet Retail Store would be a Yahoo Asian Retail Centre.

The potential economic benefits to the trade and retail sector will include:-

- Promoting E-commerce

  The promotion of e-commerce transactions will benefit Hong Kong through: -

  - Enlarging the market-reach of Hong Kong's traders and retailers;
  - Enabling the traders and retailers to widen their business scope by participating in on-line e-commerce businesses; and
  - Offering an alternative mode of business for business diversification.

- Improving the Competitiveness of Hong Kong as a Trade and Retail Centre

  Increased use of e-commerce would help: -

  - traders and retailers streamline their supply chain and minimise their inventory carrying costs; and
  - Hong Kong better position itself as an electronic entrepot.

B.2 Information Services

Freedom of information flows in Hong Kong is often rated as the most important appeal to companies which are picking a location for their content development activities.

A cyberport could reinforce this advantage by offering the following shared facilities:-

(i) <u>Regional Content/Data Research & Management Centre</u>

The Centre would be useful for online securities brokers similar to E*Trade and others.

The key enablers for its operation will include:-

- Hong Kong's status as a financial hub in Asia; and
- Hong Kong's unique position for providing access to financial information about mainland China.

(ii) <u>Virtual Trade Library and Hub</u>

This will be the content/data management centre for traders. Typical contents may include documentary forms, trading rules, product catalogues, as well as company and product indexes.

The key enablers for its operation will include: -

- Hong Kong's status as a regional sourcing centre; and
- Hong Kong's role as the transhipment centre for mainland China.

(iii) Media Production and Resources Centre

The key enablers will include: -

- Hong Kong's role as a major production centre for media and entertainment industry for Chinese communities world-wide; and
- Freedom of press and speech.

The potential economic benefits to the information services sector will include:-

- Attracting investment in setting up content centres, thereby creating new job opportunities;
- Strengthening Hong Kong's position as a regional financial centre as well as a regional trading hub; and
- Fostering the growth of the media industry.

B.3 Software Engineering

With the presence of local talents in Web-based multi-media software applications, start-ups could be promoted in Hong Kong through provision of facilities at affordable costs.

Examples of the shared facilities that could be offered by a cyberport are: -

(i) Multi-Media Park and Media-Lab

Major facilities that could be included are: -

- Multimedia equipment and studio facilities;
- Media research facilities; and
- Training campus for multimedia professionals (e.g. a new Asian campus for MIT's Media Lab).

The potential economic benefits to software engineering will include: -

- Stimulating local entrepreneurial activities in areas such as Web-based multimedia software development and applications;
- Enabling the growth of software engineering business; and
- Creating job opportunities for local talents.

B.4 Financial Centre/Cyber Money Centre

Hong Kong, as a regional financial hub, requires the capability as well as the capacity to handle large amounts of transactions accurately and timely every day. To that end, a cyberport could offer the following shared facilities to the financial services sector: -

(i) Legacy Systems Processing Centre

The cyberport, with its high-speed communications and dual power capabilities, could be a shared-cost centre for the following functions: -

- Systems backup;
- Disaster recovery; and
- Other shared processing or shared service facilities.

(ii) Web System Centre

One possible set-up would be the Asian Server Hub for global Internet services – to process Asian securities transactions for the global online broker such as Schwab-Online or E*Trade.

(iii) Supporting Development of E-banking and Asian Call Centres

By integrating communications technology and customer service, the cyberport could also facilitate Hong Kong's development in Web-based e-banking and call centres.

The potential economic benefits to the financial services sector will include:-

- Enabling Hong Kong to uphold its status as a financial centre; and

- Functioning as a cost effective data centre for both regional and smaller financial institutions - The cost effectiveness enabled by operation-sharing at the cyberport could enhance Hong Kong's attraction as a data centre for regional financial institutions as well as a place for business presence for the smaller financial institutions; and

- Facilitating Hong Kong's development in Web-based e-banking and call centres.

V. *Possible Disbenefits*

The development of a cyberport as shared facilities is considered important to the growth of a number of sectors. Its role is particularly crucial to jump-starting areas like e-commerce and newer electronic information services which are still relatively new to Hong Kong.

The development of Hong Kong in these areas, and the growth of its information intensive industries in general, would potentially be more rapid if a cyberport were put in place. The absence of such a facilitating element in the economic infrastructure would deprive Hong Kong of the comparative advantages being established by other communities as they create initiatives similar to cyberports. The result will be a slower uptake of new electronic infrastructures and applications with their apparent benefits.

What is perhaps of greater concern is the prospect of a much more permanent difference, brought about by a combination of the following factors: -

- Competition: Various programmes have been initiated by different governments in the region (e.g. Multimedia Super Corridor in Malaysia) to promote the development of e-commerce, information service and information intensive industries.
- Loss of talents: Compared to its competitors, Hong Kong might risk losing the battle for the much needed talents which are important to its future development.
- Loss of information traffic: Information traffic is subject to increasing returns because of infrastructure development costs, the network effects, and the users' cost of switching. The reverse is also true. If Hong Kong falls behind its competitors, it will become increasingly difficult (and expensive) to catch up.

The prospect of a more permanent difference will be mitigated by the more rapid development of other elements in the economic infrastructure as described in Digital 21. The advantage of the cyberport is that it will leverage the other Digital 21 initiatives by providing an international marketing and image focus as well as an important operational presence.

VI. *Concluding Remarks*

A cyberport in Hong Kong could play an important role in Digital 21 to support the growth of the following sectors: -

- Transaction services for trade and retail;
- Information services;
- Software engineering; and
- Other information intensive industries (financial markets, telecommunications, media and entertainment).

In order to realise its economic contributions: -

- The designated role and features of the cyberport must be properly aligned; and
- The cyberport must be functioning in the context of Digital 21.

In view of the potential economic benefits of developing a cyberport, there is clearly a case in favour of further studies and evaluation of the proposed development. The proposal presented by the private sector proponent could be used conveniently as a starting point for such studies, but that proposal will have to be refined and will conceivably evolve in the next stage of evaluation.

The Government's evaluation in the next stage should be an interactive process engaging the private sector in a combination of project planning and feasibility assessment: -

- A programme should be developed to initiate an active dialogue with selected target tenants to:-
  - obtain input and feedback to enhance the design of the proposed cyberport;
  - assess (and secure, if possible) the commitment of the target tenants; and
  - determine the potential of private sector contribution to the initial investment.
- Specific studies should be directed at issues related to land use, rental scheme and communication links.

For the purpose of such studies and evaluation, the Government should ensure that there will be sufficient input from both the public and the private sectors.

For a cyberport to realise its economic contributions, there must be corresponding development of other elements in the economic infrastructure which encompasses human resources, capital, technology and regulatory framework. The essential elements required and their corresponding performance are summarised below: -

I. *Transaction Services for Trade & Retail*

The other elements required for cyberport success are: -

- Knowledge/interest of general public in E-Commerce

  - Over 96% of import/export trading companies in Hong Kong are very small (with fewer than 20 employees). The interviewees indicated that most of these companies are not willing or able to invest in e-commerce.

  - There is a general level of knowledge about the development and possible applications of e-commerce. Ignorance breeds or reinforces apathy.

  - The lack of knowledge or interest affects not only the demand for e-commerce applications but also the supply of "e-talents" in the longer term.

- Legislative protection and industry standard

  - The interviewees have expressed a general desire for the Government to look into the possibility of enacting "cyber law". The perceived security of e-commerce will be lowered without appropriate legislative protection.

  - In addition, the promotion of international standard for e-commerce transactions by the Government would also help to provide better assurance to the public on the security of in e-commerce activities.

The comparative assessment of these different elements is depicted as follows: -

◆ Primary
◇ Secondary

● Favorable
⊙ Neutral
○ Unfavorable

Key Elements	Degree of Importance	Hong Kong's Performance
Knowledge/interest of general public in e-commerce	◆	○
Legislative protection and industry standard	◆	○
Availability of data management capacity at shared cost	◆	○

II. Information Services

The other elements required for cyberport success are: -

- Proximity to source of information

  - When determining the location for content development activities, information service providers generally rate proximity to major source(s) of information as one of their most important considerations.

  - Our interviewees which offer business information services indicate that Hong Kong is generally the preferred location for their regional headquarters because of the free flow of financial information.

  - The key enablers for such information flow include:-
    - Hong Kong's status as a financial hub in Asia;
    - Hong Kong's unique position providing access to financial information about mainland China;
    - Hong Kong's role as a major production centre for media and entertainment industry for Chinese communities world-wide; and
    - Freedom of press and speech.

- Initiative to promote start-ups

  - As information services is still a fairly young industry in Hong Kong, a number of interviewees believe that some Government initiatives should be taken to promote more start-ups.

  - The incubation programme (Hong Kong Industrial Technology Centre) is a good example of such kind of initiatives.

- Venture capital

  - There are also comments that the venture capital market in Hong Kong is not sufficiently mature to nurture and support the development of potentially high-risk, high-return investments in technology-related projects.

- Influx/supply of talents and knowledge workers

  - Most of the interviewees alluded to a shortage of professional content editors for business information services in Hong Kong. In their opinion, this could be one of the road blocks for Hong Kong to become a regional information hub.

  - On the other hand, they acknowledged the existence of a sufficient workforce for content development for Web-based applications

The comparative assessment of these different elements is depicted as follows: -

◆ Primary
◇ Secondary

● Favorable
⊙ Neutral
○ Unfavorable

Key Elements	Degree of Importance	Hong Kong's Performance
Proximity to source of information	◆	●
Initiative to promote start-ups	◇	○
Venture capital	◇	○
Influx/supply of talents and knowledge workers	◆	⊙
Availability of data management capacity at shared cost	◆	○

III. Software Engineering

The other elements required for cyberport success are :-

- Supply of local talents

  - In the area of Web-based applications, it is generally agreed among the interviewees that there is a steady supply of local talents. Moreover, relatively speaking, these talents are reasonably creative when compared to their counterparts in other countries in the Asian region.

  - The interviewees have, however, expressed some reservation about promoting software development or modification as the key driver of the information technology industry in Hong Kong. Most of the interviewees commented that unlike China and Taiwan, Hong Kong does not have a critical mass of local software engineering talent.

  - In addition with respect to software localisation/ modification, there is a general consensus among the interviewees that Hong Kong is not sufficiently competitive in terms of labour costs or Chinese language skills. A number of interviewees suggested that the most immediate solution is to consider importing the necessary skills from mainland China.

  - It was further commented that Hong Kong is too expensive for taking on modular software development as a sub-contractor. These types of work are mostly undertaken in the Philippines.

The comparative assessment of these different elements is depicted as follows: -

◆ Primary
◇ Secondary

● Favorable
◐ Neutral
○ Unfavorable

Key Elements	Degree of Importance	Hong Kong's Performance
Supply of local talents		
▫ Functional skills	◆	○
▫ Language skills	◆	○
▫ Cost	◆	○
Availability of data management capacity at shared cost	◇	○

IV. Other Information Intensive Industries

The other elements required for cyberport success are :-

- Interface with market
  - The financial markets, media and entertainment industries have broad interfaces with the local market and strong connectivity with overseas Chinese communities.

- Knowledge/interest of industry and customers in e-banking, call centres and on-line brokerage
  - Hong Kong is making some early progress in the development and acceptance of e-banking and call centres. The integration of communications technology and customer service is a new and emerging trend.
  - There is also room for development of on-line brokerage and other services based on communications technology.

- Legislative protection and industry standard
  - The enactment of appropriate legislative protection and the promotion of industrial standard are seen as important safeguards to the security of financial market transactions.

- Supply of talents and knowledge workers
  - Hong Kong has access to an ample supply of professional talents in financial markets, media and entertainment.
  - As the recognised hub for such industries, Hong Kong continues to be a magnet attracting an inflow of talents from other countries.

The comparative assessment of these different elements is depicted as follows: -

◆ Primary
◇ Secondary

● Favorable
◐ Neutral
○ Unfavorable

Key Elements	Degree of Importance	Hong Kong's Performance
Interface with market	◆	●
Knowledge/ interest of customers in		
▫ Electronic banking	◆	○
▫ Call Centres	◆	○
▫ On-line Brokerage	◆	○
Legislative protection and industry standard	◆	○
Availability of talents and knowledge workers	◆	●
Availability of data management capacity at shared cost	◇	○

Report on
Discussions with
Potential Cyberport Users

The Government of the
Hong Kong Special Administrative Region

March 1999

Arthur
Andersen

**Business
Consulting**

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CHAPTER 1

CHAPTER 1

INTRODUCTION

I. *Project Background and Objectives*

The Information Technology and Broadcasting Bureau (hereinafter "the ITBB") of the Government of the Hong Kong Special Administrative Region (hereinafter "the Government") received a proposal from Pacific Convergence Corporation (hereinafter "PCC") regarding the development of a cyberport in Hong Kong.

In this connection, the ITBB has set up a special task force to review the proposal (hereinafter "the proposed cyberport") and conduct further discussions with PCC. In addition, the Government has engaged Arthur Andersen Business Consulting (hereinafter "AABC") to approach potential cyberport users and solicit from them the following information to support such discussions:

- their views on the features and characteristics of the proposed cyberport; and
- their level of interest (on a non-committal basis) in becoming tenants, co-developers and/or shared facilities/services providers.

II. *Project Approach*

AABC solicited the views of potential users of the cyberport through two means:

- holding targeted focus group discussions in Hong Kong with local entrepreneurs who provide information technology (hereinafter "IT") related products and services or other information services (hereinafter "IS"); and
- arranging interviews in both Hong Kong and overseas with representatives of multinational corporations (hereinafter "MNCs") involved in the IT/IS industries

All the focus group discussions and interviews were conducted in February 1999.

Selection of Focus Group and Interview Participants

All of the companies which sent representatives to attend the focus group discussions/interviews are currently operating in one of the following sectors of the IT/IS industries:

- provision of information services;
- software engineering with focus on (Web-based) multimedia software development and applications; and
- provision of products and services in other information intensive industries, including media and entertainment as well as on-line services.

The list of selected companies was approved by the ITBB before the focus group discussions and interviews were conducted.

AABC conducted two separate focus group discussions and a total of seven local companies participated. In general those who attended are employed at the senior management/director level.

AABC also conducted 'face-to-face' interviews with representatives of eight MNCs in Hong Kong, the United States, Canada and Japan. Most of the interview participants are senior executives who are currently managing their companies' businesses locally in Hong Kong/China and/or the Asia Pacific region. AABC also interviewed some top executives responsible for overall strategy who are based at the headquarters of their companies.

