ANALYSIS OF LEBANON'S ICT SECTOR

BankMed - Market & Economic Research Division

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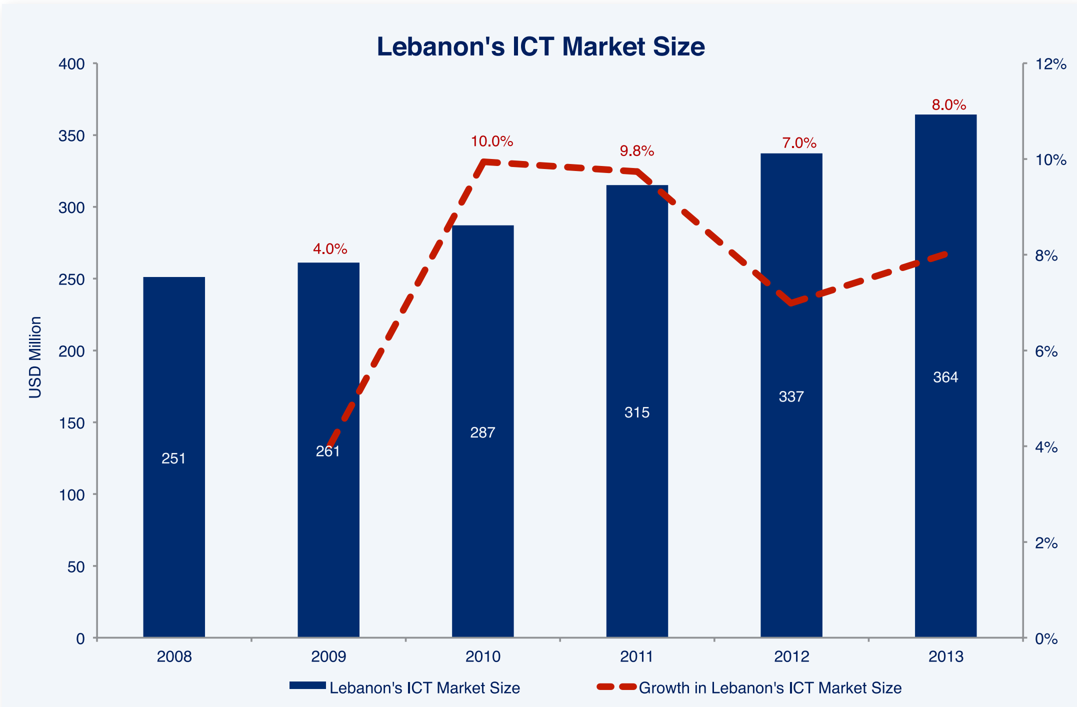
LEBANON'S ICT SECTOR

ICT SECTOR MARKET SIZE

In the last five years, the Information and Communication Technology (ICT) sector in Lebanon has witnessed a giant leap in terms of development and expansion. This growth is reflected in a booming tech community, placing Lebanon among evolving ICT markets in the region. Several factors have driven the expansion of the ICT market including: rising incomes, falling device prices, enhancements to infrastructure, as well as enterprises and public sector modernization. As such, Lebanon's ICT sector has grown by an average annual rate of 7.7% over the period 2008-2013, reaching a market size of USD 364 million in 2013. In fact, Lebanon's ICT sector has benefited from recent investments in infrastructure and networks, expanding broadband capacity, increasing internet speed, and the young and skilled labor force that brought to the ICT market various successful entrepreneurial initiatives.

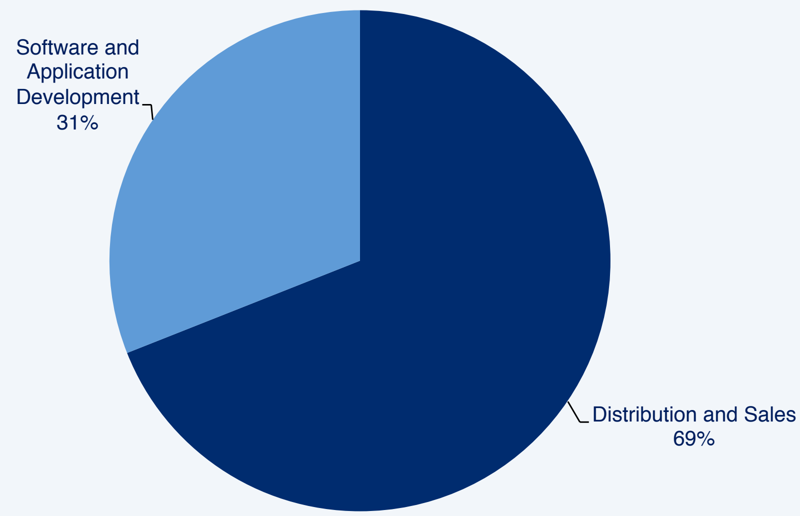


Source: Business Monitor International

LEBANON'S ICT SECTOR

The ICT sector is dominated by small and medium sized firms. These businesses are mainly involved in distribution and sales as well as software and application development. Specifically, the sector encompasses about 300 firms, of which more than two-thirds are engaged in sales of ICT-related products while the remaining one-third are specialized in software and application development. Increasingly however, the Lebanese ICT sector's profile is shifting away from wholesale and retail activities towards content generation and innovation. In fact, software development and application production are two activities, which have gained momentum in the past few years as websites and mobile applications became an indispensable component for customer reach in Lebanon. In terms of ICT services by industry, the banking and retail segments constitute the highest share followed by healthcare, education, insurance and trade.

Distribution of ICT Companies by Sector (2012)



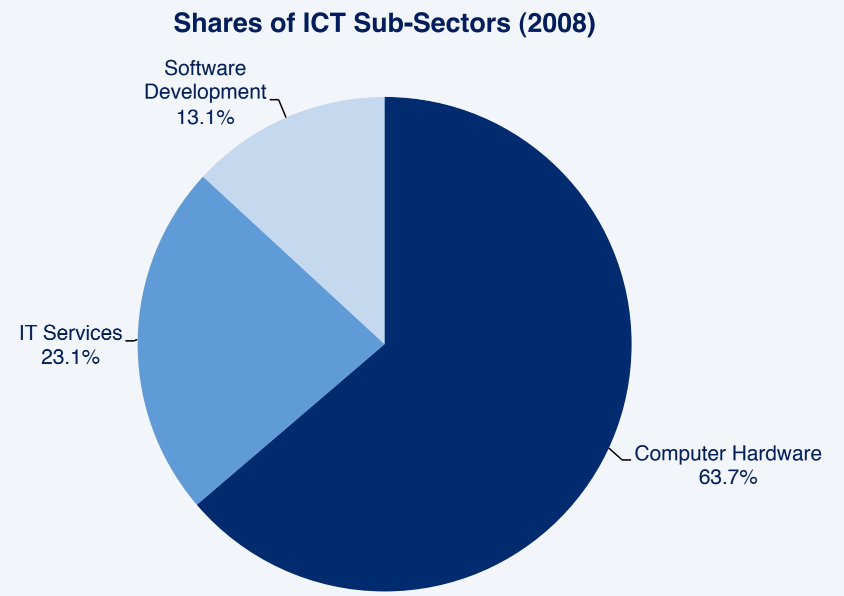
Source: Investment Development Authority of Lebanon

