

Jordan PC/Internet
Penetration Analysis

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Executive Summary

This analysis report is the first deliverable under the contract with int@j. The contract stipulated the undertaking of research to identify and analyze the rates of PC/Internet Penetration in the country.

Internet/PC penetration rates in Jordan are relatively low. Part of this low penetration rate can be attributed to the high cost of PC purchased in comparison to the average income per capita (\$1,798 per capita in 2002), and the absence of dedicated financing schemes that would make PCs affordable to wide range of lower income groups.

The PC market in Jordan is, to say the least, very challenging with many uncertainties confronting importers, resellers and assemblers. The initial reading of the market suggests a number (5-6) of large PC dealers or resellers for **branded** PCs and more than two hundred resellers of locally assembled **unbranded** PC units. Recently a number of ambitious ideas to create larger assembly lines for less expensive **branded** units are still in the early development stage. Statistics about the current PC penetration rates were extracted through different sources but not through direct statistical market research.

The current rate of PC/Internet penetration in Jordan is between **3.7 - 4.0 %** of population. The target set for the current rate to reach **9 - 10 %** within three years ending 2007. A number of focus areas were identified in order to achieve the set target rate:

- Affordability Of Technology / Per Capita Income
- Cost Of Technology
- Population Education
- Internet Access Costs
- Web Content & Language
- Target Age Groups

A number of possible prohibitive barriers were also identified. These need to be taken into consideration in the design of the feasibility study to increase the current rates.

- Internet/Software Censorship
- The Daman Program
- Income Tax
- Sales Tax / Customs Duties

1 Introduction

Internet/PC penetration rates in Jordan are relatively low. Part of this low penetration rate can be attributed to the high cost of PC purchased in comparison to the average income per capita (\$1,798 per capita in 2002), and the absence of dedicated financing schemes that would make PCs affordable to lower income groups. As an alternative, Jordan enjoys a large number of Internet Cafes/ public access points, where Jordanians can access the web at minimal fees, and without having to incur either the entry cost to the Internet or the purchase cost of a personal computer and peripherals.

Although the issue of increasing PC/Internet penetration remains one of a national nature and can not be expected to be addressed and resolved solely by IT sector representatives, an attempt will be made to facilitate and promote an increase PC penetration rates in Jordan using a business plan and feasibility study approach.

A close working relationship needs to be established with banks, financing institutions and funds in order to create financing schemes and offer loans to those who wish to purchase a PC repayable during a period ranging from 36 to 48 months. Resulting monthly payments should be tolerable and not exceed JD15-JD20. Since PCs cannot be used as collateral (high depreciation rate), promissory notes or salary transfer guarantees will be used to secure the repayment of such loans.

1.1 IT Sector In Jordan

1.1.1 Risk Factors

Jordan is classified by the World Bank as a "lower middle income country". The annual per capita income was approximately \$1,798 in 2002 with a Gross Domestic Product (GDP) growth rate of 4.9% in 2002.

Poverty and unemployment rates remain high at 14.7 % (percent of total labor force) (2001) and 2% of Jordan's population lives below \$1 a day (1990-2001 UNICEF and World Bank data) and 11.2% of its population is considered below poverty line. The annual inflation rate stood at 2.2% in November 2003.

Jordan as young country has a lot of potential to overcome most of the above problems. The median age in Jordan is 21.8 years with only 3.6% of the population aged 65 years and above. The average PC cost in Jordan is around \$700.

One indicator, based on the ratio of Per Capita Income to PC cost translates to around (2.5) in Jordan which is considered very low by international standards. This severely restricts the ability of the average Jordanian to purchase a PC.

Table I Jordan Population Age Distribution

Population:	5,460,265 (July 2003 estimate)
Age structure:	<i>0-14 years: 35.9% (male 1,001,174; female 959,157)</i> <i>15-64 years: 60.5% (male 1,764,061; female 1,541,453)</i> <i>65 years and over: 3.6% (male 95,566; female 98,854) (2003 est.)</i>
Median age:	<i>total: 21.8 years</i> <i>male: 22.4 years</i> <i>female: 21.1 years (2002)</i>

Source: Country Information profile ESCWA - 2003

Table II Risk Analysis Table

Risk	Probability (1-5)	Severity (1-5)	Score (PXS)	Action to Prevent/Manage Risk
Jordan is poor country (cost of PC's and Internet connection)	4	3	12	Cost of a PC and Internet connection will go down if demand increases.
Computer literacy	5	4	20	MOE and the knowledge economy approach might bridge the digital divide.
Social & Cultural barriers Bad Internet content	4	5	20	Educating general public about Internet good content and, creating cultural self control and filtering web content through educating parents about security issues for children.
Lack of Internet content and services presented to citizens	3	4	12	General Public unaware on type of info could be obtained from government web pages.
Internet Connection still expensive and slow	4	4	16	Dial up service and current infrastructure, may be improved if wireless networks are used in the low infrastructure areas to increase speed and reduce infrastructure cost.

Source: Dakessian Consulting / Research Extracted - 2004

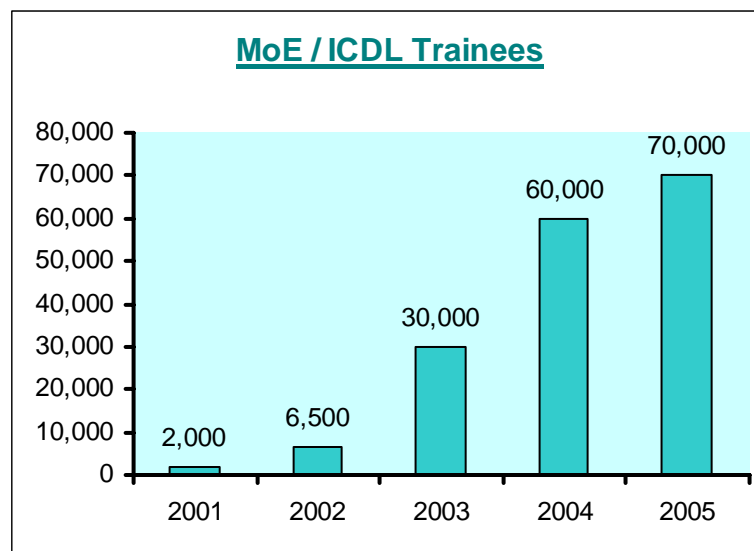
1.1.2 Success Factors

"Jordan will become the IT hub for the region"HM King Abdullah II

With these words and firm support and commitment to the modernization of Jordan through a series of initiatives including REACH , e-Government ... etc. , Jordan adopted privatization policies leading to improvements in its telecommunication infrastructure,

and technology services provided by private multinational enterprises and government agencies. The adoption of Intellectual Property Rights law encouraged foreign direct investments and initiatives into the country. In addition to all of the above Jordan has signed number of bilateral agreements with leading financial powers. The Free Trade Agreement (FTA) with the United States that went into effect in December 2001 will phase out duties on nearly all goods and services by 2010. Jordan is naturally also a member in the World Trade Organization.