More details on the profile of the local companies and MNCs involved in the focus group discussions and interviews can be found in Appendices I and II.

Discussion and Interview Process

Each of the focus group and interview participants was briefed on the discussion parameters and guidelines by the AABC project team. These included a clarification of the confidential nature of the project and a confirmation that all comments would be recorded on a 'no name' basis. All focus group and interview participants were encouraged to actively participate in the discussions/interviews and advised that their input was crucial to a successful outcome.

The AABC team took each of the focus group and interview participants through a series of presentation slides which explained the key objectives of the discussions/interviews, the general concept of the proposed cyberport and then a series of more detailed discussion topics. These presentation slides (see Appendix III) were developed with reference to information provided by the ITBB. The form and content of these slides was approved by the ITBB before the focus group discussions and interviews were conducted.

In the following two chapters, we have set out the findings from the focus group discussions and interviews.

CHAPTER 2

CHAPTER 2

SUMMARY OF RESULTS FROM FOCUS GROUP DISCUSSIONS

I. *Future Development Trends/Business Opportunities in the IT/IS Industries*

The first detailed discussion topic was designed to elicit the views of the groups on future development trends in their respective industries.

A majority of the focus group participants expected that there would be a further integration of the Internet with other forms of media such as television, video and telephony.

The focus group participants from Web site design companies and Internet solution providers believed that the rapid increase in Internet literacy, which is already underway, would present numerous new business opportunities. They also forecast that Internet literate consumers would be introduced to a whole range of new value-added products and services through the development of e-commerce.

This view was further underlined by a focus group participant who felt the growing understanding of the Internet would contribute to growth in demand for a wide range of e-commerce products and services. This participant also felt that there would be considerable scope for regional expansion in the area of e-commerce.

Some focus group participants suggested that e-commerce products and services delivered through the Internet would become far more interactive in design.

In addition to the implications from growing popularity of the Internet and e-commerce, a majority of the focus group participants recognised that advancing technology would have a significant influence on the future development of their industries. With regard to the local film production industry, one participant commented that it could move forward by mastering high-tech production skills and gradually increasing the standard of its products by learning from successful overseas models. It was further predicted that, as standards and quality improve, the Hong Kong film industry would be able to successfully increase the distribution of its products globally.

II. *Views on the Need for a Cyberport*

Having discussed the future trends, the discussions then moved onto the possibility of a cyberport as part of an overall infrastructure which would enable the focus group participants to capture the existing and emerging opportunities in their industries.

AABC asked the groups whether they thought there was any need for a cyberport in Hong Kong and if there was a need, what the key benefits would be.

There was a general consensus amongst the focus group participants on the following points:

- In addition to a cyberport, there must be a series of properly aligned and focused initiatives to develop other elements in the broader economic and industry infrastructure (as summarised in Section VI of this chapter). The development of the total infrastructure would be essential to ensure the healthy development of the industries represented at the discussions.
- The development of the cyberport should not be driven by real estate considerations and should not be seen to be so driven.
- In the information age, a cyberport is not necessarily restricted to one physical location and the ultimate aim must be to develop the whole of Hong Kong into a 'virtual' cyberport.

Despite the above comments, a majority of the focus group participants recognised that certain benefits could arise from a physical cyberport. These benefits would principally be derived from the clustering effect of bringing industry participants together in one location, for example:

- physical networking opportunities, maintaining the 'human touch' in a business culture where relationships are reinforced by face-to-face contact;
- increased interaction with other industry participants offering the ability to capitalise on potential synergies; and
- increased proximity to upstream and downstream business partners.

Another perceived benefit of a physical cyberport would be its ability to act as a beacon or 'centre of excellence' to promote the high-tech image of Hong Kong.

III. *Assessment of the Proposed Cyberport's Features*

The third detailed discussion topic was designed to elicit the views of the focus group participants on the proposed cyberport's features and seek feedback in the form of suggested improvements. These proposed features include:

- Telecommunications and information infrastructure;
- Content centre and cyber library;
- Media laboratory;
- Demonstration facilities;
- Focused exhibition and trade show facilities;
- Interface with universities and research institutions;
- Commercialisation support services;
- Office support services and facilities; and
- Multimedia based community network.

We asked the focus group participants to indicate their degree of support for the various features by ranking them firstly on the basis of whether they were considered 'relevant' or 'irrelevant' and if they were considered 'relevant', then they were further classified according to the system set out below:

- **Critical** – a 'critical' feature would have a strong positive influence on the decision of the focus group participants to relocate to the proposed cyberport.
- **Desirable** – a 'desirable' feature would positively influence their overall decision making process but would not be enough, on its own, to motivate them to relocate.

Telecommunications and Information Infrastructure

All focus group participants agreed that these facilities were relevant and critical.

However, given the relatively good existing telecommunications network in Hong Kong, there was a general consensus that in order to attract tenants, the telecommunications and information infrastructure in the proposed cyberport would need to have certain unique benefit(s). It was suggested that the availability of direct, high quality communication links with the major cities of mainland China could be one of these benefits given the proximity of Hong Kong to China and the territory's traditional role as a gateway to the mainland.

Content Centre and Cyber Library

A majority of the focus group participants commented that whilst the proposed content centre and cyber library would be useful features they could not be classified as relevant, critical or desirable. Most of the focus group participants suggested that the Internet already provides many of the functions that could be offered by these facilities.

Media Laboratory

A view was expressed that the media laboratory could be a good idea as an educational tool. However, there were concerns that the actual commercial benefits were not so clear for the following reasons:

- Multimedia industry operatives generally prefer to install and use their own equipment due to security considerations. At the product development stage, security is extremely important and some focus group participants expressed concerns about carrying out such sensitive work in any type of shared facilities.
- High-end multimedia industry equipment is extremely project specific and expensive. Equipment that is essential to one company may be irrelevant to another. It would be extremely difficult to provide such equipment on a shared facility basis.
- The design of the equipment used for multimedia production is generally a very dynamic process. Each level of technology is rapidly superseded by new higher capacity, better quality and sometimes lower cost alternatives. This would mean that any equipment installed in the laboratory would rapidly become obsolete.

Some of the focus group participants suggested that the provision of financial support in the form of low interest loans to individual companies who would otherwise be unable to purchase such equipment themselves would be a preferable alternative.

The majority of focus group participants therefore viewed the media laboratory as an irrelevant feature.

Demonstration Facilities

Appropriate size and high quality demonstration facilities were considered as a relevant and desirable feature for companies engaged in film production and development of e-commerce products and services. This is because the complex nature of their products and services can be more easily demonstrated in a large, conveniently located, purpose built demonstration facility.

On the other hand, such facilities were considered to be irrelevant for those companies involved in Web site and Internet solution design, as their products and services can be easily demonstrated through the Internet.

Some of the focus group participants suggested that care needs to be taken not to duplicate functions that can be achieved through accessing the Internet, as well as other existing facilities and services. There was a further suggestion that the structure of any such facilities be carefully considered to ensure space is always available when needed.

Focused Exhibition and Trade Show Facilities

Most of the focus group participants agreed that focused exhibition and tradeshow facilities would not be a relevant feature.

Some of them pointed out that the existing Hong Kong Convention and Exhibition Centre (hereinafter "HKCEC") is a first class venue for exhibition and duplication of its facilities would probably be unnecessary.

One of the focus group participants did mention that if these facilities in the proposed cyberport could be structured as a lower cost alternative to HKCEC, this would make them attractive.

Interface with Universities and Research Institutions

Most of the focus group participants agreed that the proposed cyberport would benefit from a dedicated interface with universities and research institutions and they considered such interface as a relevant and desirable feature.

However, a majority of the focus group participants clearly viewed the research currently being funded and conducted in the Hong Kong universities as irrelevant to the future commercial needs of their industries. Some of them pointed out that in overseas research environments (such as the various research institutions in the Silicon Valley area of the United States), projects are frequently funded with private money from commercial entities which insures a commercial focus.

A majority of the focus group participants stressed that the interface would be desirable only if the academic system and other Government-funded research initiatives (e.g. establishment of the Applied Science and Technology Research Institute) could align their offerings with the needs of the IT/IS industries.

Commercialisation Support Services

A majority of the focus group participants felt that such services would be relevant and desirable, particularly for small and medium-sized enterprises (hereinafter "SMEs") who frequently find it hard to fund the process of product/service commercialisation.

Most of the focus group participants agreed that these services would become critical if the following improvements could be achieved:

- The services should be focused on assisting tenants in obtaining access to funding.
- The services should include practical assistance and advice on how to commercialise, promote and market the tenants' products and services.

With regard to funding, most of the focus group participants commented that there was a lack of venture capital and a lack of experience among industry participants in courting venture capital. These would be key areas where commercialisation support services could provide assistance.

It was also suggested that these services should be provided by private sector companies with the skills and experience that are immediately relevant to the IT/IS industries.

Moreover, some of the focus group participants recognised that if the provision of such services is to be universal, they probably cannot be provided on a commercially viable basis. Therefore, the companies providing such services would need to be subsidised in some way.

Some focus group participants further stressed that in order to ensure efficiency, the remuneration of the service providers should be directly linked to their degree of success in providing assistance to tenants.

Some focus group participants also commented that the Hong Kong Industrial Technology Centre Corporation (hereinafter "HKITCC") already offers similair services and facilities in this field as part of its incubation program and care should be taken to avoid unnecessary duplication.

Office Support Services and Facilities

A majority of the focus group participants felt that office support services and facilities would be unlikely to really affect the overall desirability of the proposed cyberport. These services and facilities were viewed by some of the focus group participants as a desirable feature to small, recently started enterprises only.

Multimedia Based Community Network

The community network was viewed as a relevant and desirable feature. Some focus group participants commented that this feature would be more desirable if it could be extended to cover the whole of Hong Kong.

The responses of the focus group participants on this topic are summarised as follows:

Features	Degree of Support by Focus Groups	Suggested Improvements
❑ Telecommunications and information infrastructure	▪ Critical	▪ Build in certain unique benefit(s), e.g. direct, high quality communication links with China
❑ Content centre and cyber library	▪ Irrelevant	-
❑ Media laboratory	▪ Irrelevant	▪ Provide financial support instead of shared facilities
❑ Demonstration facilities	▪ Desirable for film production and e-commerce development companies ▪ Irrelevant for Web site and Internet solution design companies	▪ Plan and structure facilities carefully to ensure relevance and adequate availability
❑ Focused exhibition and trade show facilities	▪ Irrelevant	▪ Offer as a lower cost alternative to HKCEC
❑ Interface with universities and research institutions	▪ Desirable subject to the research scope of the universities and research institutions	▪ Align the research scope with the commercial needs of the IT/IS industries ▪ Align the interface with other Government-funded research initiatives in the IT/IS industries
❑ Commercialisation support services	▪ Desirable re existing proposal ▪ Critical re suggested improvements	▪ Assist in fund raising (e.g. access to venture capital) and advise on the process of marketing products/services ▪ Ensure experienced service providers ▪ Link remuneration of service providers to their degree of success ▪ Avoid duplication with the incubation program of HKITCC
❑ Office support services and facilities	▪ Desirable for small/ recent start-ups	-
❑ Multimedia based community network	▪ Desirable	▪ Extend the concept to cover the whole of Hong Kong

IV. Assessment of Other Characteristics of the Proposed Cyberport

In this section of the discussions, the focus group participants were invited to give their opinions and feedback on some other characteristics of the proposed cyberport. These characteristics included:

- Hotels, serviced apartments, entertainment and retail facilities;
- Residential developments;
- Accessibility;
- Management;
- Tenants;
- Operating costs for tenants; and
- Development timeline.

The focus group participants were asked to decide whether the characteristics were '**important**' or '**not important**' to the overall attractiveness of the proposed cyberport:

- **Important** – an 'important' characteristic would positively influence their decision to relocate to the cyberport.
- **Not important** – characteristics rated 'not important' would be unlikely to motivate the focus group participants to relocate to the cyberport.

We also asked the focus group participants to provide feedback and suggestions with regard to improvements that would make the proposed cyberport more attractive to them.

Hotels, Serviced Apartments, Entertainment and Retail Facilities

There was a general consensus amongst both focus groups that whilst hotels and serviced apartments might appeal to some tenants, the existing stock of high quality accommodation in Hong Kong is adequate and they did not see these facilities as important. It was generally agreed that these facilities would only become important if the proposed cyberport was to be set up at a remote location.

Whilst entertainment and retail facilities were also viewed by the majority of focus group participants as not important, one participant suggested that these facilities might be useful in promoting the image of the proposed cyberport and attracting the interest of the general public.

Residential Developments

Again there was a general consensus that residential developments was not an important characteristic for a cyberport. As with hotel accommodation, most focus group participants only saw residential developments as important if the proposed cyberport was to be set up at a remote location.

In fact most focus group participants agreed that their selection of residential accommodation would not be heavily influenced by its proximity to their work place. Some focus group participants also suggested that encouraging people to both live and work in the cyberport might actually limit creativity.

Most of the focus group participants felt that expatriates might benefit more from on-site accommodation than locals. One of them identified that the groups who might benefit most from on-site accommodation would be those involved in development teams who frequently work long and unsociable hours and service staff who are on call 24 hours a day.

Some focus group participants suggested that if residential developments were to be included in the proposed cyberport, the following issues would be important:

- Location – the location would need to have good links to existing public transport infrastructure.
- Pricing – the pricing would have to be extremely competitive to draw people away from their existing accommodation.
- Allocation – the opportunity to rent accommodation in the cyberport would have to be allocated on an equitable basis.
- Tenancy Agreements – the terms for renewing, extending or terminating tenancy agreements need to include a high degree of flexibility, but still offer security of tenure for original tenants if the cyberport is a success.
- Environment - the general design and quality of the development would have to be high enough to provide a comfortable living environment.

Accessibility

Accessibility was rated by all focus group participants as an important factor in the overall design of the proposed cyberport.

A majority of the focus group participants favoured locating the cyberport in or close to the central business district (hereinafter "the CBD") as this would mean the cyberport would:

- have good access to non high-tech multinational clients and customers;
- have good transportation links which would be a key factor in attracting local human resources (some focus group participants stressed that the access to the Mass Transit Railway system was a crucial element); and
- be a visible and constant reminder of Hong Kong's status as a centre of innovation and technology.

One of the focus group participants suggested that the North Wanchai Reclamation Site might be a desirable location for the proposed cyberport.

Management

Some focus group participants attached a high degree of importance to the management of the cyberport if this were to include public relations. In this case they suggested that management's role would include attracting tenants, workers, venture capitalists and other investors to the proposed cyberport.