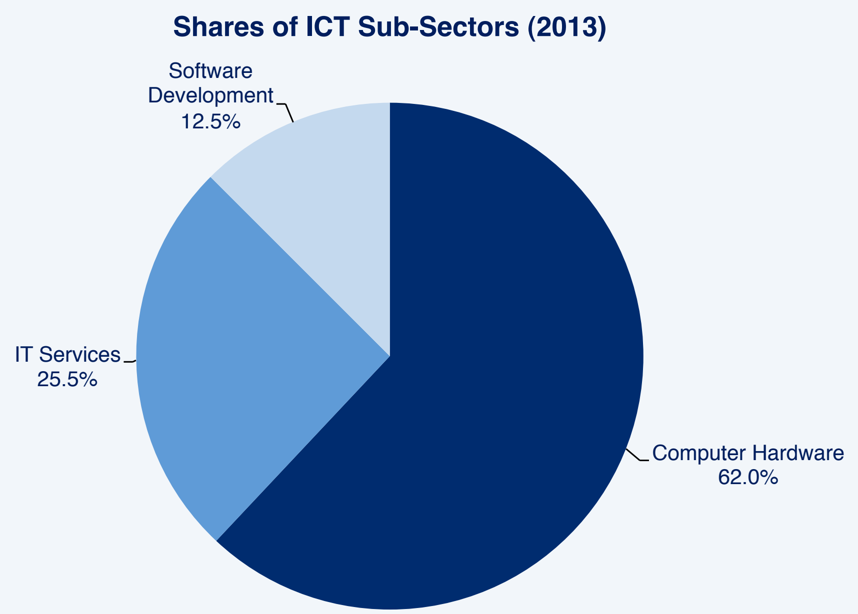
Despite its advancement, ICT is a leading industry in Lebanon that has unceasingly expanded but only to be held back. While the industry has grown with technological improvements, it is still limited by several inefficiencies including political motivation, hindered privatization, and inadequate competition due to piracy. Furthermore, the low quality and poor coverage of infrastructure coupled with high costs have created a bottleneck for the exponential advancement of Lebanon's ICT market. Additionally, the sector faces other challenges like the deficient regulatory framework and constant electricity outages. ICT development in Lebanon is also exposed to substantial uncertainty due to destabilizing security issues. Further, the Lebanese ICT industry is vulnerable to cyber security threats, hence undermining confidence in the sector.

LEBANON'S ICT SECTOR

ICT SUB-SECTORS

Lebanon's ICT market can be divided into three main sub-sectors: computer hardware, software, and IT services. Despite the fact that its market share has been reduced over the period 2008-2013, computer hardware still constitutes the bulk of Lebanon's ICT market with a share of 62%. It is followed by IT services sub-sector which has slightly expanded during the abovementioned period to account for about one-fourth of the ICT market. As for software development, it still constitutes the smallest sub-sector despite the fact that most companies are increasingly shifting towards development rather than sales.





Source: Business Monitor International

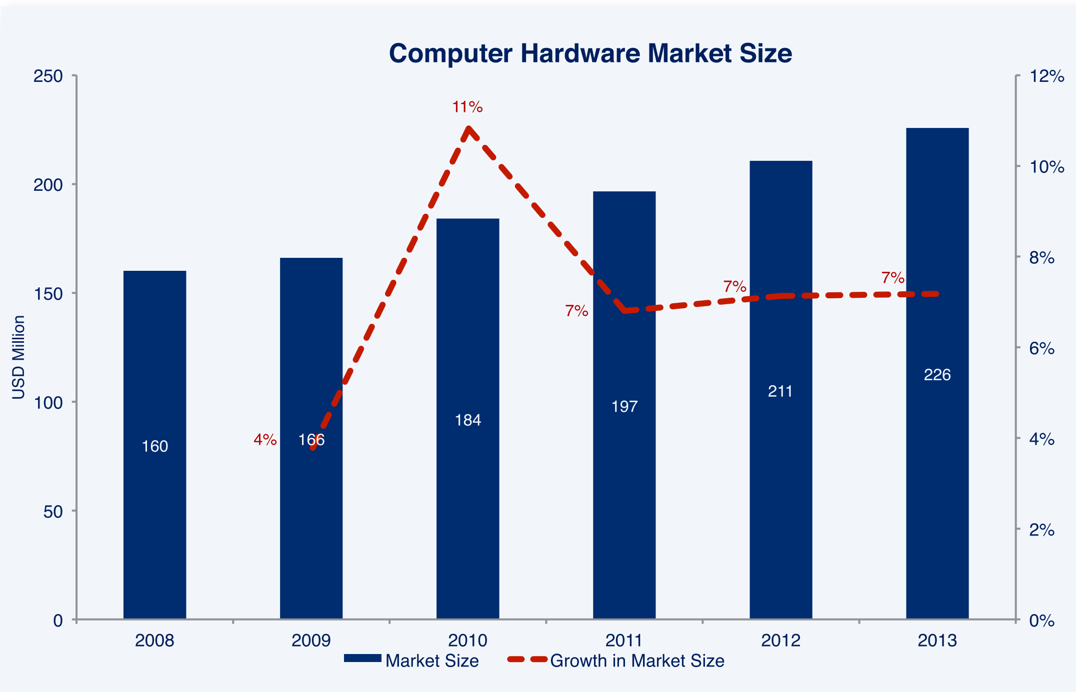
LEBANON'S ICT SECTOR

COMPUTER HARDWARE

Lebanon's ICT market is dominated by the computer hardware sub-sector, which have expanded by an average annual rate of 7% over the period 2008-2013, to reach a value of USD 226 million in 2013. This rapid growth is generated as the Lebanese ICT consumer market is young and reveals appetite for high-tech products.