Jordanians are the best asset of Jordan, with 89.6% literacy rate, the government has an ambitious plans for developing the educational system in the country by building teachers capacity in general and computer literacy by providing ICDL training for teachers. The following chart published by Ministry of Education (MoE) indicates that the forecast for 2004 and 2005 is 60,000 and 70,000 ICDL certified teachers respectively.



Source: Ministry Of Education Presentation - 2003

Language is one of the more difficult barriers to overcome for non-native English speaking countries. In Jordan the English language is widely spoken and understood, and was recently introduced as a second language in Jordanian educational curricula to be taught from the first grade at public schools. The predominance of English language content on the Internet was a problem is no longer considered a problem. The difficulties have now shifted to the quality of content that attracts Jordanian public to use, see and feel the direct benefits of the Internet as trusted source of information and good content. Additional success factors are:

- Strong commitment by the government as evidenced by recent actions and decisions to incorporate information and communications technologies into the daily lives of Jordanians.
- Creating a dedicated Ministry of Information and Communications Technology

- The relatively small population size of Jordan. This is considered as a positive factor in allowing the country to respond quickly to new developments and requirements.
- The young population of Jordan median age is 21.8 years - eager to take up the challenges and exploit opportunities presented by new technologies.
- A strong academic and educational history and a high rate of literacy.
- Support from a wide range of donors countries, including private sector and non-governmental agencies.
- A willing, dynamic private sector eager to work in partnership with the government to realize the vision for the future.
- 39% Foreign Direct Investment / October 2003
- Healthy and sustainable annual growth rate (2002 est.): 4.9%

A number of interviews were conducted with key agencies, university professors including short brain storming sessions with stakeholders in the field in order to extract a **Strengths Weaknesses Opportunities & Threats (SWOT)** analysis concerning PC/Internet penetration in Jordan, Internet use and penetration, including our current standing and future ambitions. The results are summarized in the following table.

Table III SWOT Analysis Summary

Strengths	Weaknesses
1. Leader Support 2. International Agreements WTO 3. Many PC assemblers in Jordan 4. High Level of Literacy 5. Promoting professional trade 6. Internet is for studying and getting more possibilities	1. War in the region 2. Reducing local cultural specifics (internationalization) 3. Unfiltered information and news (good, bad, right and wrong) reaching every body. 4. Electronic communications reduces personal communications.
Opportunities	Threats
1. International Agreements WTO 2. Educational support for citizens. 3. Economical impulse 4. New communication and trading possibilities (e-commerce....) 5. Speed of information possibilities 6. Promoting Open mindedness	1. Loosing a piece of privacy 2. Spending more than earning

Source: Dakessian Consulting / Research Extracted - 2004

1.2 Frameworks Supporting The IT Sector

1.2.1 The REACH Initiative

The original REACH report, presented to His Majesty King Abdullah II in October 1999, introduced a dynamic 5-year strategy for launching Jordan's IT industry and tapping into the growing global market for IT products and services.

The first review of REACH (2.0) followed in January 2001, detailing Jordan's achievements to date, and proposing new actions and legislation to keep the momentum going. In September 2002, the third review was published during the country's largest ICT event ever held, the Jordan ICT Forum 2002. The current third review REACH 4.0 is the final result and product of intensive stakeholder meetings held during November 2003, and which aimed at identifying the most critical actions that needed to be completed within the coming twelve-month period.

1.2.2 Connecting Jordanians

Connecting Jordanians Initiative is mainly focused on incorporating ICT into the daily lives of all citizens. As part of Jordan's broader aspirations for a knowledge-based economy and society, efforts are underway to broaden access to ICT technologies to communities, businesses, and families across the Kingdom. His Majesty King Abdullah II, kick-starting this agenda, established the Knowledge Stations, which serve as access points for ICT services to communities. In support of this agenda, the Ministry of Information and Communications Technology (MoICT), introduced the Connecting Jordanians Initiative (CJI), which aims to coordinate and accelerate critical developments and reforms intended to make ICT an important facet in the lives of all Jordanians and to improve their economic, social and cultural prospects in meaningful ways

1.3.3 Knowledge Stations

Originally named the Jordan Information Technology Community Centers (JITCC), Knowledge Stations is a concept developed in partnership with the government, NGOs and United Nations agencies to provide affordable access to information and communications technology to the underprivileged. With a range of facilities such as PCs, internet access, software libraries and printers, the centers will train the local community to apply these ICT tools in an Arabic medium to improve their livelihoods.

Table IV Performance of Knowledge Stations

Courses and Services offered by the KS centers for the period (2000 - 2004)	
No. of Training Courses	3,700
No. of Trainees	45,350
Walk-in Services	27,000
Web Design	74 centers

Source: JITCC Management Unit - 2003

1.2.4 Education Initiative

Jordan Education Initiative (JEI) was launched in June 2003 in by the Ministry of Education (MoE). Ninety-six “Discovery Schools” were selected to be as a pilot project in Jordan. The project will test and evaluate how ICT can enable new systems to be used and benefit schools and their pupils. **Though focused on the advancement of education and learning in Jordan, the initiative also provides an opportunity for the sustained development of the local ICT industry through infrastructure and e-content development activities.** Working within an integrated strategy, partners contributing to the pre-defined tracks are accelerating the deployment of curricula reform, teaching reform, and infrastructure into the selected Discovery Schools directly impacting almost 50,000 students and 2,300 teachers:

- Track 0 A Program Management Office (PMO) was established for the Jordan Education Initiative, teaming global management expertise with local public sector professionals.

- Track 1 The Pilot Project “Discovery Schools” lies under the larger theme of “enabling the act of discovery” for students and teachers alike. Its aim is to introduce new approaches to learning that are conducive to acquiring the skills necessary for the 21st century knowledge economy. This track focuses on three distinct areas of activity: **In-Classroom Technology, e-Curricula Development and Training.**

- Track 2 The Lifelong Learning track supports the Jordanian Government’s vision of building a knowledge economy by providing lifelong learning opportunities to Jordanians small to medium-sized enterprises (SMEs). The goal is the creation of a learning objects library in partnership with global firms and making available those learning resources to young entrepreneurs and communities across Jordan.