Some of the other focus group participants also considered this characteristic to be important if the management team were to be made responsible for the following areas:

- Determining the overall strategic direction of the proposed cyberport;
- Formulating and implementing the promotional strategy for the proposed cyberport;
- Ensuring the correct mix and efficient development of the necessary shared facilities and services; and
- Assisting tenants in their search for funding.

Some of the focus group participants further suggested that the performance measures for the management team should be tied directly to its roles and responsibilities as suggested above.

Some focus group participants also stressed the need for adequate tenant representation on any supervisory board that might be set up to monitor the management team. They further emphasised that keeping administrative procedures to an absolute minimum would be crucial to the success of the management team.

Tenants

With regard to securing the right mix of tenants for the cyberport, most of the focus group participants agreed that the existence of leading MNCs as anchor tenants would be important. They commented that to underline the status of the proposed cyberport as "the place to locate" for their industries, it would be important to attract several major MNCs such as 'IBM, Compaq or AT&T'[1] as anchor tenants. These tenants would add credibility to the proposed cyberport and act as magnets to draw in smaller local tenants who could then benefit from synergies arising from the clustering process.

However, they felt it was important that large MNCs should not be allowed to dominate the proposed cyberport.

Some of the focus group participants commented that the size of the companies who might become tenants was less important than the industry mix and they stressed the importance of attracting both upstream and downstream business partners to ensure that the benefits of clustering could be realised.

Some focus group participants raised three other areas of concern on the issue of tenants:

- How to attract large MNCs as anchor tenants?
- How to attract a critical mass of tenants in a short period of time to ensure delivery of the benefits of clustering as early as possible?
- How to make the tenant selection process fair and transparent if subsidies were to be offered on rents or other operating costs?

[1] These companies were actually named by the focus group participants.

Operating Costs for Tenants

All of the focus group participants stressed that the level of operating costs for tenants would be one of the overriding factors affecting their decisions to relocate to the proposed cyberport. There was also a strong feeling that operating costs in the proposed cyberport would have to be lower than prevailing market rates as an incentive for relocation.

To achieve this, some form of Government financial support would be necessary. It was recognised that direct subsidies are a sensitive political issue and there would need to be a pressing rationale for granting them. For this reason, a fair and transparent allocation system would need to be developed.

Development Timeline

The overall development timeline was viewed as important by most focus group participants.

Some focus group participants stressed that no time should be lost in implementing the project as Hong Kong needs to 'catch up' with other countries in their own and associated industries.

On the other hand, one focus group participant felt that the proposed development timetable might be too aggressive and should be paced more gradually by leveraging on existing facilities and resources.

The responses of the focus group participants on this topic are summarised below:

Characteristics	Degree of Importance Considered by Focus Groups	Suggested Improvements
❑ Hotels, serviced apartments, entertainment and retail facilities	▪ Not important	-
❑ Residential developments	▪ Not important	-
❑ Accessibility	▪ Important	▪ Locate in/close to CBD
❑ Management	▪ Important	▪ Make the management team responsible for overall strategy, public relations and promotion of the cyberport, availability of appropriate shared facilities and services as well as assistance to tenants in their search for funding ▪ Tie performance measures for the management team to its roles and responsibilities ▪ Have adequate tenant representation on the supervisory board ▪ Keep administrative procedures to an absolute minimum
❑ Tenants	▪ Important	▪ Have large MNCs as anchor tenants ▪ Prevent anchor tenants from dominating the cyberport ▪ Have a mix of upstream and downstream business partners ▪ Ensure a fair and transparent process for selecting tenants
❑ Operating costs for tenants	▪ Important	▪ Need to be lower than prevailing market rates as an incentive for relocation ▪ Ensure a fair and transparent system for allocating subsidies on operating costs
❑ Development timeline	▪ Important	▪ Implement sooner or more gradually by leveraging on existing facilities and resources

V. *Suggested Improvements to the Proposed Cyberport*

In this section the focus groups were encouraged to suggest any other areas in which the proposed cyberport could be improved.

Some focus group participants stressed that the environment within the cyberport must be conducive to creativity and also attractive enough to draw in human resources skilled in the creative process from outside Hong Kong. They felt that the development of a creative culture (as opposed to hard assets in real estate) would be crucial to the success of the cyberport.

Some of the focus group participants also commented that the development of the proposed cyberport should be clearly aligned with the Government's overall information technology strategy.

Some suggestions with regard to the development and promotion strategy for the proposed cyberport were also made. They included:

- The proposal should include a clear strategy for the overall marketing and promotion of the cyberport.
- The proposed cyberport should be planned with room for further expansion should it prove to be successful.
- The proposal should also be expanded to include the on-going strategy for the development of the cyberport beyond the physical infrastructure.

VI. *Economic and Industry Infrastructure*

There was a general consensus amongst the focus group participants that in addition to a cyberport, there must be a series of properly aligned and focused initiatives to develop other elements in the broader economic and industry infrastructure. The development of the total infrastructure would be essential to enhance the chance of success of both the cyberport and the IT/IS industries.

Their suggestions in this regard can be summarised under the following headings:

- Market
- Government support
- Supply of funding
- Supply of human resources – "talents"

Market

There was a strong consensus among both focus groups that the general awareness, understanding and utilisation of the Internet is currently low in Hong Kong.

To address this issue, some of the focus group participants suggested that the Government should lead by example by increasing its use of the Internet, e.g. expanding its program of releasing and disseminating information through the Internet and monitoring public opinion through discussion forums and bulletin boards on the Web.

On the other hand, a majority of the focus group participants stressed that fast and inexpensive access to the telecommunications infrastructure would benefit the development of their industries and the whole Hong Kong economy and that such access should not just be restricted to the cyberport alone.

One of the focus group participants further suggested that speeding up the liberalisation of fixed line telecommunications might help to drive down tariffs by increasing competition. This in turn might stimulate more activities in this area.

Finally, one of the focus group participants suggested that Government endorsement of locally developed IT/IS products and services would definitely increase their credibility in both the local and international markets.

Government Support

On the issue of government support, a majority of the focus group participants suggested that the Government should maintain an on-going dialogue with the IT/IS industry participants.

A majority of the focus group participants also agreed that further efforts should be made to align, integrate, prioritise and co-ordinate different Government initiatives to enhance and promote Hong Kong as an innovation and technology centre.

One of the focus group participants commented that the Government should try to demonstrate the concrete benefits of some of its IT/IS industry initiatives so as to avoid the perception that there is 'too much talk and not enough action'.

Some focus group participants voiced concerns that not enough financial commitment and support are made available to the IT/IS industries, especially in the case of start-ups and SMEs. They further stressed that a simple and fast application and approval process for financial support would make such support more attractive.

However, in view of the political sensitivity of granting financial support to particular industrial sectors, one of the focus group participants suggested that the Government, rather than providing direct financial support, should develop various incentives that would encourage private sector funding institutions (e.g. venture capital companies) to provide capital.

Finally, some of the focus group participants suggested that there is a need for people with industry specific skills and experience to be involved in the implementation of Government initiatives and provision of financial support.

Supply of Funding

The supply of funding is an issue that surfaced in all focus group discussions.

In general it would be hard to overstate the emphasis put on venture capital by the focus group participants. There was a general consensus that venture capital is a vital ingredient in the overall economic and industry infrastructure that would need to be in place to ensure the successful future development of the IT/IS industries.

There was widespread concern that existing venture capitalists and more traditional funding institutions in Hong Kong are failing the IT/IS industries as they lack the industry specific knowledge necessary to accurately assess the potential in this field. Funding institutions appear to only feel comfortable providing tangible asset-based lending and are making little progress in identifying and understanding the value of intellectual assets that are the key drivers in the IT/IS industries.

Some of the focus group participants also recognised that the relatively small size of the Hong Kong market for IT/IS products and services makes it less attractive to international venture capitalists who have focused on larger and more profitable markets (particularly the United States).

Some of the focus group participants suggested that funding of IT/IS projects could be made more attractive if there were more avenues for exit or if the Government were to provide incentives such as tax breaks on IT/IS related lending.

Supply of Human Resources – "Talents"

It would also be hard to overstate the importance of the human resources issue to all focus group participants. This issue was raised again and again throughout the focus group discussions.

There was widespread concern amongst the focus group participants that the local education system is not providing graduates with the skills necessary to fill the technical roles in their industries. There was also a perception amongst some focus group participants that year on year, the overall proficiency of the graduates available is actually declining.

To counter this problem, some of the focus group participants suggested that the treatment of information technology in the educational system needs to be overhauled. They stressed the vital importance of using real life case studies in the education process to ensure that graduates acquire more practical skills. More interaction between the education system and the business community is also viewed as essential.

It was also suggested that the education system needs to produce students who have a clear sense of responsibility and are willing to show genuine commitment to their own career development. Training in languages also needs to be enhanced.

Some focus group participants felt that currently Hong Kong is not developing an atmosphere that is conducive to research and development activities for the IT/IS industries. They also stated that traditionally Hong Kong has not focused on the innovation process and therefore it would probably need some time before the fruits of 'homegrown' research and development activities can be harvested.

CHAPTER 3

CHAPTER 3

SUMMARY OF RESULTS FROM INTERVIEWS

I. *Future Development Trends/Business Opportunities in the IT/IS Industries*

The first detailed discussion topic was designed to elicit the views of the interview participants on future development trends in their respective industries.

Some of the interview participants expressed the view that improvements in technology would provide a more significant stimulus for the IT/IS industries. The Hong Kong film industry was quoted as an example. Some interview participants felt that it would benefit from new developments in special effects technology and higher quality production processes.

A view was also expressed that in the future, more products and services in the IT/IS industries would be provided through communication links rather than physical contact. This would mean that access to high quality communication infrastructure could become more important than physical location.

II. *Views on the Need for a Cyberport*

Having discussed the future trends, the discussions then moved onto the possibility of a cyberport as part of an overall infrastructure which would enable the interview participants to capture the existing and emerging opportunities in their industries.

AABC asked the interview participants whether they thought there was any need for a cyberport in Hong Kong and if there was a need, what the key benefits would be.

A majority of the interview participants expressed the view that in addition to a cyberport, there must be a series of properly aligned and focused initiatives to develop other elements in the broader economic and industry infrastructure (as summarised in Section VI of this chapter). The development of the total infrastructure would be essential to ensure the healthy development of the IT/IS industries.

Some interview participants felt that the development of the cyberport should not be driven by real estate considerations and should not be seen to be so driven. A suggestion to offset this 'real estate development perception' was to create an advisory council of internationally recognised high-tech industry experts to advise and oversee the development of the project.

Some interview participants also felt that in the information age, a cyberport is not necessarily restricted to one physical location and the ultimate aim must be to develop the whole of Hong Kong into a 'virtual' cyberport.

Despite the above comments, some interview participants recognised that certain benefits could arise from a physical cyberport. These benefits would principally be derived from the clustering effect of bringing industry participants together in one location.

Some interview participants headquartered outside of the region felt that the cyberport would represent an attractive possible location for establishing or relocating their presence in Asia. They were attracted by the potential of the Asian market and required a physical presence there to understand local developments and adapt their products to market needs.

Finally, some interview participants felt that the cyberport could act as a beacon or 'centre of excellence' to promote the high-tech image of Hong Kong and attract both funding and high quality human resources.

III. *Assessment of the Proposed Cyberport's Features*

The third detailed discussion topic was designed to elicit the views of the interview participants on the proposed cyberport's features.

As with the focus groups, we asked the interview participants to indicate their degree of support for the various features by ranking them either as '**relevant**' or '**irrelevant**' and then further classifying the relevant features as either '**critical**' or '**desirable**' (see page 8 for more details of the classification system).

We also asked the interview participants to provide feedback and suggestions with regard to improvements that would make the cyberport more attractive to them.

Telecommunications and Information Infrastructure

All the interview participants agreed that these facilities were both relevant and critical.

A majority of the interview participants suggested that, given the proximity of Hong Kong to China and the territory's traditional role as a gateway to the mainland, the availability of direct, high quality communication links with the major cities of mainland China would be a very useful additional feature.

Meanwhile, some interview participants stressed the importance of competitive pricing for the telecommunications and information infrastructure and mentioned that they would benchmark costs against both regional and global alternatives.

One of the interview participants also expressed concern about the ease of access to these facilities.

Content Centre and Cyber Library

The views of the interview participants on the content centre and cyber library were almost evenly balanced between positive and negative.

Most of those interview participants who viewed these facilities as relevant and desirable were primarily interested in using them as shared document repository and management facilities. They suggested that MNCs at the start-up stage and/or with only a small presence in the region would benefit from such shared facilities. They pointed out that these facilities might also be useful to SMEs who would not normally be able to invest in this type of architecture.

In addition, it was suggested that the Government could prove its high-tech credentials by taking the lead in using these facilities to disseminate information.

There was a further suggestion that these facilities could be made more desirable by linking them directly to the multimedia based community network.

One of the interview participants expressed concerns on the quality of the content, the ease of access as well as the cost of such services. Doubts were also raised about the value of information disseminated through such facilities if it were made available at less than commercial rates.

Some of the interview participants viewed these facilities as irrelevant and pointed out that the Internet already provides many of the functions that could be offered by them.

Finally, a view was expressed that some companies already have these kinds of facilities in-house and therefore could see little benefit in additional external facilities.

Media Laboratory

A majority of the interview participants viewed this feature as irrelevant. Some of them felt the facility would duplicate infrastructure that they already have in-house, whilst others felt a media laboratory would not be relevant to their particular industries.

However, one of the interview participants suggested that this facility could be relevant for hardware design companies if it were developed together with and linked to a 'micro-manufacturing prototyping laboratory'. This laboratory would include high-end equipment for producing and testing hardware prototypes. SMEs would be able to benefit from the provision of such equipment which is normally beyond their reach.

Demonstration Facilities

Opinion on the relevance of demonstration facilities was fairly evenly divided between positive and negative. Just over half the interview participants viewed such facilities as relevant and desirable, with the remainder viewing them as irrelevant.

High quality demonstration facilities were considered as a relevant and desirable feature for companies who target their products and services at the mass market. Interview participants from these kinds of companies felt that they could use these facilities to test acceptance of newly developed products and services and also for promotional activities.

On the positive side one of the interview participants also pointed out that such facilities would provide a cost benefit as there would be no need to purchase equipment and set aside space in-house for demonstration purposes.

A view was expressed that the demonstration facilities would need to be of excellent quality to showcase 'state-of-the-art' technologies and concepts (such as digital medication) and further support the image of the cyberport as a beacon/centre of excellence.

On the negative side some interview participants viewed these facilities as irrelevant. It was pointed out that the Internet was already used to demonstrate products or services or that similair facilities might already exist in-house.