Computer sales, including notebooks and accessories, account for 83% of the country's computer hardware market with a value of USD 189 million in 2013. The personal computer market is dominated by international hardware manufacturers, who have accessed the Lebanese market through local agents and distributors. However, the computer hardware market is still far from being saturated and possesses solid unrealized growth potential given that the overall personal computer penetration rate in Lebanon is still at 16%. As such, demand for personal computers is rising steadily at household level as well as business level. This is in part attributed to the recent public and private schemes, which have made low-price computers available, developed the broadband infrastructure, and invested in electronic services.

Furthermore, Lebanese consumers are recently showing preference to purchasing tablets rather than desktop computers and notebooks. As the number of tablets sold grew, the growth in the computer hardware segment slowed down due to the fact that the tablets' average selling price is on the decline.



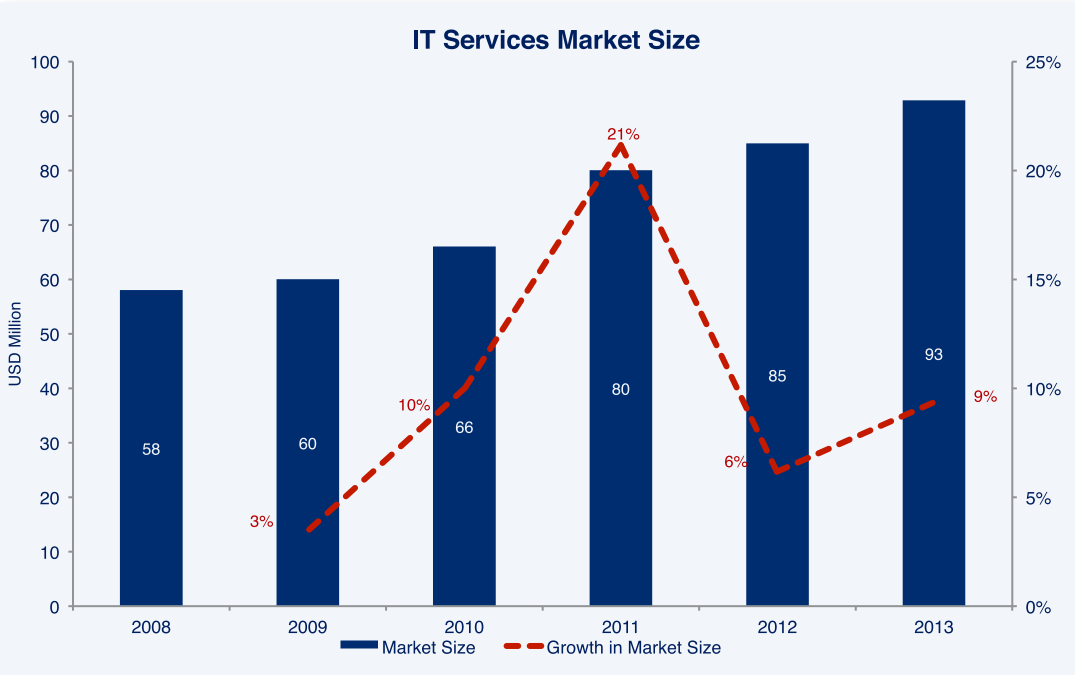
Source: Business Monitor International

LEBANON'S ICT SECTOR

IT SERVICES

Lebanon's IT services sub-sector – support, implementation and integration, training and maintenance – reached a value of USD 93 million in 2013, accounting for one-fourth of the total ICT market and growing by an average annual rate of 10% over the period 2008-2013. The expansion witnessed in this sub-sector comes as a direct result of the rising spending on e-services by businesses, telecom companies, and government agencies.

Within the IT services sub-sector, support and maintenance constitute the largest share of spending. Nevertheless, the market has witnessed rising demand for more complex services including facilities management services and value-added services. Additionally, the IT services sub-sector offers substantial growth opportunities, specifically because of telecom companies and banking sector's mounting demand for technology products and services, coupled with the pressing need for IT products upgrade in government departments. Further, higher growth is expected to be driven by improved infrastructure and cloud services.

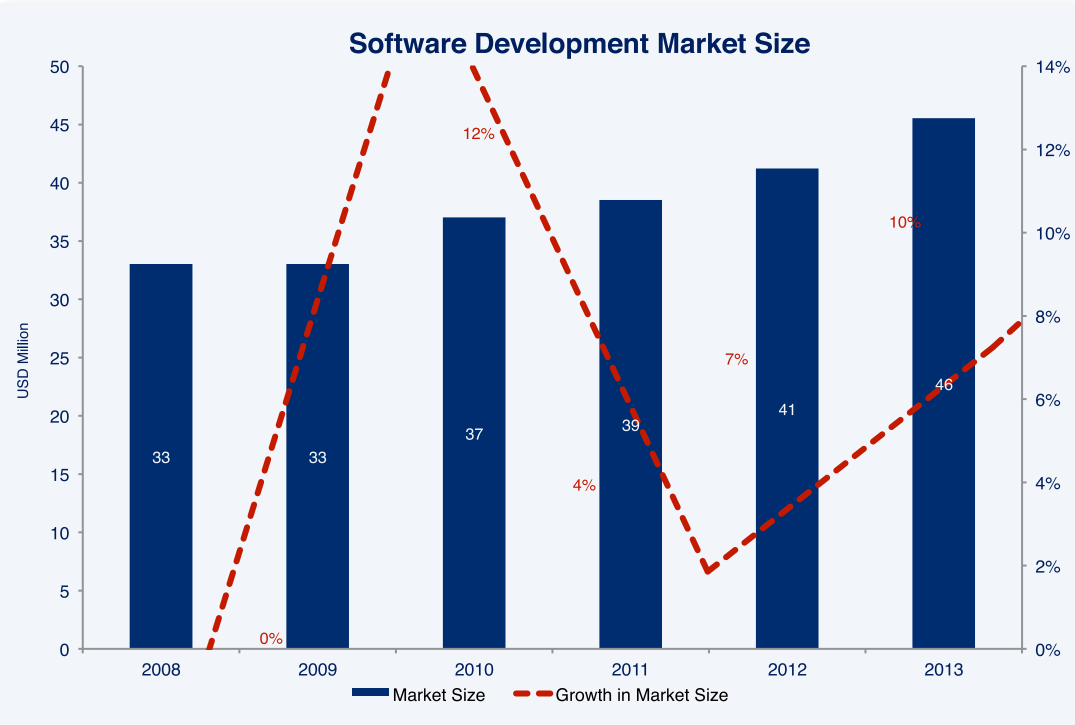


Source: Business Monitor International

LEBANON'S ICT SECTOR

SOFTWARE DEVELOPMENT

Software development sub-sector has witnessed modest yet steady growth over the past few years. The software market value reached USD 46 million in 2013, growing by an average annual rate of 7% during 2008-2013. In fact, software piracy have dragged the development of the software sub-sector and continues to negatively impact the software market in spite of the implementation of public and private plans to limit piracy in the country. Indeed, the government has attempted to address copyright protection issues but piracy remains a major obstacle to software market expansion. Additionally, cyber security issues can also disrupt the development of Lebanon's software market. Specifically, a successful cyber-attack could potentially weaken confidence in Lebanon's ICT solutions and systems, hence adversely affecting the sub-sector's growth. As such, robust growth in the software development sub-sector hinges on the implementation of property rights, the limitation of software piracy, the improvement of IT infrastructure, and the protection against cyber-attacks.