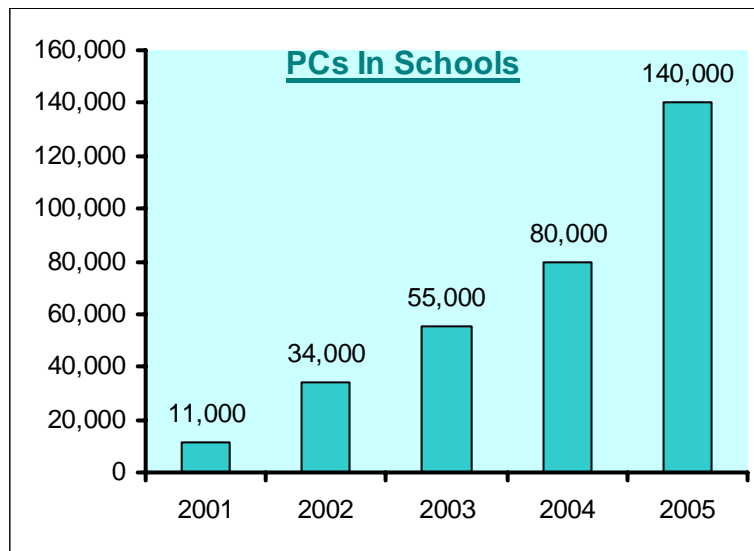
- Track 3 Assessing the capacity of the local industry to undertake the development of e-curricula. Several companies possessing the technical expertise and track record to undertake such ventures have emerged in Jordan. This track focuses on further building the capacity of the local industry through the introduction of higher level managerial and technical skills, as well as exposure to world-class business processes.

The initiative also supports the Jordanian government’s vision of building a knowledge economy by providing lifelong learning opportunities for all Jordanian citizens and providing them with the services and tools to become functioning members of the economy.

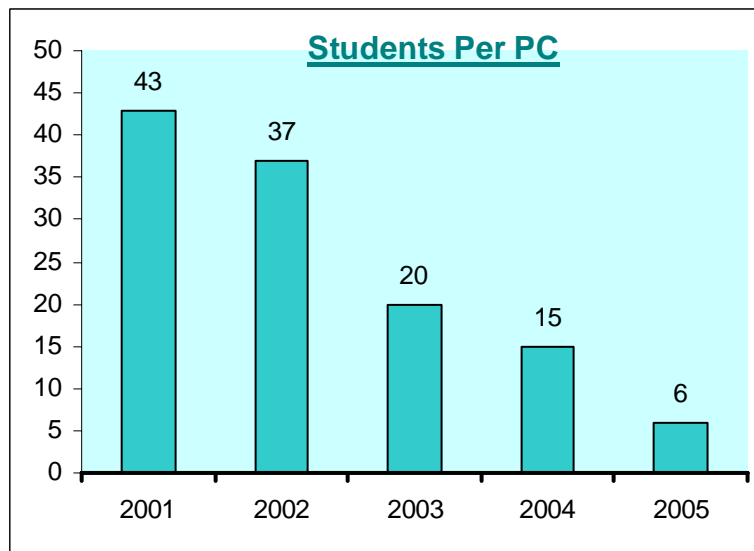
The MoE directly affects 1 in every 3 people in Jordan - students in schools- and indirectly affects over 80% of the population. The MoE have launched its Educational Reform for the Knowledge Economy (ERFKE) initiative, in which more than 125 new modern schools, basic and secondary will be built as well as a number of advanced schools for talented students. All schools will have the necessary facilities to support

information technology, training, e-learning and creating a good knowledge based economy.

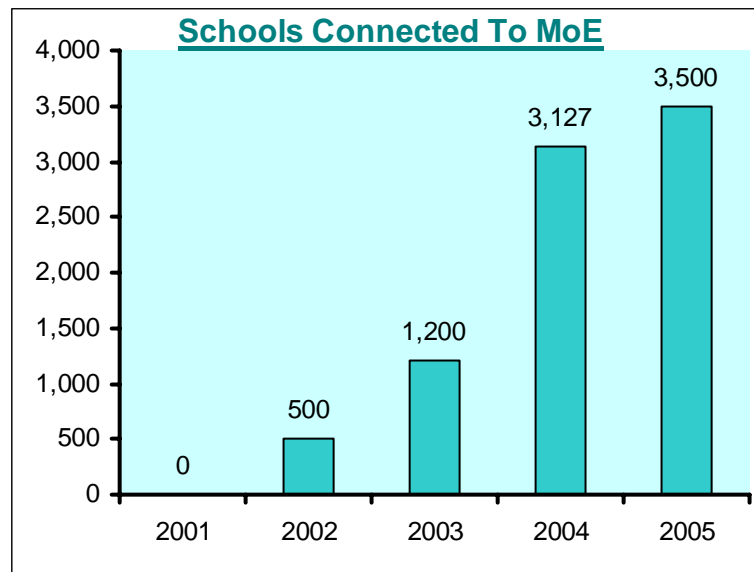
Statistics published by the MoE clearly show the growth of the numbers of PC's in public schools in Jordan giving an indication regarding the quality of computer education and its improvements. It is worthy to note that the number of students per PC declined dramatically over the years. As the number of schools connected to the MoE intranet and the internet increase, their impact on increasing PC/Internet penetration rates in Jordanians will be quite noticeable.



Source: Ministry Of Education Presentation - 2003



Source: Ministry Of Education Presentation - 2003



Source: Ministry Of Education Presentation - 2003

Ministry of Information and Communications Technology (MoICT) and MOE launched the E-learning initiative, and the national e-learning strategy. Broadband ADSL connectivity will connect more than 3000 schools to the MOE e-learning Intranet. The strategy is currently under implementation through the training of teachers, development of online curriculum and courseware as well as the modernization of the learning process to enable innovation and creativity.

The role of teachers is being shifted away from their role as “sage on the stage” to one as classroom facilitators, or “guide on the side”. Additionally, the MoE will develop a learning portal for all Jordanians.

Table V Jordan Indicators 2002

Jordan Indicators (2002)	
Population of Jordan	5,329,000
Size of Jordan	89,342 km ²
Population Density	59.6 persons per km ²
Population Less than 15 Years of Age	37.8%
Population Age 65+	3.5%
Per Capita GDP	US\$ 1,756
Total Number of Schools	5,048
Enrollment Ratios:	Basic (Grades 1-10)
Secondary (Grades 11-12)	Male: 93.85% Female: 94.16%
Number of Ministry of Education Schools	2,948
Number of Students in MoE Schools	1,029,782
Total Number of Students (Public & Private)	1,459,208
% of National Student Population in Public Schools	70.57%

Source: World Development Indicators Online Database - 2004

Table VI Jordan Educational Indicators 2002

Percentage Distribution of Students by Cycle	
Kindergarten	5.93%
Basic (Grades 1-10)	82.18%
Secondary (Grades 11-12)	11.89%
Number of Teachers in MoE Schools	54,609
Student/Teacher Ratio (Grades 1-10)	23.9
Student/Teacher Ratio (Grades 11-12)	10.2
Literacy Rate (Age 15+)	89.7%
Number of Universities	20 (8 public 12 private)
Number of students at Universities	112,800
Number of Community colleges	21
Number of students at Community colleges	29,000
% of Female University Students	55%

Source: Jordan In Figures and Ministry of Education - 2003

Information in the above tables provided by "Jordan In Figures - 2002, Department of Statistics" and "The Educational Statistical Report - Scholastic Year 2001/2002, Ministry of Education".