One of the interview participants pointed out that the demonstration facilities would be more relevant to SMEs than to established large companies which usually maintain such facilities in-house.

With regard to suggested improvements to these facilities, one of the interview participants suggested that security systems for both the physical and electronic environment would have to be very carefully designed and implemented. Another participant stressed the importance of linking these facilities to the content centre and cyber library.

Finally, one interview participant expressed concern over how the demonstration facilities would be promoted to ensure good attendance at 'open' events.

Focused Exhibition and Trade Show Facilities

In general the views expressed on focused exhibition and trade show facilities were similair to those expressed with regard to demonstration facilities.

Once again a small majority viewed such facilities as both relevant and desirable whilst the remainder viewed them as irrelevant.

Those interview participants who viewed such facilities as relevant stressed again the following advantages:

- Provide an opportunity for testing product/service acceptance and for promotional activities;
- Provide a cost benefit as a result of shared facilities; and
- Enhance the high-tech image and status of the cyberport as a whole through the exhibition of 'state-of-the-art' technologies and concepts.

Those who viewed such facilities as irrelevant voiced the same concerns that they had raised with regard to demonstration facilities.

Finally, a view was also expressed that the facilities should not overlap/ duplicate those already offered by HKCEC.

Interface with Universities and Research Institutions

A majority of the interview participants viewed the dedicated interface with universities and research institutions as relevant, but there were differences of opinion on the relative importance of such an interface with some viewing it as critical whilst others only considered it to be a desirable feature.

Some of the interview participants who viewed this facility as relevant felt that it would be an important channel through which cyberport tenants could leverage on external research and development resources.

A view was also expressed that the interface should be used to facilitate the process of developing local expertise and attracting quality human resources to the cyberport.

Not all interview participants viewed the interface as a 'one way street'. One interview participant welcomed the idea as it would enable his company to fulfil its goals with regard to supporting education.

Those who considered the interface as irrelevant were companies who rely primarily on in-house research and development resources and do not require a large amount of outside technical assistance.

This topic provoked a lot of suggested improvements from the interview participants and these can be summarised as follows:

- The interface should be expanded so that it would include overseas educational and research institutions as well as local ones.

- The interface should be seen as a tool for not only developing local expertise but also attracting international high quality human resources who might not otherwise have considered pursuing their careers in Hong Kong. This could be achieved by setting up a graduate school or a series of internship programmes in the cyberport.

  - To attract international high quality human resources to study and work in Hong Kong, the on-site graduate school and internship programmes would need to display the following characteristics:

    - Merit-based selection of candidates;
    - Financial support in the form of scholarships, grants or low interest loans for both local and overseas students;
    - Affordable student accommodation in an attractive environment; and
    - Flexible immigration policies to enable overseas students to work both during and after their studies in Hong Kong.

  - It was suggested that the cost of any financial support given to overseas students would easily be recouped from their contribution to the economy after their graduation or through the results of their research projects.

  - It was further suggested that international input in the form of both course content and student/lecturer mix would enable the IT/IS industries in Hong Kong to leverage on overseas experience. An internationally focused interface would also encourage tenants, academics and interns to build networks that might later be of direct assistance to their work.

- Some interview participants felt that the interface would represent an ideal channel for a series of IT/IS focused seminars for both academics and industry participants. These seminars could foster the development of networks among the participants, bring them up to date on recent developments in the IT/IS industries and further promote the status of the cyberport as a centre of excellence.

- It was also suggested that the educational and research institutions connected to the interface could set up and run a research and development 'helpdesk' for tenants of the cyberport.

- Finally, one interview participant expressed interest in providing his company's products and services free to the interface and also in sponsoring educational programmes conducted in the cyberport.

Commercialisation Support Services

A majority of the interview participants felt that such services would be relevant and desirable, particularly for SMEs who frequently find it hard to fund the process of product/service commercialisation.

Some of the interview participants felt that MNCs who are in the start up phase in Asia and are still operating on a small scale would also benefit from these services.

One interview participant suggested that the concept could be improved by establishment of 'angel' investors networks. 'Angel' investors are usually wealthy private individuals who have had hands-on industry experience. Compared to venture capitalists and traditional funding institutions, they are less risk averted and are more prepared to take on mentoring responsibilities for start-up companies. They could provide tenants with both capital and expertise which would be particularly useful for SMEs.

The interview participants who viewed these services as irrelevant explained that they already have in-house mechanisms for commercialisation. A view was also expressed that the provision of such services should be left to the market.

Office Support Services and Facilities

A majority of the interview participants felt that this feature would be relevant and desirable only for SMEs and MNCs who would plan to have a relatively small 'start-up' presence in the cyberport.

Some interview participants viewed these facilities and services as irrelevant as they already maintain similair facilities in-house.

Multimedia Based Community Network

The community network was viewed as a relevant and desirable feature by all interview participants.

Some of them suggested that the network should be extended to cover the whole of Hong Kong in line with the concept of a larger, all-encompassing 'virtual' cyberport.

The responses of the interview participants on this topic can be summarised as follows:

Features	Degree of Support by Interview participants	Suggested Improvements
❑ Telecommunications and information infrastructure	▪ Critical	▪ Set up direct, high quality communication links with major cities in China ▪ Offer pricing that is competitive when compared with regional and global benchmarks
❑ Content centre and cyber library	▪ Desirable for companies which require shared document repository and management services	▪ Integrate with the multimedia based community network
❑ Media laboratory	▪ Irrelevant for the majority ▪ Probably relevant for SMEs engaged in hardware design	▪ Set up a 'micro-manufacturing prototyping laboratory' with links to the media laboratory
❑ Demonstration facilities	▪ Desirable for companies which prefer physical demonstration targeting the mass market ▪ Irrelevant for companies which prefer virtual demonstration through the Internet and/or have such facilities in-house	▪ Provide high quality facilities that can showcase 'state-of-the-art' technologies and concepts ▪ Provide reliable security systems for both the physical and electronic environment ▪ Establish links to the content centre and cyber library
❑ Focused exhibition and trade show facilities	▪ As above for demonstration facilities	▪ As above for demonstration facilities

Features	Degree of Support by Interview participants	Suggested Improvements
❑ Interface with universities and research institutions	▪ Relevant for the majority with almost equal split between 'critical' and 'desirable'	▪ Expand to connect with world-wide universities and institutions ▪ Set up an on-site graduate school and internship programmes with enrolment, based on merits, open to both local and overseas students ▪ Provide students with financial support and affordable accommodation ▪ Develop some flexible immigration policies for overseas students ▪ Organise on-site IT/IS focused seminars ▪ Set up a helpdesk to provide R&D advisory services
❑ Commercialisation support services	▪ Desirable for both MNCs with small presence and SMEs	▪ Build up 'angel' investors networks
❑ Office support services and facilities	▪ As above for commercialisation support services	
❑ Multimedia based community network	▪ Desirable	▪ Extend the network to cover the whole of Hong Kong

IV. *Assessment of Other Characteristics of the Proposed Cyberport*

In this section of the discussions, the interview participants were invited to give their opinions and feedback on some other characteristics of the proposed cyberport.

As with the focus groups, we asked the interview participants to decide whether the various characteristics were '**important**' or '**not important**' to the overall attractiveness of the proposed cyberport (see page 14 for a more detailed explanation of these terms).

We also asked the interview participants to provide feedback and suggestions with regard to improvements that would make the cyberport more attractive to them.

Hotels, Serviced Apartments, Entertainment and Retail Facilities

There was a general consensus amongst the interview participants that the provision of hotel services was not important since Hong Kong already has a good supply of hotel rooms at almost every grade.

However, the views on serviced apartments, entertainment and retail facilities were different depending on whether the interview participants were familiar with the Hong Kong environment.

A majority of the interview participants who are resident in or familiar with Hong Kong felt that whilst serviced apartments, entertainment and retail facilities might appeal to some tenants, the compact nature of Hong Kong ensures that these facilities are always within easy reach and therefore would not be important to the overall success of the cyberport.

One of these interview participants suggested that the focus of the cyberport development should be centred on creating a high-tech working and educational environment as opposed to another retail/entertainment/residential development.

Those overseas interview participants who are less familiar with Hong Kong expressed some concerns about the availability of quality housing and supporting facilities. They suggested that it would be difficult to lure expatriates to the cyberport without the promise of at least serviced apartments and basic retail facilities.

One of the overseas interview participants also suggested that the entertainment facilities might be useful in promoting the image of the proposed cyberport and attracting the interest of the general public to visit the cyberport.

Residential Developments

As with the serviced apartments, those interview participants who are very familiar with Hong Kong viewed the residential part of the development as unnecessary and not important, whereas the overseas interview participants who are less familiar with the local residential environment viewed it as more important.

Those who viewed the residential part of the development as important stressed the need for high quality development based on low-rise designs to ensure a pleasant living environment. A view was further expressed that a 'clean air' environment would make the cyberport more attractive to potential residential tenants.

Accessibility

Most of the interview participants rated accessibility as an important factor in the overall design of the proposed cyberport. However, a view was expressed that physical accessibility would become less relevant if the cyberport were to gradually develop as a virtual rather than a physical infrastructure.

The local and overseas interview participants expressed some different concerns with regard to the accessibility of the cyberport.

Some of the local interview participants said that the cyberport should be located in the CBD (e.g. Central or Wanchai) so as to ensure tenants could be close to their customers and upstream and downstream business partners. However, one participant agreed that it would also be acceptable to locate the cyberport in a commercial district outside the CBD if the associated rental and operating costs could be lowered.

All of the overseas interview participants stressed the importance of locating the cyberport close to the airport or having convenient links between the cyberport and the airport. One of these participants further suggested that helicopter transfer facilities between the two locations should also be available.

Finally, some of the local and overseas interview participants stressed that the cyberport should have good links to the public transport system.

Management

All interview participants stressed that good management would be important to the overall success of the cyberport.

A view was expressed that it would be crucial for the management to:

- display a clear understanding of the needs of tenants;
- be firmly and adequately controlled and monitored; and
- deliver its services efficiently and at a reasonable cost.

Another view was expressed suggesting the possibility of out-sourcing some management functions to ensure efficiency. However, it was pointed out that for out-sourcing to work, the service provider must have a good understanding of the needs of tenants.

It was suggested that establishment of an international advisory council would be important in the first couple of years. The advisory council could dispel the image of a real estate driven project and help promote participation in the cyberport.

Tenants

Most of the interview participants viewed the nature and mix of tenants as an important characteristic.

Almost half of the interview participants agreed that securing the agreement of leading MNCs to act as anchor tenants would be important to the overall success of the project.

However, some interview participants stressed that although MNCs would be important, they should not be allowed to dominate the cyberport. These interview participants suggested that no single tenant should occupy more than 25% to 30% of the available space.

A view was also expressed that whilst initially MNCs might be necessary to the overall success of the project, their presence should be gradually reduced to allow a higher proportion of SMEs to benefit from the cyberport.

One interview participant felt that it might be difficult to attract MNCs and suggested that the establishment of communication links with major cities in China could make the cyberport more attractive to them.

Approximately half of the interview participants were concerned about the industry mix of tenants within the cyberport. They viewed this as important because without the right mix, it would be difficult for them to derive the benefits from clustering that they viewed as central to the cyberport concept.

Some interview participants stressed that the tenant mix should include representative companies who use high-tech to serve (and hence facilitate the future development of) those industries where Hong Kong already has a competitive edge.

Some interview participants suggested that the tenant mix should not be limited to too narrow a range of industries and activities. They also suggested that the future growth potentia of industries should be considered in the determination of industry mix of cyberport tenants.

In view of Hong Kong's potential to be developed into a hub for printing and publication distribution in the region, one of the interview participants suggested that digital publishing and printing companies could be considered to be one of the appropriate categories of tenants.

Finally, some interview participants felt that the suitability of potential tenants should also be assessed based on the amount of research and development activities they are conducting so as to ensure that they could truly contribute to the cyberport.

Operating Costs for Tenants

All of the interview participants considered this factor to be important in their overall decision making process.

Some interview participants pointed out that a competitive cost structure would act as a very real incentive to locate in the proposed cyberport.

Some interview participants suggested that operating costs in the proposed cyberport would have to be lower than prevailing market rates to attract tenants. Some of the other interview participants stressed that they would benchmark costs not only locally but also against regional and international alternatives.

In this regard, some interview participants suggested that the overall competitiveness of Hong Kong might be enhanced if the cyberport were to offer cost incentives to lure MNCs who are considering to establish a presence in Asia or who are currently located in other Asian countries.

Finally, concerns were expressed on the nature of any subsidy and the specific terms, particularly the overall period, under which subsidies might be provided.

Development Timeline

The overall development timeline was viewed as important by almost all of the interview participants.

Most of the local interview participants stressed that no time should be lost in implementing the project. On the other hand, the overseas interview participants felt that the current development timeline seemed reasonable as they would need time to either establish their presence in Asia or plan a relocation of their Asian operations to the proposed cyberport.

The responses of the interview participants on this topic are summarised below:

Characteristics	Degree of Importance Considered by Interview participants	Suggested Improvements
❑ Hotels, serviced apartments, entertainment and retail facilities	▪ Hotels – not important ▪ Serviced apartments and entertainment – important to overseas participants only ▪ Retail – important to overseas participants as part of the overall infrastructure	-
❑ Residential developments	▪ Important to overseas participants only	▪ Provide high quality, low-rise housing ▪ Create a clean air environment
❑ Accessibility	▪ Important	▪ Locate in/close to CBD ▪ Locate close to the airport or have convenient links to it ▪ Have good links to the public transport system
❑ Management	▪ Important	▪ Display a clear understanding of the needs of tenants ▪ Be properly monitored ▪ Deliver services efficiently and at a reasonable cost (e.g. by out-sourcing some functions)

Characteristics	Degree of Importance Considered by Interview participants	Suggested Improvements
❑ Tenants	▪ Important	▪ Have large MNCs as anchor tenants ▪ Prevent anchor tenants from dominating the cyberport ▪ Reduce the proportion of MNCs over time ▪ Secure high-tech companies which will facilitate the future development of those industries in which Hong Kong already has a competitive edge ▪ Consider the future growth potential of industries when determining the tenant mix ▪ Consider digital printing and publishing companies as an appropriate category of tenants ▪ Consider the amount of R&D activities as one of the criteria in the selection of tenants
❑ Operating costs for tenants	▪ Important	▪ Need to be lower than prevailing market rates and competitive both regionally and globally ▪ Offer cost incentives to MNCs to move into the cyberport
❑ Development timeline	▪ Important	▪ Implement sooner if possible, or otherwise, based on existing planned timeframe

V. *Suggested Improvements to the Proposed Cyberport*

In this section the interview participants were encouraged to suggest any other areas in which the proposed cyberport could be improved.