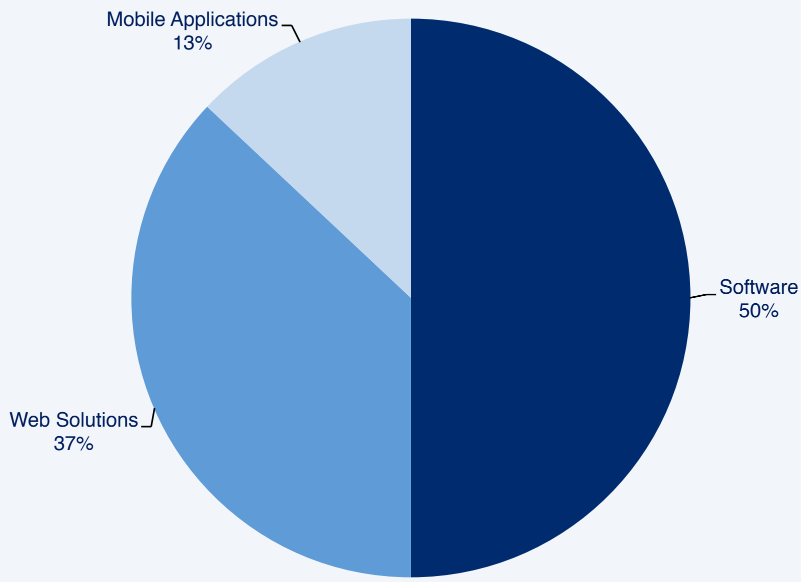
Source: Business Monitor International

LEBANON'S ICT SECTOR

The software sub-sector encompasses the development of software, web solutions and mobile applications. As for content generation, most Lebanese companies are specialized in one of the following areas:

- Specialized applications development
- Web solutions development
- E-services supply to the banking, healthcare, education , and retail sectors
- Multimedia products development
- Mobile applications development

Distirbution of Software Companies by Activity (2012)



Source: Investment Development Authority of Lebanon

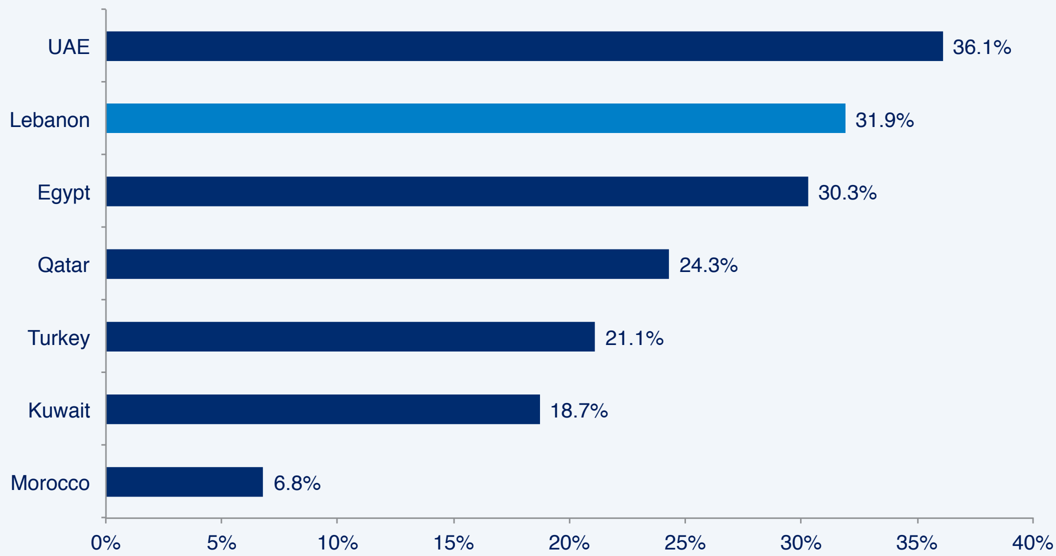
LEBANON'S ICT SECTOR

ICT SECTOR LABOR FORCE

With the demand for ICT knowledge on the rise and the growing development within the sector, Lebanon's ICT sector employs about 7,000 skilled individuals today. Additionally, about 2,000 university graduates in the fields of computer science, computer engineering, and applied informatics join the ICT sector each year. This young and skillful labor force can work in the domestic ICT market or even operate as a talented off-shoring resource. Additionally, these new entrants have recorded various successful entrepreneurial activities in the ICT domain, ensuring that Lebanon has the potential to become a major regional hub for software and application development.

The new labor market entrants are mostly educated, high-skilled, ICT literate, multilingual and cost-competitive. Lebanon's ICT labor force is endowed with competitive technical skills when compared to the region. This is mainly due to the country's advanced educational system. In fact, according to the International Telecommunication Union, 32% of Lebanon's labor force is employed in knowledge-intensive activities. This compares to 30% in Egypt, 24% in Qatra, and 19% in Kuwait.