1.2.5 E-Government

Jordan, together with the United Arab Emirates (UAE) and Egypt, was one of the first countries on a regional scale to have introduced an e-government program or plan. MoICT started a number of projects, one of the most recent being the 4th phase of the 'ICT Literacy Training Program for government employees'. The project aims to training government employees with basic computer skills, such as: IT Fundamentals, file management, Word Processing as well as Communications and Internet. The program was originally launched in 2002 as part of a plan which aims at training 15000 civil service employees by the year 2006. Phase 4 was launched in May 2004 and covered 1100 civil servants from 22 government institutions. The e-Initiatives are programs aimed at:

- Increasing awareness of the benefits of using ICT
- Improving access to technology
- Enabling all Jordanians to partake in the Information Society
- Bridging the digital gap
- Empowering local communities to use ICT for their own development
- Assisting Jordanians in integrating ICT into their daily lives
- Develop entrepreneurship spirit
- Increasing youth employment in the ICT sector.

All these programs are expected to lead to improved economic, cultural and social prospects for all citizens as well as positively affect PC/Internet penetration rates.

1.2.6 E-Village

The United Nations Development Fund for Women (UNIFEM) & the Ministry of Information & Communications Technology (MoICT) have combined a number of ongoing ICT projects to form the E-Village project. The plan is to establish a pilot ICT village "E-Village" Initiative in order to transform a typical Jordanian village into a vibrant community where information and communications technology is deployed to achieve a better quality of life. Through working to combine several national IT enterprises and projects, the initiative will act as a role model on how to join national forces so that they can work together to benefit the country.

Several training opportunities in IT, career development and soft skills are provided. In addition to that, various job opportunities will be made available through the initiatives' different projects.

1.2.7 Other Programs

The United Nations Development Fund for Women (UNIFEM) is one of the leading UN funds mandated to empower women and eliminate gender gaps. UNIFEM, in partnership with the Government of Jordan, Cisco Foundation and Cisco Systems Inc., launched in June 2001, the "[Achieving e-Quality in the ICT Sector](#)" initiative. The initiative aims to mainstream and empower women in the Information and communications technology sector through building their capabilities and professional skills and ensuring a gender sensitive policy environment.

NetCorps Jordan program was launched as part of the Connecting Jordanians Initiative. The program will tap into the creativity and energy of youth to serve their community. Jordan's youth are being provided with a blend of technology, business training and an opportunity to participate and shape real use of technology by rural, urban and other communities around Jordan. The NetCorps Jordan program will focus on projects at a community level that drive sustainability. Jordanian youth will be recruited, trained and placed in local organizations such as the Knowledge Stations.

2 Analysis Of Jordan PC Market

The PC market in Jordan is, to say the least, very challenging with many uncertainties confronting importers, resellers and assemblers. The initial reading of the market suggests a number of (5-6) of large PC dealers or resellers for **branded** PCs and more than two hundred resellers of locally assembled **unbranded** PC units. Recently a number of ambitious ideas to create larger assembly lines for less expensive **branded** units are still in the early development stage. Statistics about the current PC penetration rate or figures were extracted through different sources but not through direct statistical market research.

2.1 Sources Of Information

It was agreed, at an early stage of the research, that all accepted sources of information for this analysis and subsequent reports should have:

- A high level of credibility.
- Information should be current and not more than one year old if possible.
- Reliance on Jordanian governmental data sources and agencies.
- The World Bank data, the UN data, and reputable reports published as regional or national studies.
- Interviews with the prominent players in the Jordanian market.

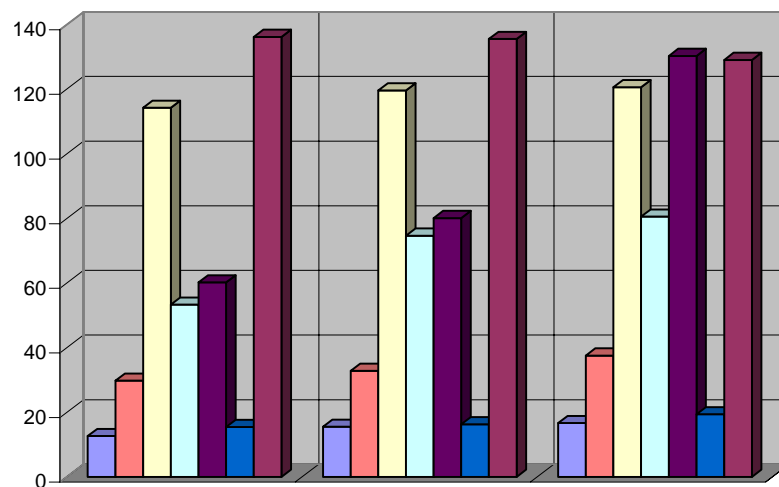
Online searches for relevant information were conducted; series of interviews were conducted in the field, to test and verify the findings. Figures published with analyses were selected and used reflecting the same measuring units and methods. (i.e. rate of penetration % per household or penetration per 1000 population)

2.2 PC Penetration Rates

2.2.1 Regional View

PC penetration rate in Jordan stands currently at (16.4%) of households, and (3.7%) of the population according to ESCWA. These figures do not provide a clear idea about the technical aspects of these PC's or whether they can be connected to the internet or not. Any comparative analysis has to take into consideration regional countries and those with the similar goals, plans or geographic location. A regional comparison also has to take into consideration the demographic differences between the countries were population and GDP and per capita income differences are large.