A large majority of the interview participants expressed the view that some kind of indication from the PRC Government that they approve of the project and intend to support it would make it much more attractive to potential tenants. Such support might come in the form of allowing access (including market access and communication links) to key cities in the mainland.

It was also pointed out that a strong promotional strategy and a clear implementation plan would need to be put in place.

VI. *Economic and Industry Infrastructure*

There was a general consensus amongst the interview participants that in addition to a cyberport, there must be a series of properly aligned and focused initiatives to develop other elements in the broader economic and industry infrastructure. The development of the total infrastructure would be essential to enhance the prospects for both the cyberport and the IT/IS industries.

Their suggestions in this regard can be summarised under the following headings:

- Market
- Government support
- Supply of funding
- Supply of human resources – "talents"

Market

A view was expressed that the protection of intellectual property is not widely enforced or respected in Hong Kong and this leads to the following problems:

- Widespread piracy effectively squeezes the margins of IT/IS industry participants.
- Local research and development activities are limited as companies find it hard to harvest the value of the products they develop.

Therefore the interview participant who raised this issue would like to see a more rigid system of protection and enforcement for intellectual property rights.

Another view that was expressed concerned the pace of liberalisation in the fixed line telecommunications market. The interview participant who raised this issue stressed the importance of rapid deregulation in this market to encourage more activity.

Government Support

On the issue of government support, a view was expressed that the Government needs to maintain an on-going, rather than a project by project dialogue with IT/IS industry participants. An open communication channel of this kind would enable the Government to better understand the needs of the IT/IS industries and enable it to align its strategy and initiatives accordingly.

Supply of Funding

A view was expressed that the lack of funding is holding back the development of the IT/IS industries in Hong Kong.

One interview participant suggested that a marketing office designed to attract venture capital to Hong Kong be established in Silicon Valley in the United States.

Supply of Human Resources - "Talents"

The availability of appropriately qualified and experienced human resources was considered as an important issue by more than half the interview participants.

Some of the interview participants stressed that the shortage of experienced local human resources was particularly acute in the research and development area.

A view was expressed that high staff turnover is escalating the already high cost of training people in the IT/IS industries.

Another view was expressed that at present, a career in the IT/IS industries in Hong Kong is not viewed as attractive by either local graduates or expatriates. In general compensation and career prospects are viewed as being poorer than in the fields of consulting or finance.

One of the interview participants suggested that the Hong Kong educational institutions would need to develop a more entrepreneurial MBA programme with an IT/IS focus. Such programme could be organised more effectively in conjunction with overseas educational institutions.

Another interview participant suggested that the Government might emulate the Singapore Government by purchasing programmes from overseas educational institutions who have particularly good reputations in providing courses in IT/IS related areas.

Finally, it was suggested that low-cost housing welfare schemes be extended to targeted qualified expatriates from poorer countries (particularly China) to encourage them to pursue their careers in Hong Kong. However, another interview participant expressed concerns about the political sensitivity of providing housing welfare to non-Hong Kong residents.

CHAPTER 4

CHAPTER 4

LEVEL OF INTEREST IN THE PROPOSED CYBERPORT

I. *Level of Interest of Focus Group Participants*

The focus group participants were asked to express their level of interest in becoming tenants and shared facilities/services providers in the proposed cyberport on a non-committal basis.

Provided that the suggested improvements as described in Sections III to V of Chapter 2 could be realised, the focus group participants revealed their level of interest as follows:

Level of Interest in Becoming Tenants

Level of Interest	Number of Participants
▪ Very interested	1
▪ Interested	3
▪ Neutral	2
▪ Uninterested	1
▪ Very uninterested	0
▪ **Total**	7

Level of Interest in Providing Shared Facilities/Services

Level of Interest	Number of Participants
▪ Very interested	0
▪ Interested	1
▪ Neutral	4
▪ Uninterested	2
▪ Very uninterested	0
▪ **Total**	7

II. *Level of Interest of Interview Participants*

The interview participants were asked to express their level of interest in becoming tenants, co-developers, as well as shared facilities/services providers in the proposed cyberport on a non-committal basis. The results are summarised in the tables below.

The level of interest expressed by the interview participants was determined on the understanding that the suggested improvements as described in sections III to V of Chapter 3 could be realised.

In particular, the company which expressed a strong interest in co-developing the project did so on the understanding that the proposed cyberport would be an IT infrastructure rather than a real estate development.

Level of Interest in Becoming Tenants

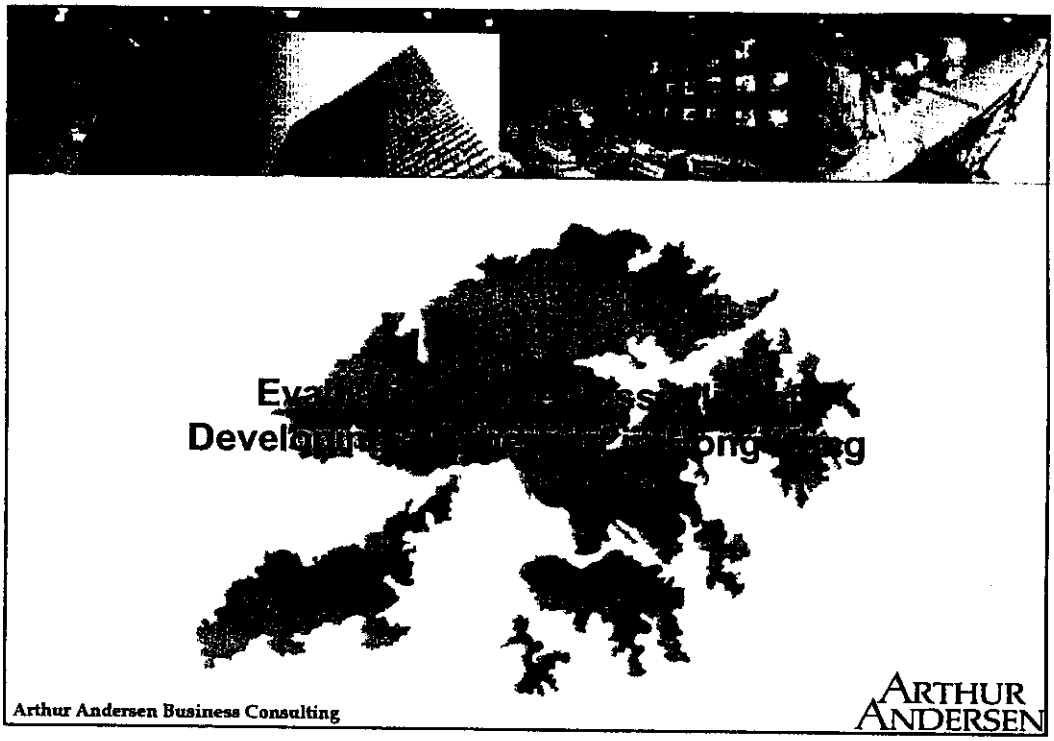
Level of Interest	Number of Participants
▪ Very interested	3
▪ Interested	2
▪ Neutral	0
▪ Uninterested	3
▪ Very uninterested	0
▪ **Total**	**8**

Level of Interest in Becoming Co-developers

Level of Interest	Number of Participants
▪ Very interested	1
▪ Interested	0
▪ Neutral	0
▪ Uninterested	2
▪ Very uninterested	5
▪ **Total**	**8**

Level of Interest in Providing Shared Facilities/Services

Level of Interest	Number of Participants
▪ Very interested	3
▪ Interested	0
▪ Neutral	0
▪ Uninterested	2
▪ Very uninterested	3
▪ **Total**	**8**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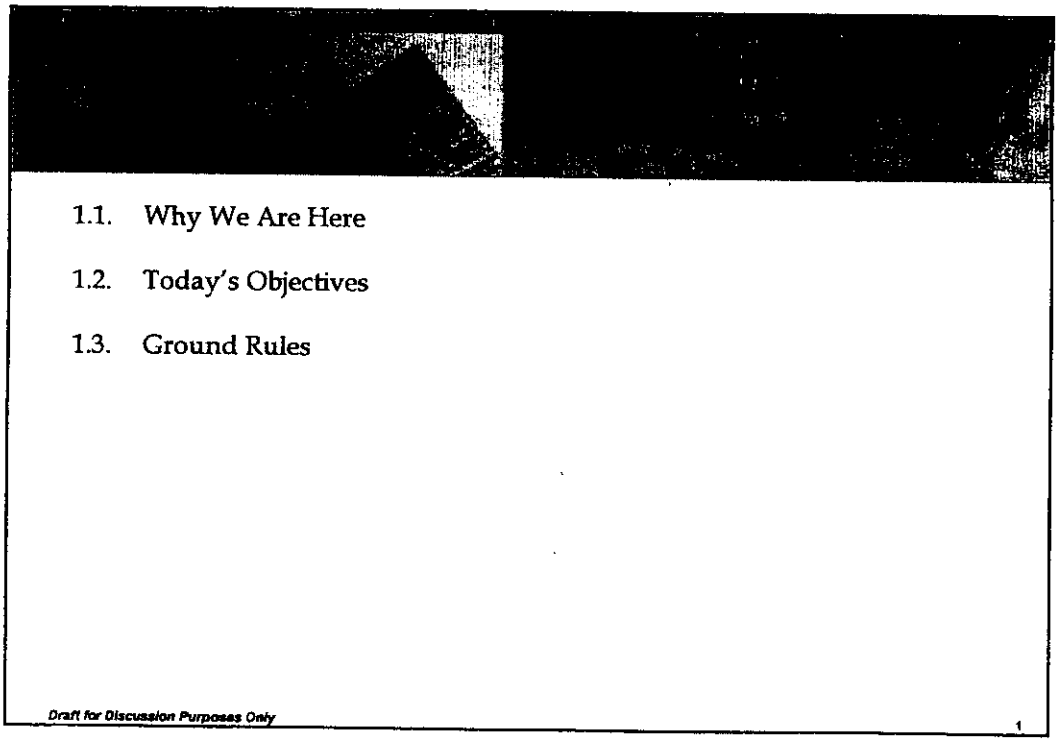
ARTHUR ANDERSEN


1.1. Why We Are Here
1.2. Today's Objectives
1.3. Ground Rules
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1

- The Government of the Hong Kong Special Administrative Region (the "Government") is desirous of enhancing and promoting Hong Kong's information infrastructure and services "so as to make Hong Kong a leading digital city in the globally connected world of the 21st century".
- In this connection, the Government is looking into the possibility of developing a cyberport in Hong Kong (the "proposed cyberport"). We have been engaged by the Government to solicit the views of key industry players on such possibility.

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- Brief you on the initial concept and design of the proposed cyberport
- Obtain your comments on the features of the proposed cyberport
  - Understand the need of your company for a cyberport-type infrastructure;
  - Obtain your feedback to the initial concept and design of the proposed cyberport; and
  - Solicit your views about the features expected of the proposed cyberport, distinguishing between critical features and desirable features
- Understand your level of interest in becoming a tenant/co-developer*/ shared facilities/service provider of the proposed cyberport

* Remarks: Only the interview participants were asked to express their level of interest in becoming co-developers of the proposed cyberport.

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- Anonymity
  - All your opinions and information revealed to us will only be disclosed on an anonymous basis.
- Confidentiality
  - Keeping confidential of all the information about the proposed cyberport would be much appreciated.

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4

2.1. Concept

2.2. Key Objectives

2.3. Intended Benefits to Tenants

2.4. Key Characteristics

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5

- . . . an infrastructure development equipped with advanced communication and IT facilities to give tenants fast and convenient access to advanced telecommunication and multimedia facilities and services.
- . . . a facility for leading MNCs and local entrepreneurs engaged in content development and multimedia activities to locate their regional headquarters, R&D centres and/or other core business operations.
- . . . a hub to encourage the clustering of companies in the information technology/information services industries in order to unleash creative energy.

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- Promote the clustering of content development and multimedia industry participants, including entrepreneurs, small and medium-sized enterprises and leading MNCs
- Attract quality brainpower to Hong Kong
- Create an interface with the public so as to:
  - educate, entertain and inspire Hong Kong's youth
  - provide a world-class tourism venue

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- Ability to tap into the technology, skills and expertise of other multimedia collaborators in the cluster, and to benefit from the resulting creative synergy
- Capacity to transact huge volumes of data and information within and outside the proposed cyberport in a fast and efficient manner
- A self-contained environment with high quality housing, marina, shopping and entertainment facilities close to the offices
- A niche opportunity to better position their companies in Hong Kong and the Asia Pacific region
- A unique gateway to China

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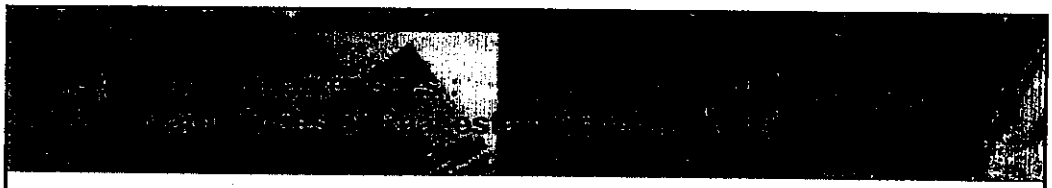

- Five major components
  - Corporate headquarters/R&D facilities
  - Information services centre/educational facilities
  - Employee residence
  - Retail marketplace
  - Waterfront entertainment village
- Includes office, commercial, residential and hotels development
- Accessible transportation links:
  - Alternate road links connecting to Central, CBD of Hong Kong, in 15 - 20 min.
  - A new expressway which is on the drawing board

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- Telecommunications and information infrastructure, including broadband communication links within the cyberport
- High capacity, optical fibre links (tens of Gbits/sec.) connecting the proposed cyberport and an antenna hub/transmission teleport in HK
- Content centre and cyber library
- Media laboratory
- Demonstration facilities
- Focused exhibition and trade show facilities
- Interface with universities and research institutions
- Commercialisation support services
- Office support services and facilities
- Multimedia based community network

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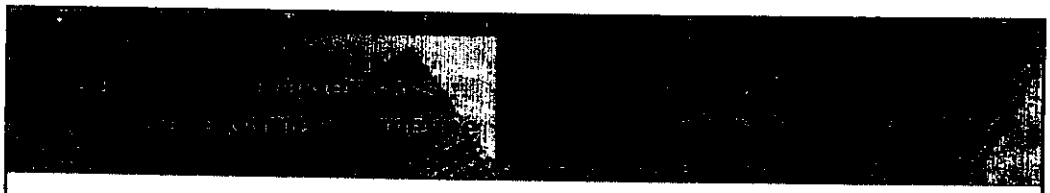

- The proposed cyberport will be developed by three phases, which will be completed in 2001 - 2003.