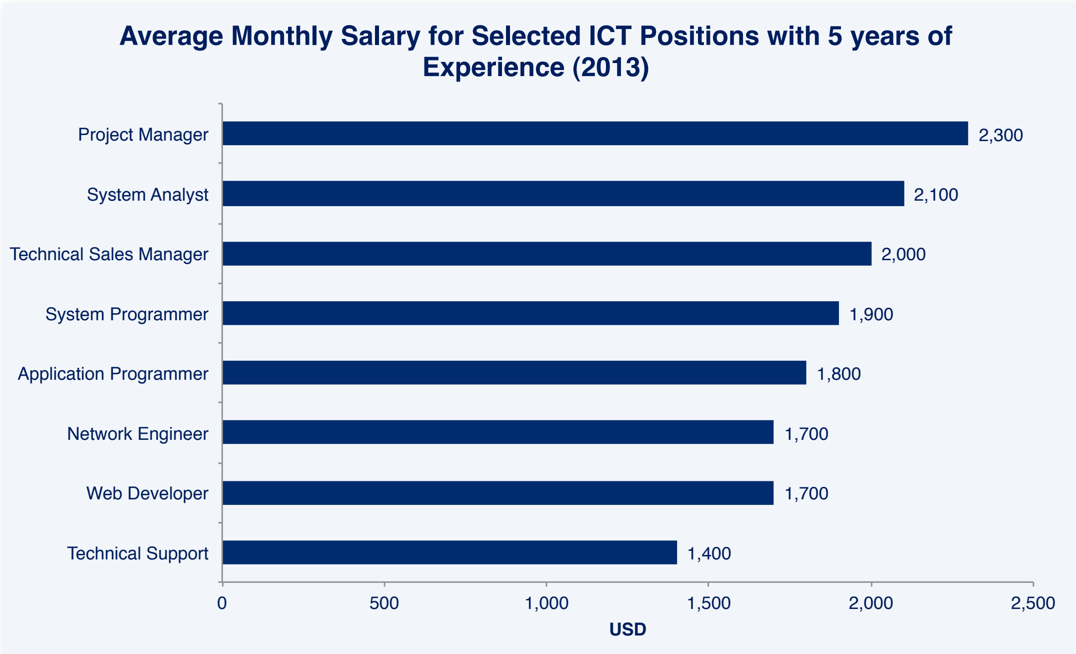
Share of Labor Force Employed in Knowledge-Intensive Activities (2013)



Source: International Telecommunication Union

LEBANON'S ICT SECTOR

Despite the high qualifications of Lebanon's ICT labor force, the salary scale in this sector is considered highly competitive. For instance, according to InfoPro, the average monthly salary of a technical support employee with 5 years of experience reaches USD 1,400. Meanwhile, system and application programmers' – with the same years of experience – salary ranges between USD 1800 and USD 1,900. As for the project management position, the average monthly salary varies between USD 2,300 and USD 2,600.

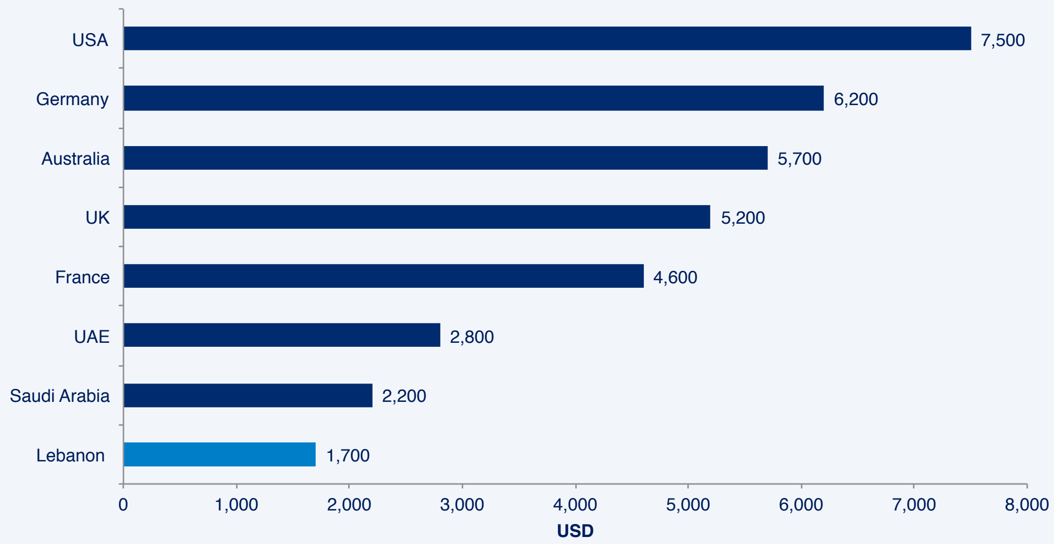


Source: InfoPro

LEBANON'S ICT SECTOR

Even when compared with ICT salary base regionally and internationally, Lebanon's ICT workforce is considered cheaper than its counterparts. For instance, the average monthly wage of a software engineer in Lebanon is USD 1,700, which is 60% lower than in UAE, 235% less than in Australia, and 341% lower than in the US.

Average Monthly Salary of Software Engineer in Selected Countries (2013)



Source: Payscale, Indeed

LEBANON'S ICT SECTOR

FINANCING LEBANON'S ICT SECTOR

FOREIGN DIRECT INVESTMENTS

The considerable inflows of foreign direct investments (FDI) to Lebanon since 2006 has placed the Lebanese economy as one of the most open economies in the region, with FDI-to-GDP exceeding 11% and FDI per capita at about USD 9,000. Although Lebanon has not completely developed into a Research and Development base, the increased openness has reflected positively on the quality to technology transfer as well as on workforce globalization. In this respect, the ICT sector has attracted a significant portion of FDI inflows, with several multinational companies engaging in ICT investments in Lebanon. Over the period 2003-2012, 18 new ICT partnerships and 10 new FDI projects have been initiated in Lebanon. Further, prominent multinational ICT companies operate today through subsidiaries in Lebanon including Microsoft, Cisco, Intel, Nokia Siemens, Sony Ericson, Aramex, and Huawei.

	Number of FDI Projects	Number of Partnerships
2003	0	0
2004	1	4
2005	2	0
2006	1	0
2007	0	0
2008	0	0
2009	1	2
2010	2	2
2011	3	5
2012	0	5

Source: ANIMA Investment Network

LEBANON'S ICT SECTOR

Realizing the potentials of Lebanon's ICT sector, the Lebanese government provides several investment incentives to national and foreign investors. Exemptions and tax breaks are provided by government agencies to support start-up businesses in their set-up and operational phases. Specifically, two investment packages were launched to provide incentives for investment in Lebanon:

• Investment Project by Zone (IPZ): It targets small- and medium-sized projects, through providing support to these projects based on their location, hence benefiting the regions facing socio-economic challenges. The minimum investment amount for ICT projects is USD 200,000, the lowest threshold among all selected sectors, reflects the government's commitment to ICT development. Depending on the region, the incentive plan offers full or partial income and dividends tax exemptions for up to ten years.

• Package Deal Contract (PDC): It is a scheme targeting larger projects, which have a stronger impact on employment. The threshold for ICT projects is USD 400,000 and it must create a minimum of 25 jobs. The incentive plan offers income and dividend tax exemptions as well as exemptions from land registration and construction fees.