PC Penetration (per 1000)

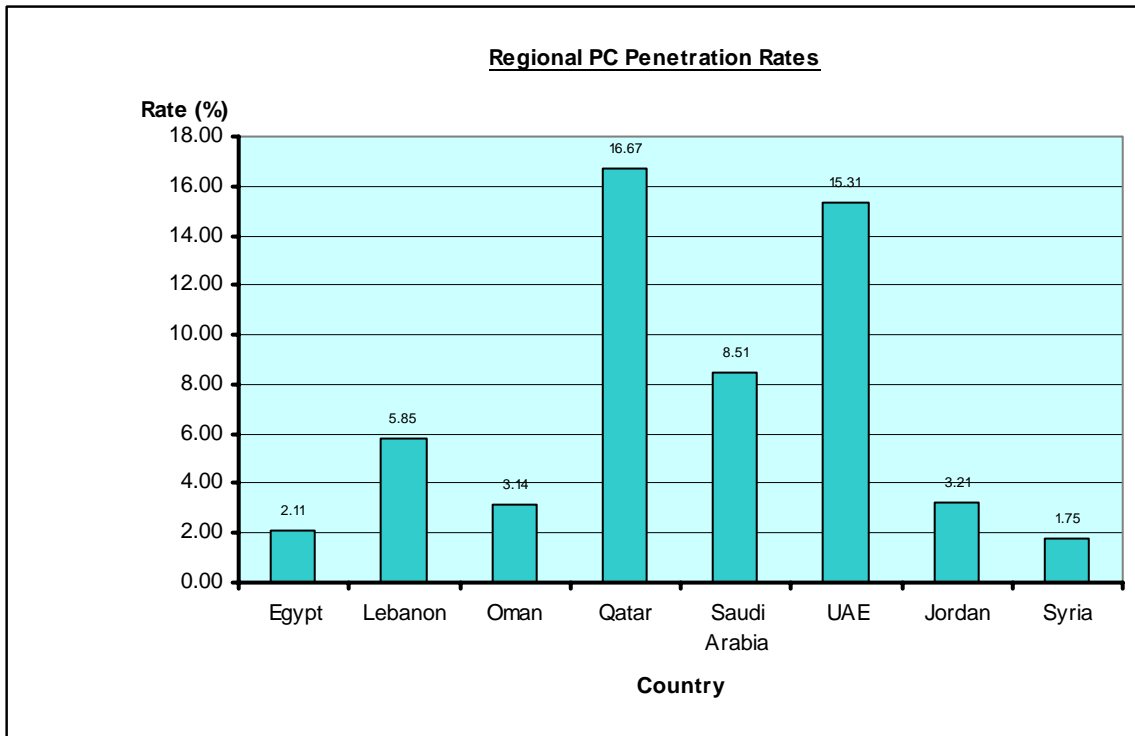


	2000	2001	2002
Egypt, Arab Rep.	12.6	15.49	16.64
Jordan	29.77	32.81	37.53
Kuwait	114.17	119.56	120.56
Lebanon	53.25	74.63	80.53
Saudi Arabia	60.17	80.08	130.23
Syrian Arab Republic	15.44	16.26	19.37
United Arab Emirates	136.15	135.48	129.01

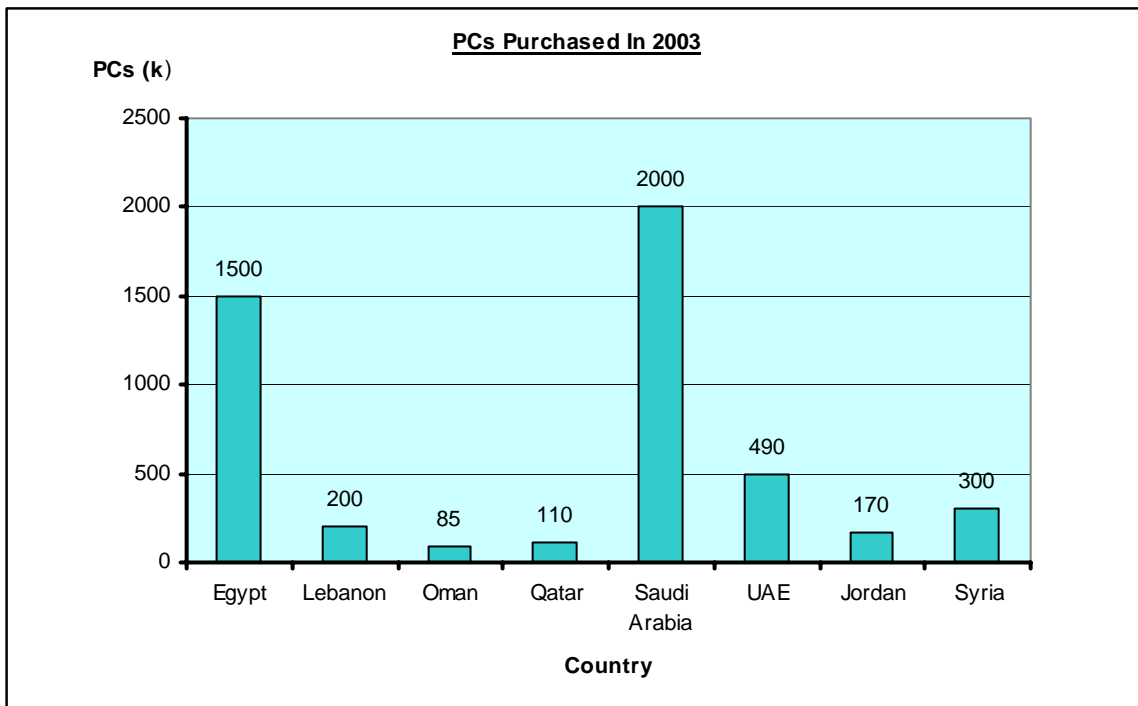
Source: Information profile For Western Asia / ESCWA - 2003

ESCWA figures show that the highest rate of PC penetration increase was in Saudi Arabia which also had the highest PC penetration rate in 2002. Kuwait PC penetration did not improve at the same rate. Jordan PC penetration rates clearly bettered those of both Egypt and Syria.

Other statistics on the numbers of PCs sold in the region during 2003, show that Saudi Arabia leads with 2,000,000 units with the lowest figures for Oman standing at 85,000. The figure for Jordan is quoted as 170,000. A closer analysis of these figures needs to take population size into consideration.



Source: Information profile For Western Asia / ESCWA - 2003



Source: Information profile For Western Asia / ESCWA - 2003

PC Sales In The Middle East

		Units (In Thousands)	Sales Growth (2004-2008)
1	Saudi Arabia	3,750	11%
2	Egypt	2,700	16%
3	UAE	1,650	12%
4	Jordan	950	14%
5	Syria	900	15%
6	Lebanon	800	13%
7	Kuwait	750	13%

Source: MADAR Research - 2004

According to Madar Research estimates, Jordan PC sales are expected to grow 14% within four years. This is a natural growth without the adoption of any national programs to increase PC/Internet penetration. In case such programs are implemented, the estimated growth in PC sales will certainly be much higher. **In conclusion, Jordan's PC penetration is below average and still among the lowest numbers in the region.**

2.2.2 National View

According to the Jordan Department of Statistics Study published in 2002, Jordan has a (16.4%) household PC penetration rate. This is a very raw rate, although reasonable when compared to the regional countries, but without any clear breakdown regarding the type, usage and number of PC's in households. According to the age structure of the Jordanian population, most are young and more than 60% are PC users within each group for its own reasons:

Table VII Jordan Population Age Structure

Jordan Population Age Structure	
0 - 14 Years	35.9% (male 1,001,174; female 959,157)
15 - 64 Years	60.5% (male 1,764,061; female 1,541,453)
65 Years and above	3.6% (male 95,566; female 98,854) (2003 est.)