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- To be handled by a designated professional management team which will be overseen by a Management Board with representatives from the government, anchor tenants, as well as other categories of tenants.

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12

- The proposed cyberport will accommodate a combination of more than 100 large, medium and small enterprises.
- All tenants will be subject to a selection mechanism (with a focus on content development and multimedia service providers) so as to achieve the desired benefits of clustering.
- Leading and well-recognised MNCs will be recruited as anchor tenant(s).

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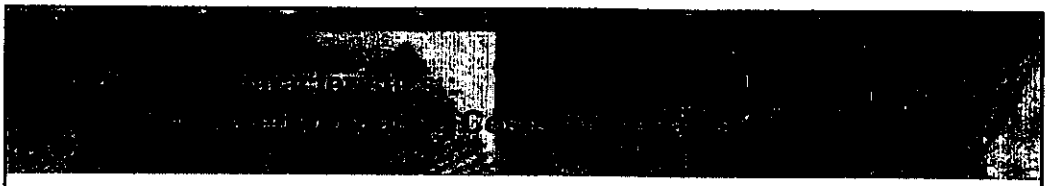

- Rental and management fees
  - Comparable to the Silicon Valley
- Charges for communication and other facilities/services
  - With reference to prevailing market rates in Hong Kong
- All the above rentals/fees/charges will be monitored by the management board of the proposed cyberport.

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3.1. Overview of Your Company's Need for a Cyberport-type Infrastructure

3.2. Assessment of the Proposed Cyberport's Features

3.3. Assessment of Other Characteristics of the Proposed Cyberport

3.4. Other Suggested Improvements

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- Industry trends
  - What will be the key developments in your industry in the coming three years?
- Need for a cyberport-type infrastructure in the coming three years
  - If yes, why yes?
  - If no, why no?

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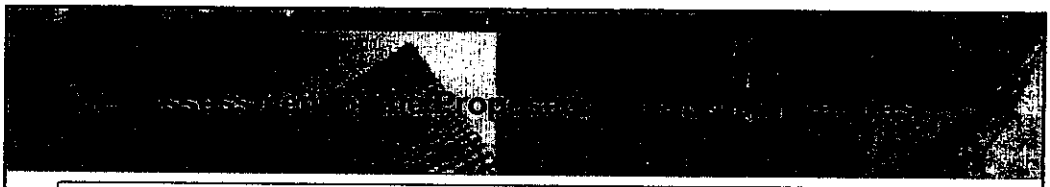

Feature 1 : Telecom and Information Infrastructure

- Features high-speed and broadband HFC network and telecom facilities, which will provide/allow:
  - Cost-effective long distance voice calling;
  - Fast internet access; and
  - ISDN services
- Links up major facilities within the cyberport to facilitate the exchange of data/information
- Provides high capacity, optical fibre links (tens of Gbits/sec.) connecting the cyberport and an antenna hub/transmission teleport in Hong Kong

Relevance | Critical/Desired Features | Inadequacies | Suggested Improvements

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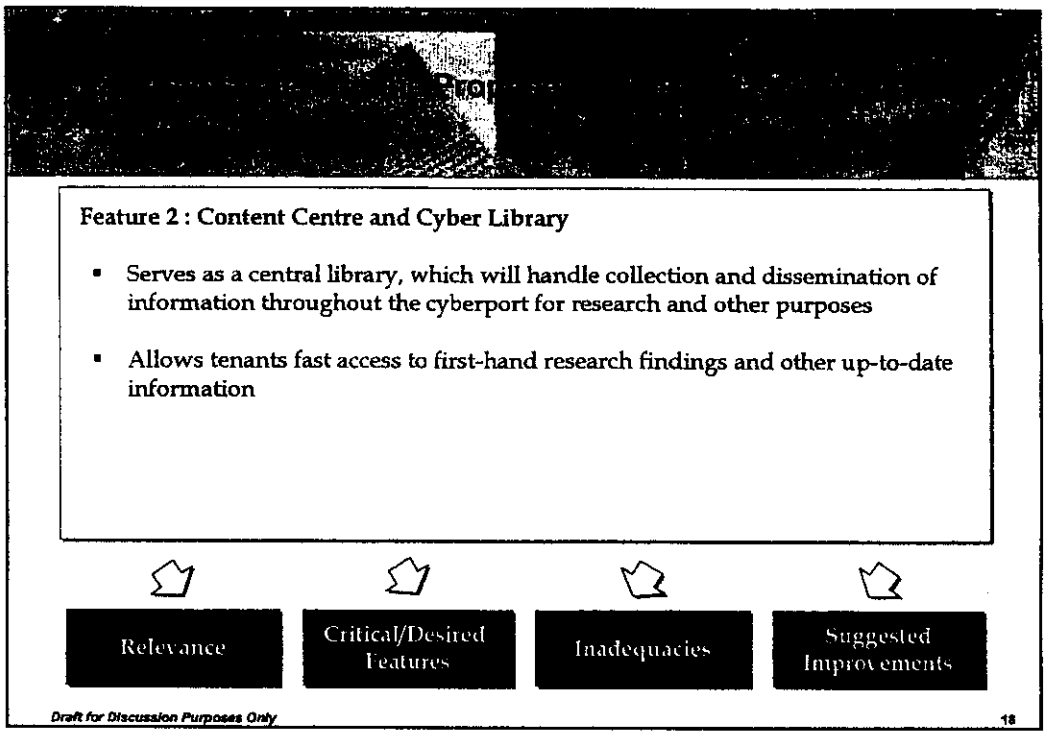
Feature 2 : Content Centre and Cyber Library
Serves as a central library, which will handle collection and dissemination of information throughout the cyberport for research and other purposes
Allows tenants fast access to first-hand research findings and other up-to-date information
Relevance
Critical/Desired Features
Inadequacies
Suggested Improvements
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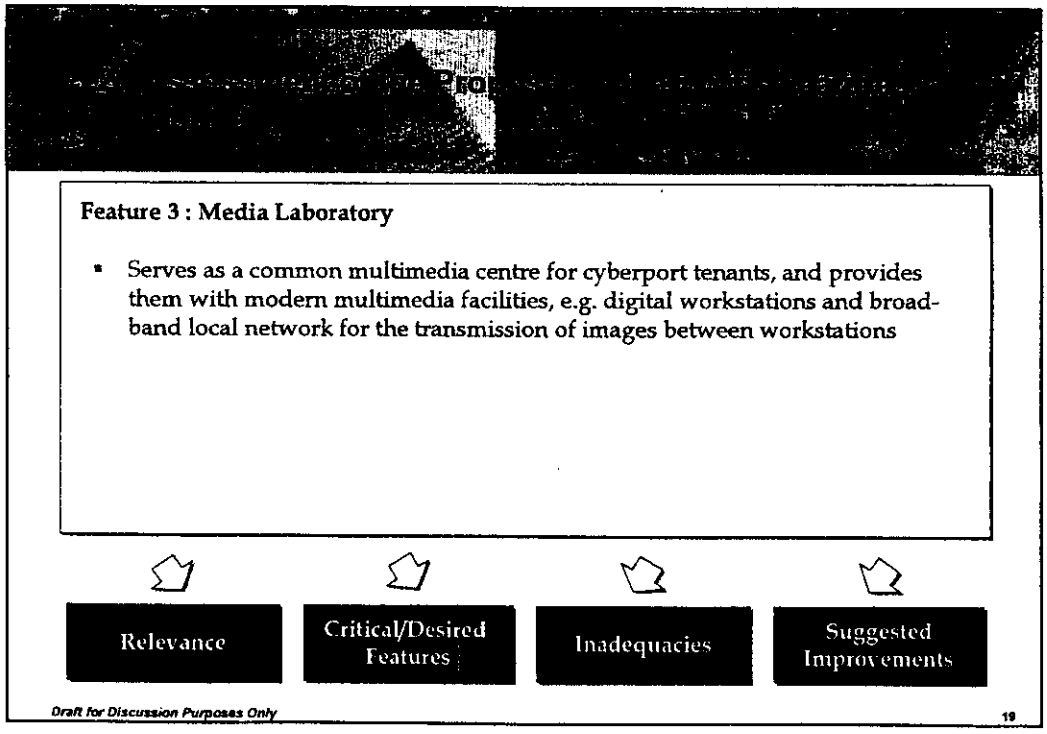
18


Feature 3 : Media Laboratory
Serves as a common multimedia centre for cyberport tenants, and provides them with modern multimedia facilities, e.g. digital workstations and broad-band local network for the transmission of images between workstations
Relevance
Critical/Desired Features
Inadequacies
Suggested Improvements
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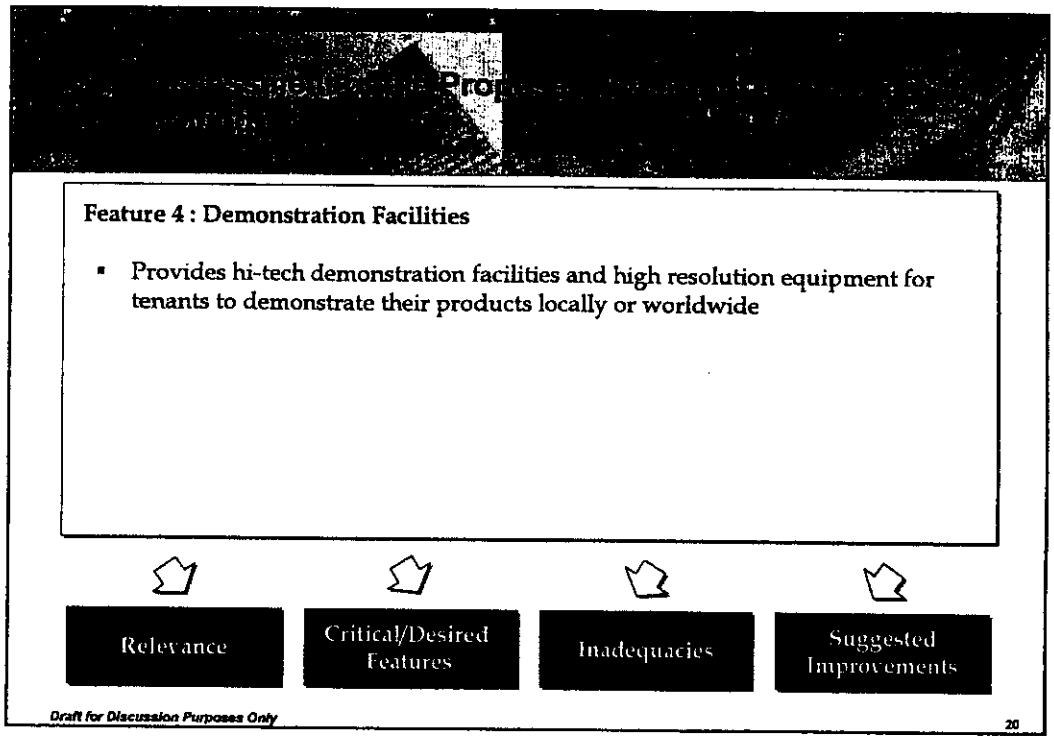
19