Recent Foreign Direct Investments in Lebanon's ICT Sector

Investor	Origin	Date	Type	Project
Unilog	France	2004	Greenfield	Unilog creates an off-shore R&D center in the Berytech technological park.
Ever	France	2005	nancial Joint Venture, Partial Acquisitic	Merger with the local group Arachnea to provide e-commerce solutions.
Maktoob	Jordan	2005	Acquisition, Total Privatization	Maktoob.com and Aramex International have jointly taken over Lebanon-based virtual shopping site Adabwafan.com.
MTN	South Africa	2006	Acquisition, Total Privatization	South African telecom giant to buy Lebanese-based Investcom, owner of Areeba Syria, from M1 holding, for USD 3.5 billion.
Telecom Italia	Italy	2009	Greenfield	The telephone operator to set up a communication service center for its customers and those of Orange Telecom in France and Symetric in the UK.
Intel / Intel Capital	USA	2010	nancial Joint Venture, Partial Acquisitic	The semi-conductor chip maker to invest in UK and Lebanon-based Nymgo, a provider of end VoIP services.
Zain (MTC)	Kuwait	2010	Branch, Delocalization	The telecommunications group subsidiary to open 15 outlets in Lebanon and to expand its services portfolio.
World Bank / IFC	USA	2011	nancial Joint Venture, Partial Acquisitic	The private sector arm of the World Bank to invest in telecom software solution provider MobiNets to support its international development.
Abraaj Capital	UAE	2011	nancial Joint Venture, Partial Acquisitic	After Intel in 2010, the Emirati fund manager to invest in UK and Lebanon-based Nymgo, a provider of end VoIP services.
IFusion Labs	USA	2011	Branch, Delocalization	The IT company, which developed web analytics service Woopra, to launch an affiliate in Beirut.

Source: ANIMA Investment Network

LEBANON'S ICT SECTOR

VENTURE CAPITAL FUNDS

As Lebanon's information and communication technology sector advances, financers are rushing to support startup businesses entering into the ICT game. Venture capital funds have lately expanded to provide financial assistance to innovative small and medium enterprises and start-ups. Today around four venture capital firms have developed funds to support businesses involved in ICT activities. These firms include Berytech, Middle East Venture Partners, and Wamda. Additionally, several regional investment funds have also supported Lebanese ICT firms including Arbah Nanotechnology Fund (Saudi Arabia), Gulf Venture Capital Fund I (UAE), ICT Ventures Limited (Saudi Arabia), EMEA Technology Investment Fund (Egypt) and Timar Technology Fund (Turkey).On the other hand, the shares of Portugal and Vietnam and out of total apparel imports of Lebanon increased to reach 4% and 3%, respectively.

Lebanon's ICT startups are considered attractive investments for local and regional venture capital funds. The reason behind this is that Lebanon has a major potential for advancing its ICT sector and the capital required to start an ICT company is relatively small. Moreover, the Lebanese ICT sector is of particular interest to investment funds since Lebanese entrepreneurs are creative, innovative, well-connected, and have a good sense of business, all of which reduces the risk of investing in their startup firms.

Venture Capital Funds investing in Lebanon's ICT Sector

Fund Manager	Fund Name	Date Launched	Fund Size (Targeted)	Description
Middle East Venture Partners	The Building Block Equity Fund (BBEF)	2008	USD 9 million	BBEF is a high profile initiative started by BADER, a Lebanese NGO focused on promoting entrepreneurship. BBEF is an Equity Fund that was created in 2008 to provide equity funding to Lebanese SMEs. BBEF was incorporated as a SICAR in Luxembourg. The fund has commitments from 9 high profile Lebanese investors.
Middle East Venture Partners	Middle East Venture Partners Fund	2010	USD 10 million	MEVP is a Middle East-focused venture capital firm that invests in the early and growth stages of innovative companies run by talented entrepreneurs primarily, but not exclusively, in Lebanon and the greater Levant region. MEVP favor the consumer technology sector.
Middle East Venture Partners	Impact Fund	May-14	USD 50 million	IMPACT Fund is a fund targeted towards Lebanese banks and financial institutions as investors. The Fund will work on growing ICT Lebanese start-ups through developing a clear go-to-market strategies with telecom operators and media companies in addition to supporting growth with talent acquisition.
Berytech	Berytech Fund	2008	USD 20 million	The fund includes 16 investments in technology startups, including Berytech Technology Pole, Butterfleye, Yalla Play, and WEXT.
Wamda	Wamda Capital Fund	2011	USD 20 million - USD 50 million	Wamda Capital Fund invests in early stage startups with focus on technology in the MENA region. Wamda also supports startups beyond financial investment, helping them grow and maximize their potential.
Berytech	Berytech Fund II	2013	USD 30 million	This initiative will open new funding opportunities to promising entrepreneurs, encouraging innovation and startup creation.

Source: BankMed Research

LEBANON'S ICT SECTOR

BANK LENDING

Lending to ICT projects is considered risky given that they offer banks little, if any, collateral in case of default. As such, commercial banks have been reluctant to lend high-tech business startups. However, the Central Bank of Lebanon has issued a circular stipulating that commercial banks injecting cash into ICT startups can benefit from interest-free BDL loans. To qualify for this scheme, banks should own shares in the funded company – not exceeding 80% – the whole period. This initiative has given banks more flexibility in financing the ICT sector. Additionally, loans granted to the technology sector are subsidized by the Central Bank of Lebanon, with the subsidy rate at 4.5%. Furthermore, these subsidized loans have no ceiling specified, which ensures further flexibility.

Kafalat loans lead the market of lending to the ICT sector. Kafalat facilitates the access to bank funding for ICT entrepreneurs through providing loan guarantees. The company currently has two programs targeted towards the ICT sector. The first program is Kafalat Innovative which focuses on the high-tech sector. The program is the result of an agreement between the ministry of Economy and Trade and the European Union to provide financing to innovative projects. The program mainly finances software developers, mobile application developers, web developers, and hardware assemblers in need of financing not exceeding USD 200,000 up to five years. The second program is Kafalat Start-ups, which was also launched in partnership with the European Union. The program is targeted towards clients, who have already started their businesses through Kafalat Innovative and require further financing not exceeding USD 440,000 up to seven years.

If high-tech projects do not qualify for BDL incentive schemes nor for Kafalat guarantees, they can still have access to capital through commercial bank lending. In fact, commercial banks can secure financing for ICT firms in need of large capital amounts and covers various activities including software and web development, equipment purchases, and local or regional expansion. These loans are usually classified as general corporate loans and are characterized by long maturity and high interest rate. Several banks have even tailored these corporate loans specifically to the technology sector.