Source: Information profile For Western Asia / ESCWA - 2004

2.2.3 PC Market Segments

Women

A total of (918,000) households exist in Jordan with average size of (5.8) persons per family. This indicates a need to select housewives as a potential target to increase PC penetration in households. Parents especially mothers teach their children at home. Women between

age 15- 64 number more than 1.5 million, with suitable web content and reasonable PC and internet running costs, a sizable demand on PCs from this vital segment can be created.

Findings have revealed that Jordanian women, who make up 48% of Jordan's population, face the risk of being marginalized from the flourishing ICT sector due to unequal access to training and education. Based on the United Nations Development Fund for Women research entitled "Jordanian Women in the ICT Space", it has been found that women make up only 28% of Jordan's total ICT labor force. By targeting this segment, demand in the PC market along with PC penetration rates will increase.

- Students Students at schools, colleges and universities using PC's extensively with internet access as well. This group is the workforce of future and special care should be taken to design financing programs dedicated to students' requirements. Any major increase in PC penetration rates for this segment will have a snowballing effect over the years.
- Civil Service More than 143,000 civil servants work in government departments and institutions. A good portion of them are trained on how to use a PC and use computers at work. Most of them qualify for PC purchasing schemes at banks or at the Postal Savings Fund. Such programs need to be encouraged with adequate publicity.
- Senior Citizens Representing 3% of the population, senior citizens do not play a major role in ICT sector development (or PC penetration rates). The country is not benefiting from the accumulated experiences of this segment of society. A national program has to be designed to educate and bridge the digital divide for senior citizens.

2.2.4 Definition Of A PC

For the purposes of this analysis a PC is defined as a computer that has a local storage and a processor with input and output devices, keyboard and screen respectively. This definition of the PC is adopted according to the International Data Corporation Asia/Pacific definition. Also for the use of the internet a computer must have communication device either a modem or network interface card. PCs more than five years old and without any upgrades were not considered as part of the sample for this analysis.

A PC must have a licensed operating system and some software to run on. Some of computing devices are used for specific functions; these devices are not intended to be a PCs. Devices under this category include controls, Point of Sale (POS) computers and Personal Digital Assistants (PDA), as well as handheld devices and some mobile phones.

Table VIII PC Usage According To Age Group

Age Group (years)	PC Usage
0 - 14	PC is used as gaming device to play 3D games and network games. Listen to music for entertainment, and as tool for studying.
15 - 64	PC is used as work or study device, for research, communication, leisure (Chatting), multimedia and other useful production.
65 years and above	PC is used for work, research, communication and a general information gathering and entertainment device.

Source: Research And Information Profile For Western Asia / ESCWA - 2004

2.2.5 Current Penetration Rate

A recent survey "Household Expenditures and Income survey 2002/2003" carried out by the Department Of Statistics covered 805,949 households produced the following results:

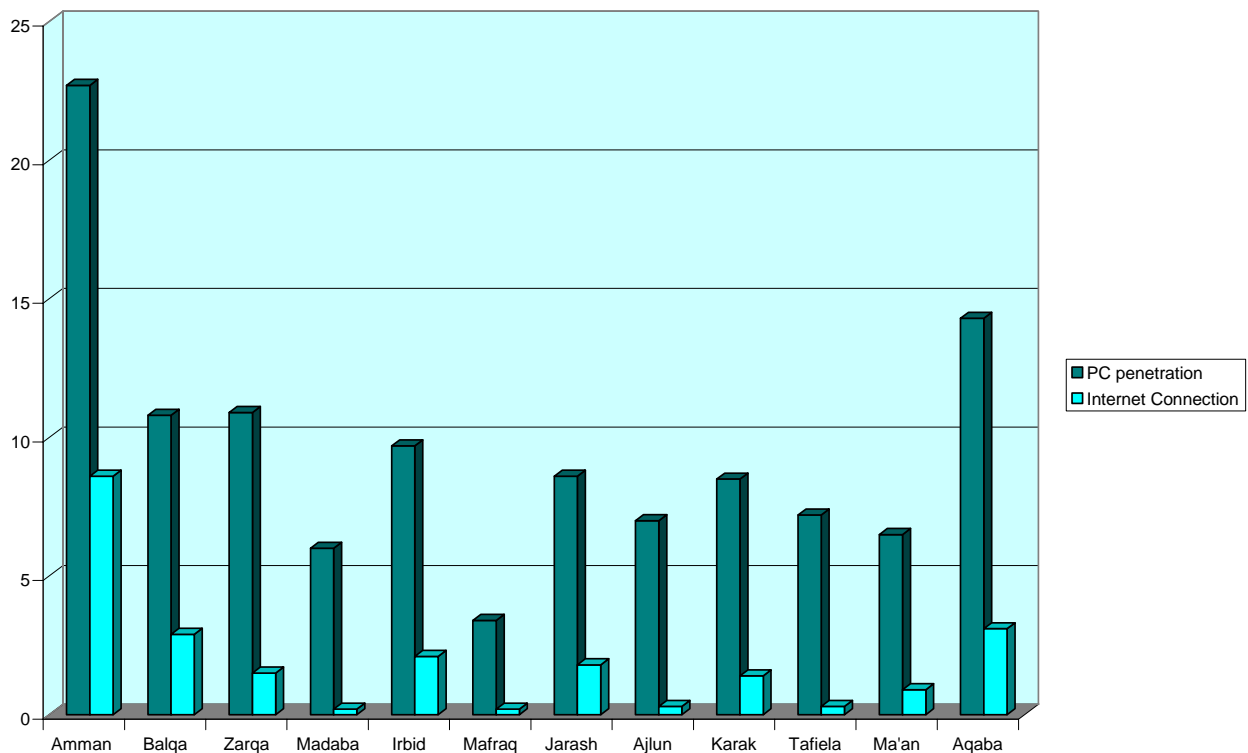
Table IX Household Income/Expenditures Survey 2002/2003

Governorate	PC Penetration	Internet Connection	Telephone	Cellular	Fax	Car
Amman	22.7	8.6	72.1	47.4	2.6	46.5
Balqa	10.8	2.9	59.1	28.9	0.9	31.5
Zarqa	10.9	1.5	53.2	35.8	0.6	27.5
Madaba	6.0	0.2	54.7	31.4	0.2	32.7
Irbid	9.7	2.1	58.9	2.8	0.9	26.4
Mafraq	3.4	0.2	51.3	27.4	0.9	25.4
Jarash	8.6	1.8	47.	21.8	1.2	30.3
Ajlun	7.0	0.3	60.4	17.1	0.0	25.6
Karak	8.5	1.4	49.1	32.1	0.5	33.6
Tafiela	7.2	0.3	59.7	28.1	0.0	29.4
Ma'an	6.5	.9	42.6	34.3	0.6	37.0
Aqaba	14.3	3.1	59.8	41.8	1.0	36.1
Urban Average	16.9	5.2	64.3	39.5	1.8	36.4
Rural Average	5.8	1.5	53.0	26.3	0.5	33.8

Source: Jordan Department Of Statistics - 2004

It is worthy to note that the governorates of Amman and Aqaba lead in terms of PC as well as internet penetration. The urban and rural averages for PC penetration were

(16.9%) and (5.8%) respectively, whereas the same averages for Internet connections were (5.2%) and (1.5%) respectively.