Feature 4 : Demonstration Facilities
▪ Provides hi-tech demonstration facilities and high resolution equipment for tenants to demonstrate their products locally or worldwide
Relevance
Critical/Desired Features
Inadequacies
Suggested Improvements
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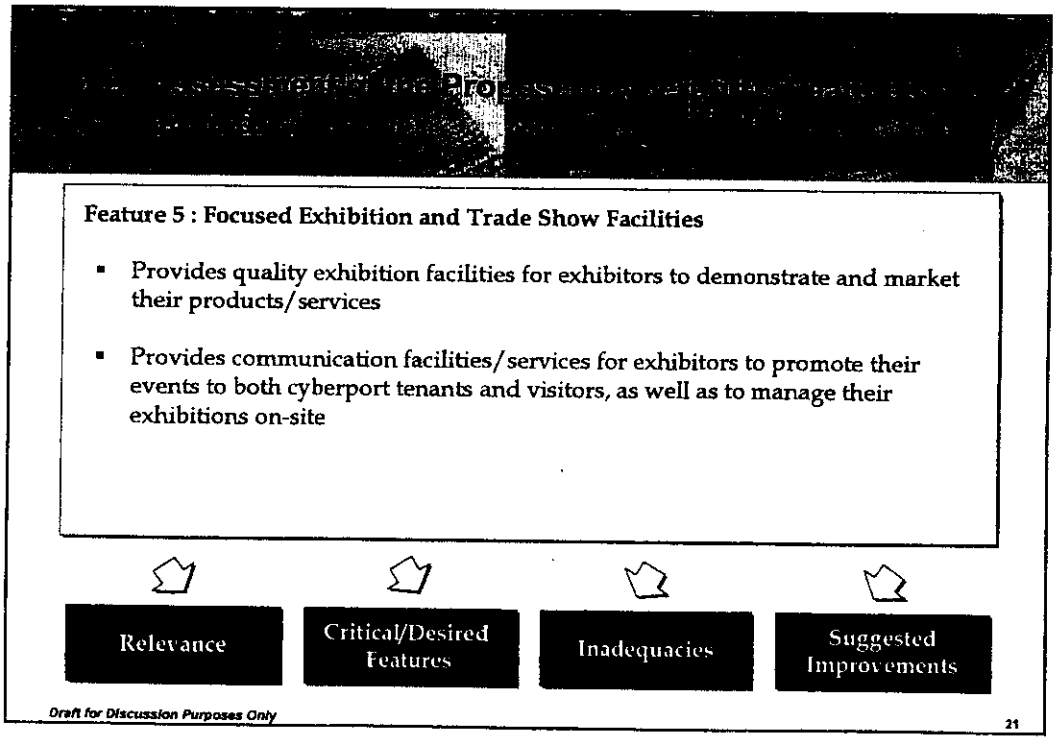
Feature 5 : Focused Exhibition and Trade Show Facilities
▪ Provides quality exhibition facilities for exhibitors to demonstrate and market their products/services
▪ Provides communication facilities/services for exhibitors to promote their events to both cyberport tenants and visitors, as well as to manage their exhibitions on-site
Relevance
Critical/Desired Features
Inadequacies
Suggested Improvements
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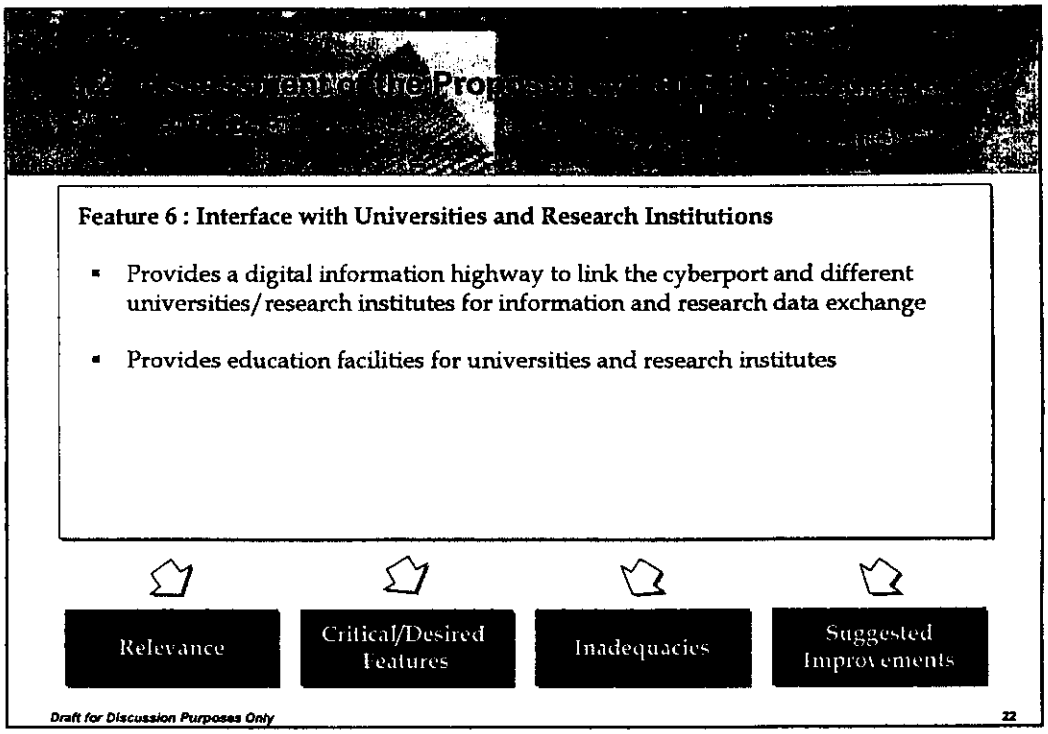
Feature 6 : Interface with Universities and Research Institutions
Provides a digital information highway to link the cyberport and different universities/research institutes for information and research data exchange
Provides education facilities for universities and research institutes
Relevance
Critical/Desired Features
Inadequacies
Suggested Improvements
Draft for Discussion Purposes Only
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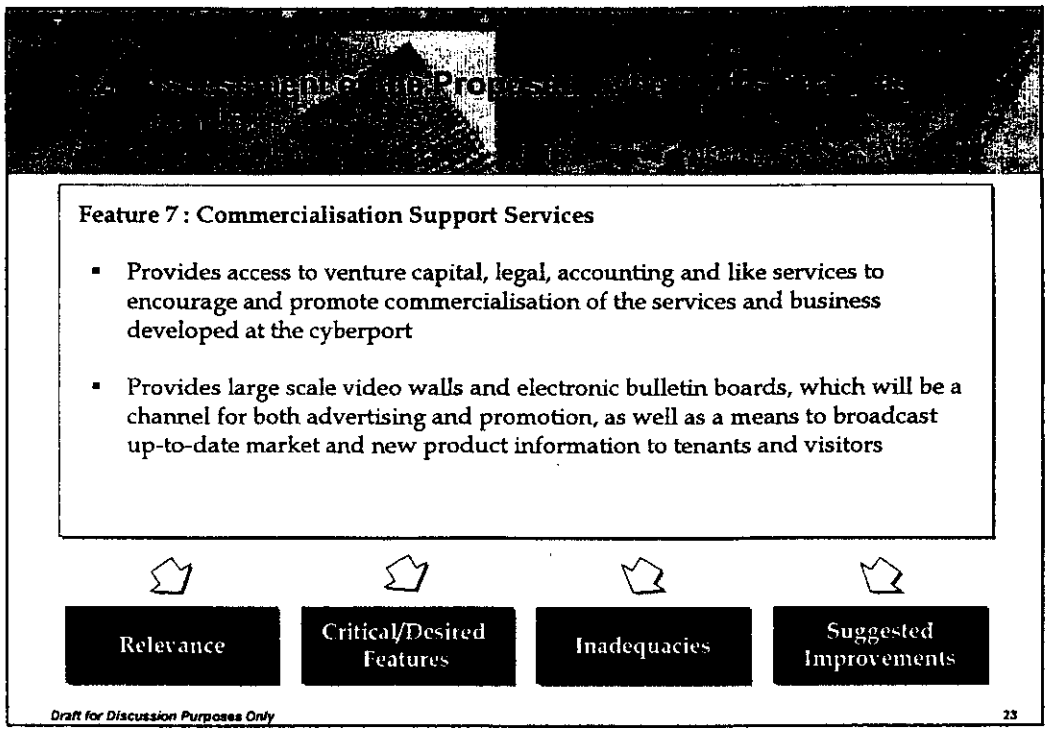
Feature 7 : Commercialisation Support Services
Provides access to venture capital, legal, accounting and like services to encourage and promote commercialisation of the services and business developed at the cyberport
Provides large scale video walls and electronic bulletin boards, which will be a channel for both advertising and promotion, as well as a means to broadcast up-to-date market and new product information to tenants and visitors
Relevance
Critical/Desired Features
Inadequacies
Suggested Improvements
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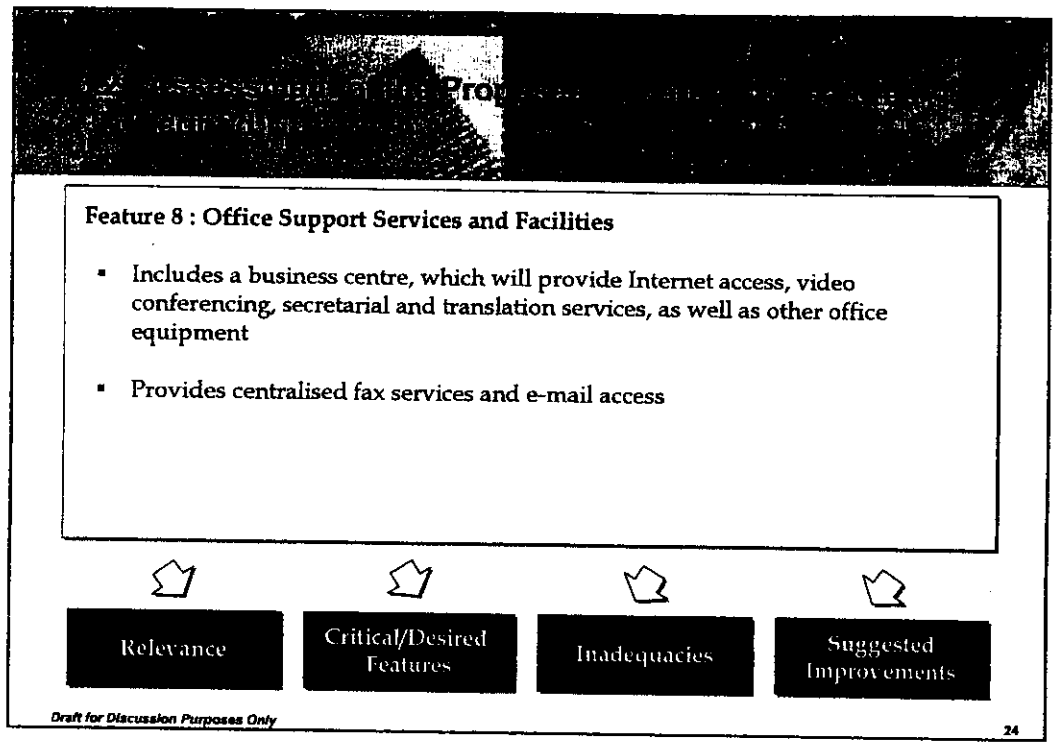
Feature 8 : Office Support Services and Facilities
▪ Includes a business centre, which will provide Internet access, video conferencing, secretarial and translation services, as well as other office equipment
▪ Provides centralised fax services and e-mail access
Relevance
Critical/Desired Features
Inadequacies
Suggested Improvements
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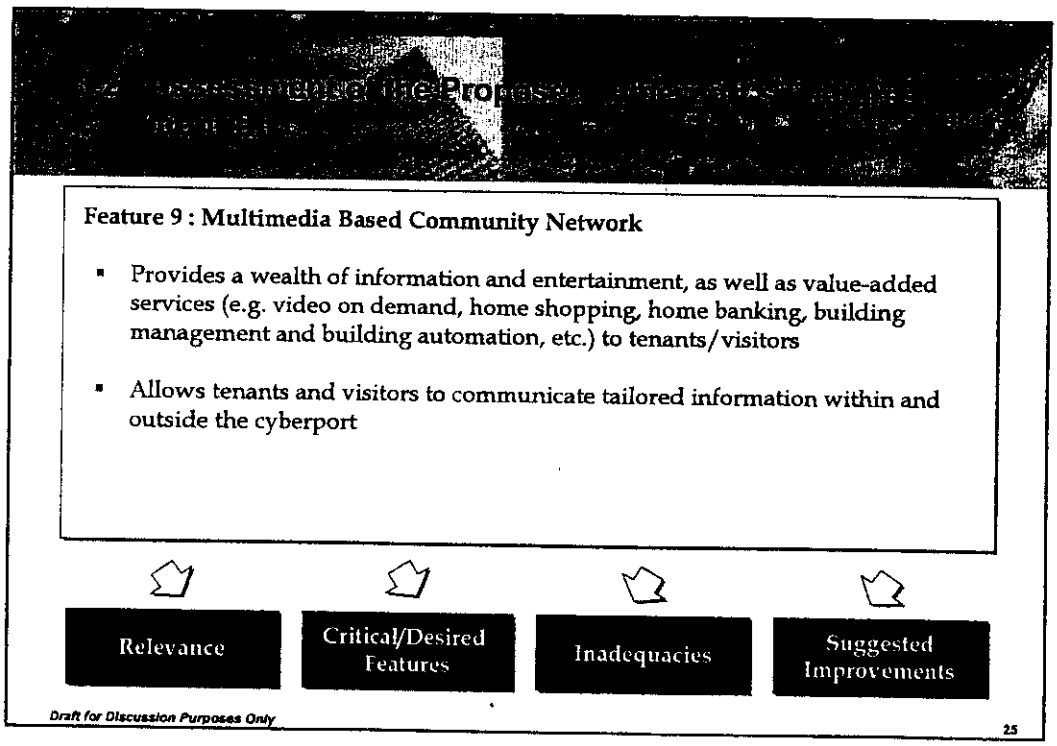
24


Feature 9 : Multimedia Based Community Network
▪ Provides a wealth of information and entertainment, as well as value-added services (e.g. video on demand, home shopping, home banking, building management and building automation, etc.) to tenants/visitors
▪ Allows tenants and visitors to communicate tailored information within and outside the cyberport
Relevance
Critical/Desired Features
Inadequacies
Suggested Improvements
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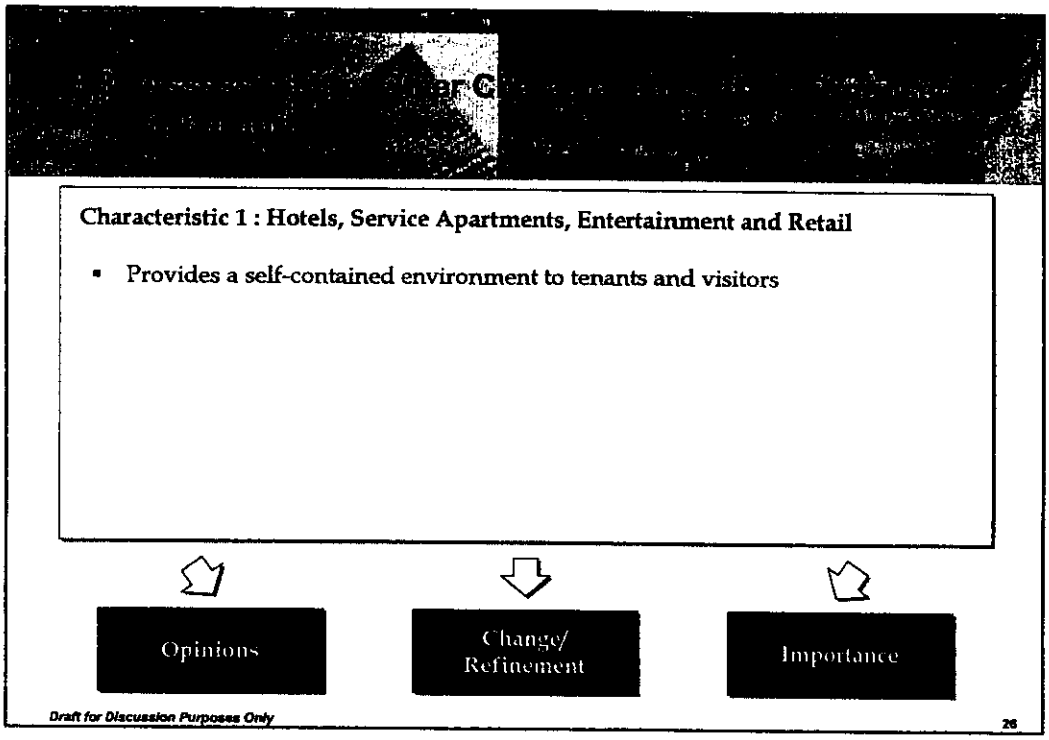
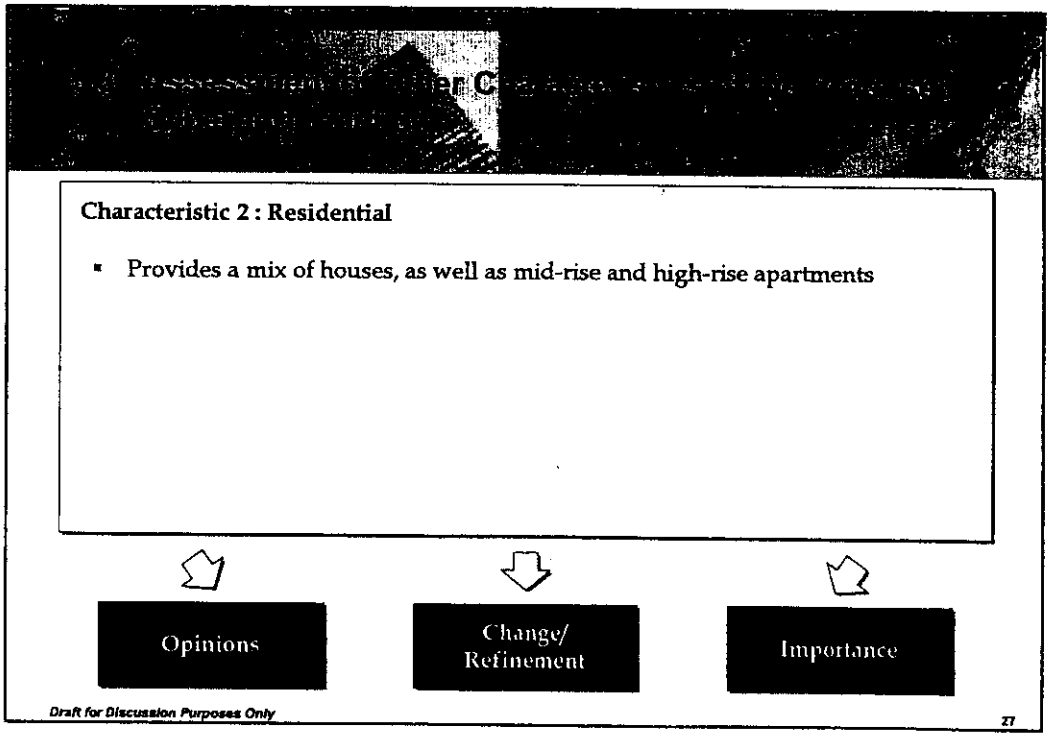
25