LEBANON'S ICT RANKINGS

Over the past years, Lebanon has achieved major enhancements on several ICT indicators. Yet, the country still has a long way to go in order to develop its ICT sector to catch up with countries in the region.

ICT DEVELOPMENT INDEX

The ICT Development Index (IDI), published by International Telecommunication Union, is a composite index, which combines 11 indicators into one benchmark measure that monitors and compares developments in information and communication technology across countries. The index depicts the ICT development process through three sub-indices: (1) IDI Access sub-index reflects the level of networked infrastructure and access to ICT, (2) IDI Use sub-index reflects the level of use of ICT in the society, and (3) IDI Skills sub-index reflects the outcome of effective ICT use.

Lebanon has recorded IDI value of 5.37 and has ranked 52nd in the ICT Development Index in 2012, improving from 61st in the previous year. Lebanon was the country with the highest increase in IDI value of 0.75 points during 2012. Regionally, Lebanon ranked 5th following Qatar (31st worldwide), UAE (33rd worldwide), Bahrain (39th worldwide), and Saudi Arabia (50th worldwide).

ICT Development Index

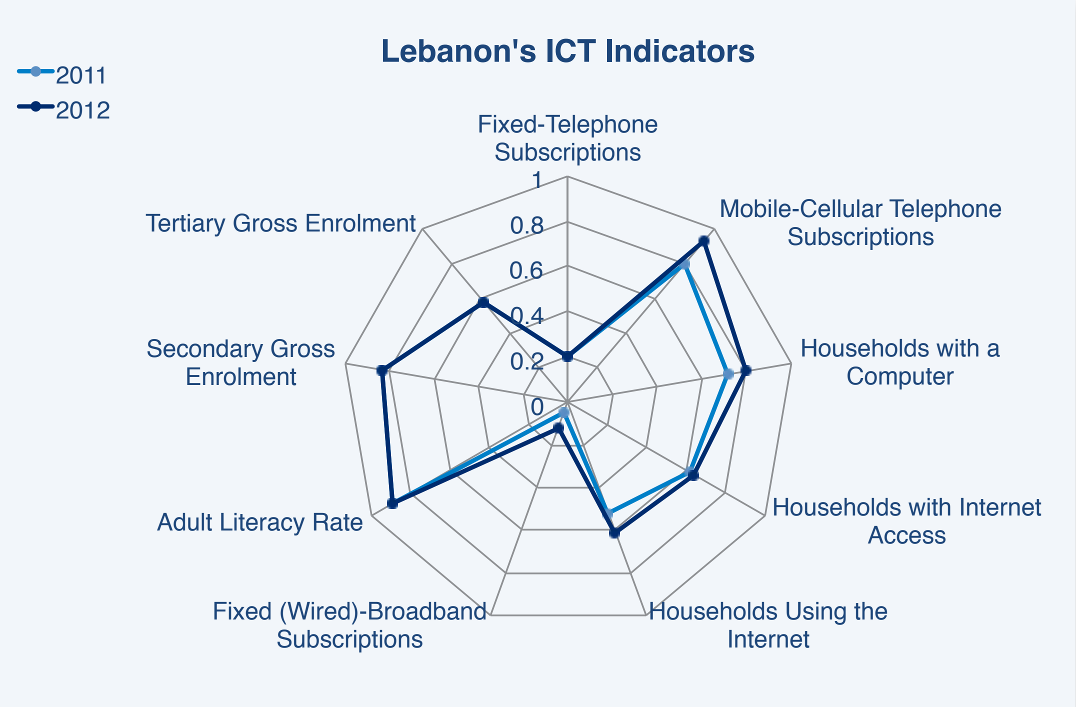
Country	Rank 2012	IDI 2012	Rank 2011	IDI 2011
Qatar	31	6.54	30	6.41
UAE	33	6.41	45	5.68
Bahrain	39	6.30	42	5.79
Saudi Arabia	50	5.69	48	5.46
Lebanon	**52**	**5.37**	**61**	**4.62**
Oman	54	5.36	58	4.80
Jordan	76	4.22	77	3.90
Egypt	86	3.85	87	3.65
Morocco	89	3.79	89	3.59
Tunisia	91	3.70	92	3.58
Syria	102	3.22	99	3.13
Algeria	106	3.07	105	2.98
Sudan	119	2.33	118	2.19
Yemen	127	1.89	129	1.76
Mauritania	133	1.76	133	1.70

Source: International Telecommunication Union

LEBANON'S ICT RANKINGS

In 2011, Lebanon stood out for the increase in its IDI Access sub-index. This advancement continued in 2012, with the sub-index increasing from 5.34 points in 2011 to 6.04 points in 2012, resulting in an improvement in the country's ranking from 64th position to 55th position. This is due to the very sizeable expansion in international Internet bandwidth which took place in Lebanon during 2011-2012. Lebanon was also able to translate progress in ICT access and infrastructure into more intense use of services. This is evident in the impressive progress Lebanon recorded on the IDI Use sub-index which improved from 2.37 points to 3.54 points in 2012. On the other hand, Lebanon maintained the 56th rank in the IDI Skills sub-index during 2011 and 2012, highlighting the fact that the access and use of information and communication technology has not yet resulted in effective outcomes.

A detailed assessment of the 11 indicators monitored reveals that Lebanon succeeded at achieving progress in some of these measures. The country's broadband market has seen a number of changes between 2011 and 2012, in particular with the introduction of wireless broadband, where wireless broadband penetration went up from 11% in 2011 to 26% in 2012. Likewise, fixed (wired)-broadband penetration more than doubled, from 5% in 2011 to 12% in 2012. Furthermore, the proportion of individuals with access to internet increased by three percentage points to 64%, while the proportion of individuals using the Internet climbed by nine percentage points to 61% in 2012. When it comes to telephone access, fixed-telephone subscriptions and mobile-cellular telephone subscriptions expanded to 20.5% and 93.2%, respectively.



Source: International Telecommunication Union

LEBANON'S ICT RANKINGS

NETWORK READINESS INDEX

The Network Readiness Index (NRI), published by the World Economic Forum, reflects the factors driving networked readiness, which is the country's capacity to benefit from new information and communication technologies in their competitiveness strategy and in the residents day-to-day activities. The index assigns a score for each country on a scale of 1 to 7, where an answer of 1 and 7 corresponds to the worst and best possible outcomes, respectively. The Network Readiness Index is composed of four sub-indices: (1) Environment sub-index, which gauges the friendliness of a country's market and regulatory framework in supporting high levels of ICT uptake, (2) Readiness sub-index, which measures the degree to which a society is prepared to make good use of an affordable ICT infrastructure and digital content, (3) Usage sub-index, which assesses the individual efforts of the main social agents to increase their capacity to use ICT, (4) Impact sub-index, which gauges the broad economic, and social impacts accruing from ICTs to boost competitiveness and well-being.