Source: Jordan Department Of Statistics - 2004

A survey was conducted by Jordan Telecom's Operational Marketing Department attempting to find the relationship between **PC Penetration** and **Internet Penetration** as well as the rate of growth in Jordan's geographic regions (governorates) for the past five years. The survey reflected some interesting numbers (Table X) and Jordanian households with more than one fixed telephone line are most likely to own at least one PC with an Internet connection.

Table X Penetration Rates & Forecast 1998-2005

Year	Amman		Irbid		Zarka		Aqaba	
	Internet	PC	Internet	PC	Internet	PC	Internet	PC
1998								
1999								
2000								
2001								
2002								
2003								
2004								
2005								
2006								
2007								

Source: Jordan Telecom Survey - 2004

Other figures emerging from the JT survey include:

- The average monthly internet bill varies between JD 30-50.
- The total number of ADSL & Dial-up subscribers is around 73,000.

2.2.6 Target Penetration Rate

Analyzing the results from the various tables and based on the estimated forecast numbers for PC's for the next three years, the suggested target of **doubling the current penetration rate** either in household or population percentages should be achievable.

Target Penetration Rate
Jordan's PC/Internet Penetration rate stood around 3.7% - 4.0% of population. The target is to achieve a rate between 9.0% -10.0% over the next three years ending 2007.

2.3 Focus Areas For Achieving Targets

2.3.1 Affordability Of Technology

Based on average per capita annual income figures, PC ownership is still out of reach for a large section of the population. While there is a general consensus that more needs to be done in terms of reducing PC ownership costs, the underlying factor of a low per capita income when compared to other countries will be the main barrier. Alternative methods (such as soft financing schemes) need to be devised in order to encourage the average citizen to purchase a PC.

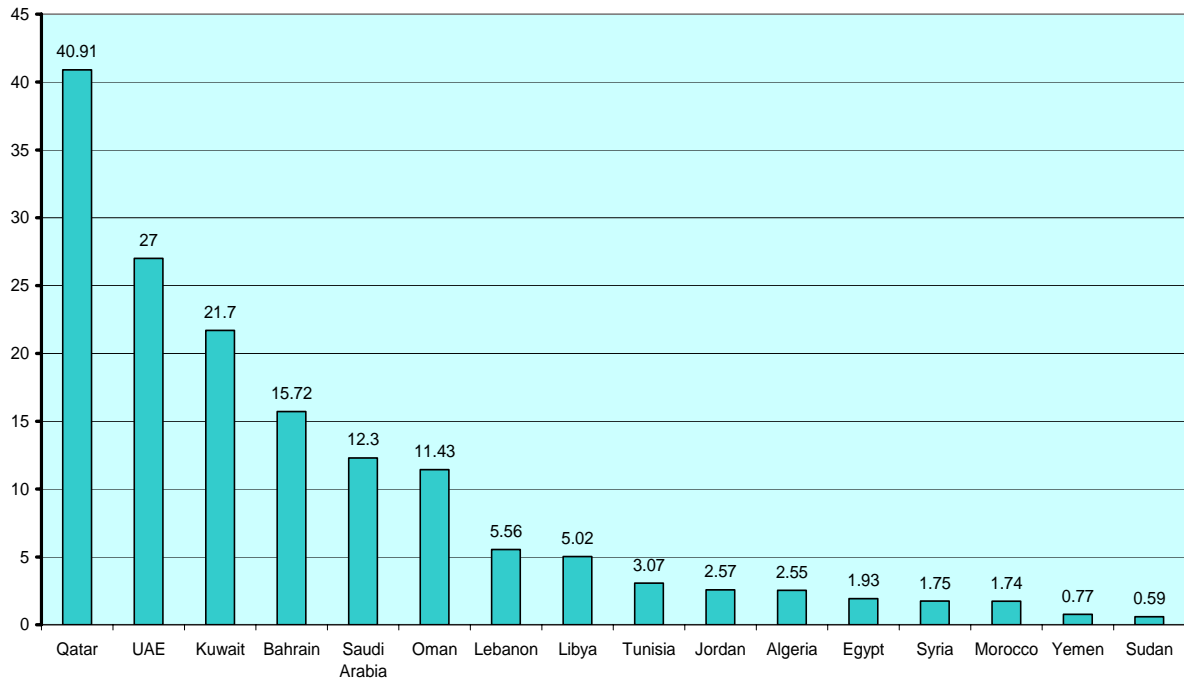
According to published statistics from World Bank Development Indicators, regional PC affordability (based on per capita income divided by average PC cost) varied widely from country to another. As an example, a citizen in Qatar can procure (41) PCs, whereas in Jordan and Syria the figures are much lower reaching (2.57) and (1.75) respectively.

Table XI PC Affordability - World Bank Indicators

Country	\$GDP per Capita For 2002	PC Units Purchasable by GDP per Capita Average PC cost \$700
Qatar	28,633.57	40.91
United Arab Emirates	18,902.46	27.00
Kuwait	15,192.83	21.70
Bahrain	11,007.04	15.72
Saudi Arabia	8,611.85	12.30
Oman	8,002.16	11.43
Lebanon	3,894.15	5.56
Libya	3,511.51	5.02
Tunisia	2,149.44	3.07
Jordan	1,798.65	2.57
Algeria	1,785.23	2.55
Egypt	1,353.79	1.93
Syria	1,223.53	1.75
Morocco	1,217.67	1.74
Yemen	536.77	0.77
Sudan	412.2	0.59

Source: World Development Indicators Online Database - 2004

PC Units Purchasable by GDP per Capita For PC Cost of \$700



Source: Research And World Development Indicators Online Database - 2004

Recommendation

There is a need to introduce different PC financing schemes for dedicated various population age groups taking into consideration the income, earning and repayment potential of each group.

2.3.2 Cost of Technology

Global PC costs have dropped continuously over the past few years and costs in Jordan followed the trend to a large extent. Low margins and heavy competition in the local market have reduced hardware prices even further. The recent formation of a large scale PC assembly line in the country will also increase competition with branded PCs and reduce prices.

With the enforced implementation of IPR laws, software cost is now a major factor in overall PC ownership costs. The impact of software costs on PC/Internet penetration rates will continue to be negative.