Characteristic 1 : Hotels, Service Apartments, Entertainment and Retail
Provides a self-contained environment to tenants and visitors
Opinions
Change/ Refinement
Importance
Draft for Discussion Purposes Only
26


Characteristic 2 : Residential
Provides a mix of houses, as well as mid-rise and high-rise apartments
Opinions
Change/ Refinement
Importance
Draft for Discussion Purposes Only
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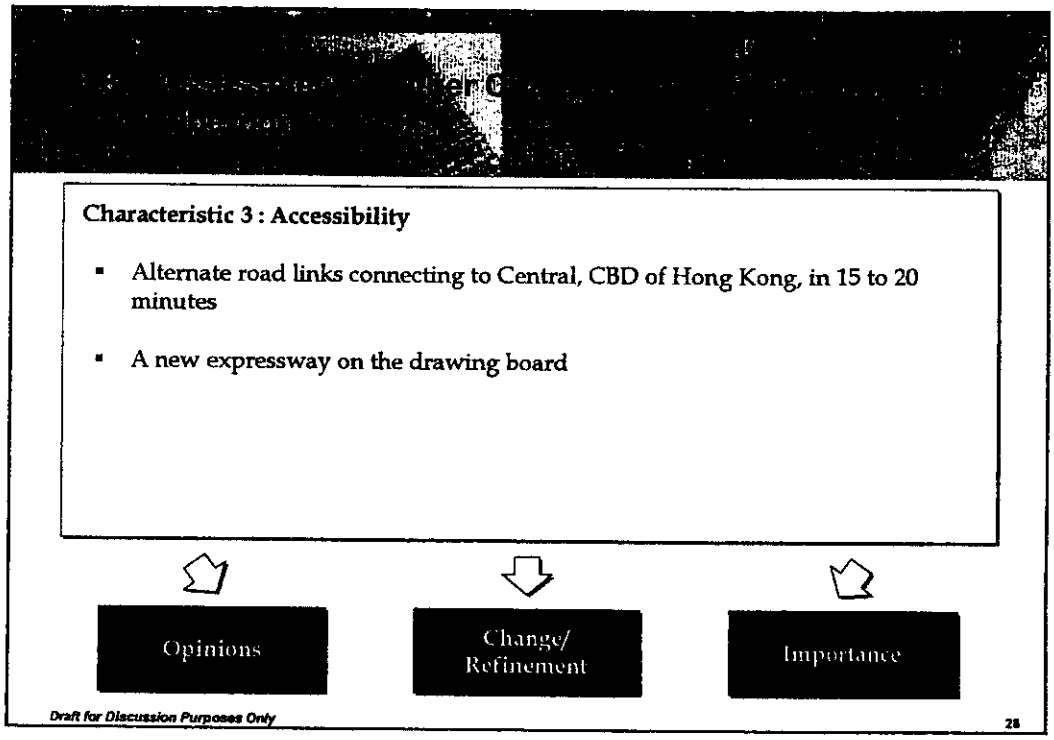
Characteristic 3 : Accessibility
▪ Alternate road links connecting to Central, CBD of Hong Kong, in 15 to 20 minutes
▪ A new expressway on the drawing board
Opinions
Change/ Refinement
Importance
Draft for Discussion Purposes Only
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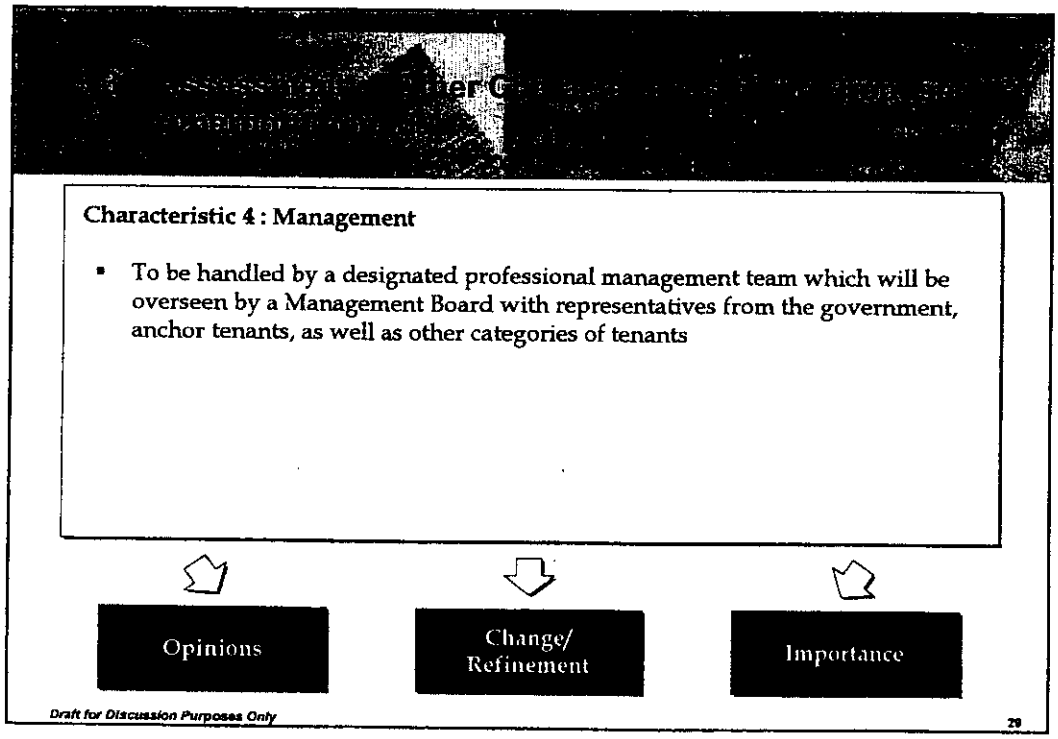
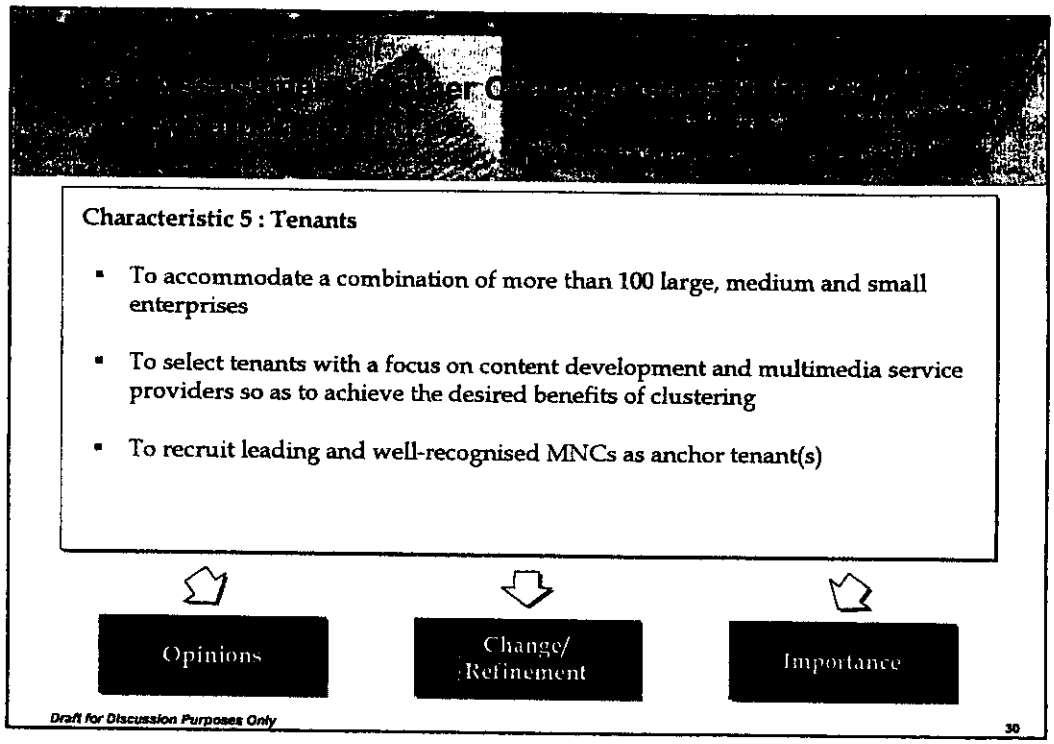
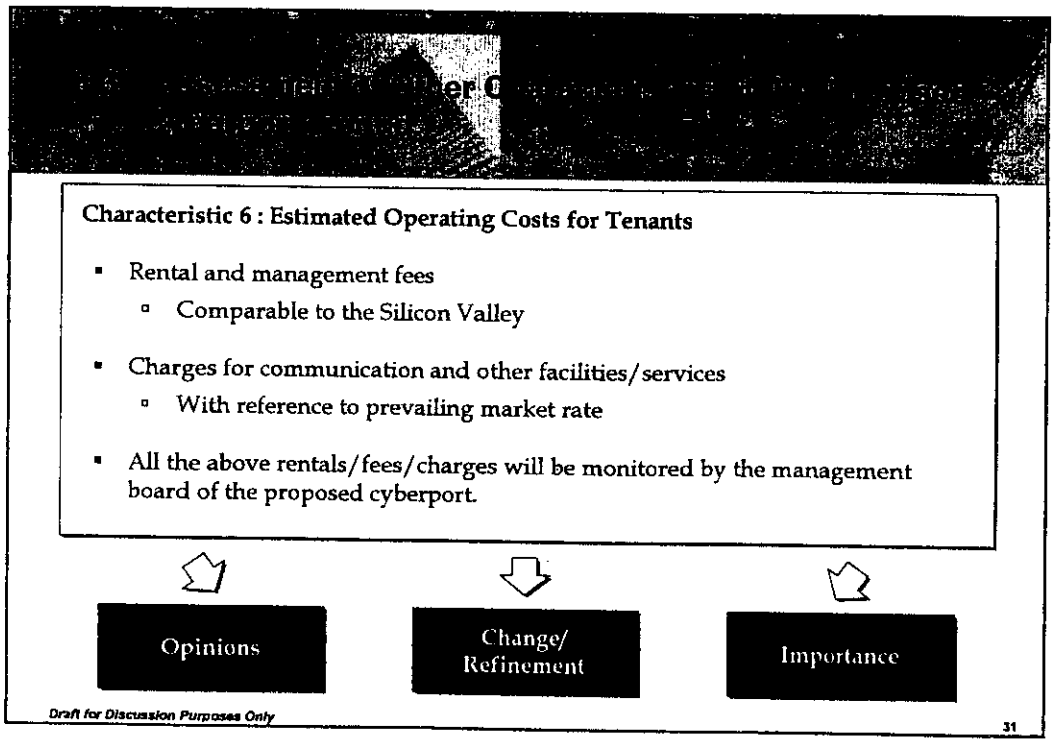

Characteristic 4 : Management
▪ To be handled by a designated professional management team which will be overseen by a Management Board with representatives from the government, anchor tenants, as well as other categories of tenants
Opinions
Change/ Refinement
Importance
Draft for Discussion Purposes Only
29


Characteristic 5 : Tenants
To accommodate a combination of more than 100 large, medium and small enterprises
To select tenants with a focus on content development and multimedia service providers so as to achieve the desired benefits of clustering
To recruit leading and well-recognised MNCs as anchor tenant(s)
Opinions
Change/ Refinement
Importance
Draft for Discussion Purposes Only
30


Characteristic 6 : Estimated Operating Costs for Tenants
Rental and management fees
Comparable to the Silicon Valley
Charges for communication and other facilities/services
With reference to prevailing market rate
All the above rentals/fees/charges will be monitored by the management board of the proposed cyberport.
Opinions
Change/ Refinement
Importance
Draft for Discussion Purposes Only
31

4.1. Level of Interest in Becoming a Cyberport Tenant/Co-developer/ Shared Facilities/Services Provider

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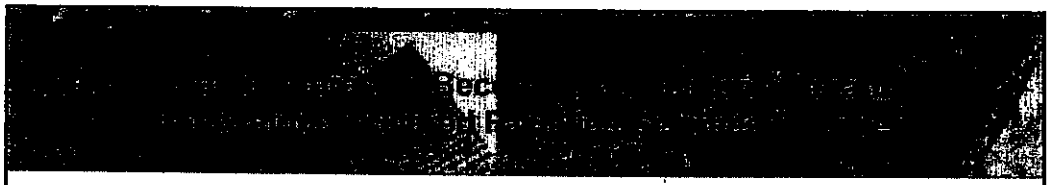

- On a non-committal basis
- Level of interest
  - Very interested = 5
  - Interested = 4
  - Neutral = 3
  - Uninterested = 2
  - Very uninterested = 1

* Remarks: Only the interview participants were asked to express their level of interest in becoming co-developers of the proposed cyberport.

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ARTHUR
ANDERSEN