Recommendation

There is a need to introduce special introductory software prices for the certain target groups (e.g. students). Efforts are required to promote such schemes with major international PC software developers and suppliers.

2.3.3 Population Education

Public education through media channels TV, Radio and news papers is essential to achieve a good understanding of technology and benefits to users in all fields. The use of a PC as a tool to communicate locally and internationally and to do business with the government should be actively encouraged.

E-learning with a strong education system and a wealth of online content should be promoted. Citizens must be able to access library materials, newspapers, corporate information, government databases, and much more, online and in their native language. Such content makes informal Internet learning possible.

Recommendation
Designing and creating special programs to offer and teach typing (Keyboarding) classes, as a mandatory subject for all level of schooling in the kingdom, concentrating on High school students at first. This would create the need to use a keyboard; it will also refine the quality of work and study done by students in all levels. This must be a national project it will increase the workforce quality and it will contribute in promoting Jordan as an IT Hub for the region and will maintain the legacy of Jordanian workforce as being one of the finest in the region.

2.3.4 Internet Access Costs

The cost of household connections should be kept to minimum. Normally home users use a dialup connection to the internet with the cost reflected on the monthly phone bill. A higher than expected cost will affect the use of the PC in household. It will also negatively impact PC penetration rates. Recently in Jordan JTC Introduced a 50% discount on the second household phone line with three months free of charge service.

2.3.5 Web Content & Language

Jordan as an Arabic native language needs to create content in its native language for all activities related to PC software and Internet content People must be able to access library materials, newspapers, corporate information, government databases, and much more, online in Arabic This content makes informal Internet learning possible, and contributes to the strength and viability of structured e-learning programs needed.

2.3.6 Target Age Groups

Jordan is a young country in all aspects and the median age of Jordanians is 21.8 years, which places the majority of the target age group for the feasibility study at less than 30 years old, encompassing 70% of the population (i.e. about 3.63 million people). Only 3.6% of the population is above 60 years old. The target age group should be set between the ages of 15 - 30 years old and programs to increase PC/Internet penetration should strongly take this into account.

Recommendation

Design and produce a TV program that attracts targeted age group 15 - 30 years to appreciate computer technology and how to use it productively. The program maybe produced and run by int@j in cooperation with Jordan TV.

Recommendation

Daily Media and newspapers should be encouraged to continue publishing articles written by professionals in the field to educate and explain technical aspects of operating systems, software, and hardware in layman's terms. In one word creating an informed culture.

2.4 Prohibitive Barriers

The following issues have been identified as possible prohibitive barriers that could negatively affect the desired targeted increase in PC/Internet Penetration rates. Most of these issues have been raised and discussed at length with relevant government departments.

2.4.1 Internet & Software Censorship

int@j prepared a detailed position paper related to software censorship in November 2001 and the issue was considered closed until recent implementation problems surfaced. Most of the problems were not procedural but rather related to the "personalized interpretation and implementation" of the relevant regulations by some officials.

Recommendation

A transparent implementation of regulations exempting all software (CDs, DVDs) imported for personal use from censorship should be enforced.

Internet Censorship and Software Censorship are two different issues which require different approaches in resolution. Software Censorship has a commercial component to it, Internet Censorship touches on individual freedoms and the right to have access to information without restrictions.

There are some valid concerns related to certain internet content deemed unsuitable for public access and calls for blocking access to such sites, the free availability of a multitude of software providing "safe and undetected" access to websites will reduce the efficiency of direct censorship efforts to a minimum.

Recommendation

Raising awareness and self censorship as opposed to direct internet content censorship have produced much better results.

2.4.2 The Daman Program

This purpose of this program, which was introduced by the Jordan Institute of Standards and Metrology (JISM) in cooperation with Bureau Veritas, was to test and certify compliance of all imports into the country. The program applies to all types of IT equipment including PCs and peripherals. The certification process was initially slow and full of bureaucratic complications with a variety of documentation being requested from importers. As a result of strong lobbying by int@j (Advocacy Committee), major bottlenecks were gradually smoothed out with the introduction of Green Lists that differentiate between items that require full testing (for first time imports) and items

that require **inspection** only (items that have been previously tested). The recent inclusion of IT spare parts complicated matters even further. The IT sector still maintains a negative general view of the process and considers it as an additional unnecessary cost factor, a hindrance to the import cycle as well as a barrier to foreign investments in the country. Establishing regional spare parts, components and support centers by global IT companies in Jordan were raised as an example.

Since Industrial Free Zones are governed by special laws and regulations and legally considered as operating "**outside the country**", this Daman program will also negatively impact the business process of large scale PC assemblers established in such zones. All "**imports**" from items manufactured/assembled in such zones will have to pass through the Daman testing/inspection process at some stage.

Recommendation

While abolishing the Daman program altogether is not feasible, serious efforts with JISM will be required in order to further streamline the testing/inspection process and reduce associated costs and timeframes.

2.4.3 Income Tax

There are two components to this issue, the first component related to the 2% pre-paid income tax on account levied on most imports since July 2003; the second component is the general auditing process and tax exemption policies as understood by the Income Tax Department.

This first component (2% prepaid income tax) was resolved after extensive lobbying efforts by int@j (again thanks to the Advocacy Committee). The solution was based on a 2% Exempted Green List applicable to companies with "**good standing order**" with the Income Tax Department. The system is in place and seems to be working without major complaints, some problems are expected regarding the **interpretation** and **definition** of what "**good standing order**" actually means and the process through which companies are qualified or removed from the list. Effects of this component on PC/Internet penetration are expected to be minimal.

The second component relates to companies that qualified for Income Tax exemptions under a program encouraging industrial investments in the country. Lobbying efforts by int@j a few years ago managed to secure "**industrial classification status**" to certain ICT services (e.g. software development, PC assembly). The problem came to light when some companies actually obtained exemption certification and approval from the relevant authorities (Jordan Investment Board and the Chamber of Industry at that time) and actually started operating on this basis only to discover at the end of the financial years that the Income Tax Department did not recognize the exemptions.

Recommendation

Direct and indirect taxation in general and Income Tax in particular is considered a prohibitive barrier affecting PC/Internet penetration rates. Efforts with the Ministry Of Finance (MoF) will be required to address and resolve specific issues.

2.4.4 Sales Tax & Customs Duties

Customs duties on most types of IT equipment (except spare parts) were gradually reduced to zero over the past few years and most imports are subjected to the currently applicable 16% Sales Tax upon import.

Sales Tax is considered as a sizable addition to PC costs which are already out of reach of the majority of citizens in the country when compared to per capita income figures.

Recommendation

Efforts with the Ministry Of Finance (MoF) will be required in order to exempt PCs purchased under certain programs from Sales Tax as recommended in the feasibility study.