Lebanon ranked 94th out of 144 countries on the Network Readiness Index in 2012, going one position up from the previous year. Lebanon received a score of 3.53 points; Lebanon's score was lower than the Arab average of 3.97 points. In the Arab world, Lebanon ranked in 10th position, right behind Morocco (89th worldwide), but right ahead of Algeria (131st worldwide).

Network Readiness Index

Country	Arab Rank	Global Rank /144	Score (1-7)
Qatar	1	23	5.10
UAE	2	25	5.07
Bahrain	3	29	4.83
Saudi Arabia	4	31	4.82
Oman	5	40	4.48
Jordan	6	47	4.20
Kuwait	7	62	3.94
Egypt	8	80	3.78
Morocco	9	89	3.64
Lebanon	**10**	**94**	**3.53**
Algeria	11	131	2.78
Libya	12	132	2.77
Yemen	13	139	2.63

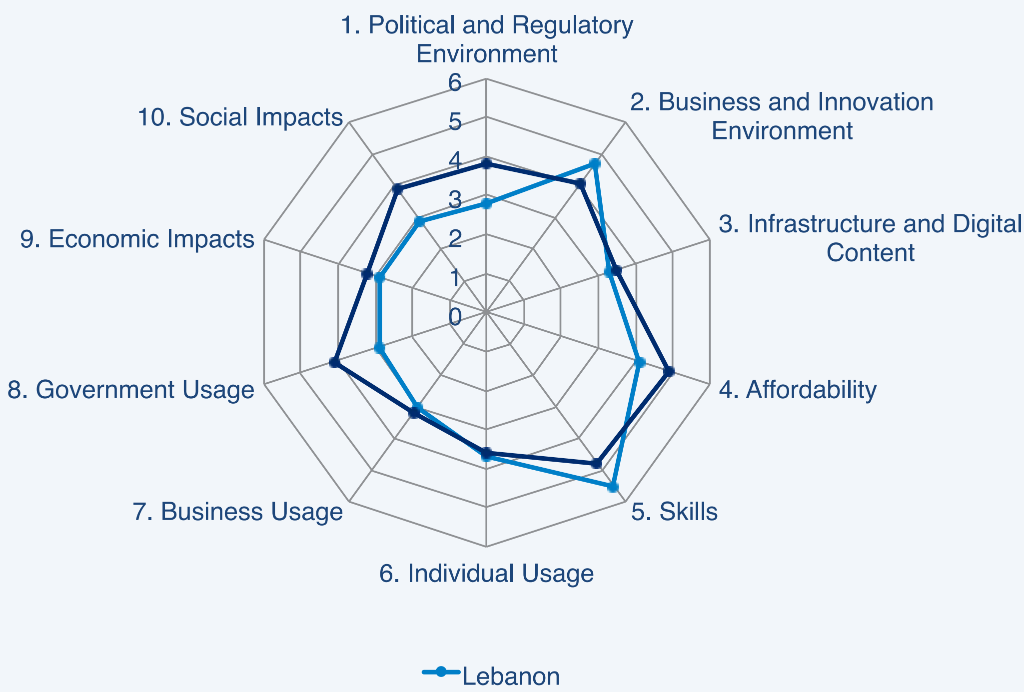
Source: World Economic Forum

LEBANON'S ICT RANKINGS

The reason behind Lebanon's weaknesses in terms of ICT development is revealed in the sub-indices of the NRI. Lebanon ranked 86th on the Environment sub-index. Within this sub-index, while Lebanon ranked 35th on the business and innovation pillar, it lagged significantly in the political and regulatory pillar, ranking 133rd. When it comes to the Readiness sub-index, Lebanon's readiness towards ICT was at the 86th rank. Specifically, despite the high-skilled ICT workforce as indicated by the country's ranking of 28 on the skills pillar, the country ranked 95th on the affordability pillar indicating the high cost of ICT in Lebanon. Moreover, Lebanon ranked 98th on the Usage sub-index, mainly due to the low 134th rank on government usage pillar which offset the 63rd rank on individual usage pillar. As for the Impact sub-index, Lebanon came in 116th position worldwide, with 102nd rank on the economic impacts which 120th rank on the social impacts.

It is noteworthy that when Lebanon is compared with the upper-middle-income group, Lebanon's score exceeds the average score of the group in business and innovation environment pillar, skills pillar, and individual usage pillar. On the other hand, the country lags behind the upper-middle-income group in the infrastructure and digital content pillar, the affordability pillar, and economic and social impact pillars. This reveals that while Lebanon has the required capacity, innovation, and skills required to improve its ICT sector, the country's lack of adequate infrastructure and regulations have so far hindered this development.

Lebanon's NRI Pillars



Source: World Economic Forum

LEBANON'S ICT RANKINGS

E-GOVERNMENT DEVELOPMENT INDEX

The United Nations E-Government Development Index (EGDI) is a composite indicator measuring the willingness and capacity of national administrations to use information and communication technology to deliver public services. It is based on a comprehensive survey of the online presence of 193 countries, which assesses the technical features of national websites as well as e-government policies and strategies. The EGDI is a weighted average of three sub-indices on the most important dimensions of e-government, namely: scope and quality of online services, development status of telecommunication infrastructure, and inherent human capital. The Online Services sub-index assesses the content, features and accessibility of national website, including the national central portal, e-services portal and e-participation portal, as well as the websites of the related ministries of education, labour, social services, health, finance, and environment. The Telecommunication Infrastructure sub-index monitors internet subscribers, fixed-telephone subscribers, mobile subscribers per 100 inhabitants, and fixed broadband facilities. As for the Human Capital sub-index, it is a composite of two indicators: adult literacy rate and the combined primary, secondary, and tertiary gross enrolment ratios.

Lebanon scored 0.514 point on the E-Government Development Index in 2012, up from a score of 0.439 in 2010. As such, Lebanon's ranking improved from 93rd position in 2010 to 87th position in 2012. Regionally, Lebanon ranked right behind Oman (64th worldwide) and right ahead of Jordan (98th worldwide).

E-Government Development Index

Country	Index Score 2012	Index Score 2010	Rank 2012	Rank 2010
UAE	0.734	0.535	28	49
Bahrain	0.695	0.736	36	13
Saudi Arabia	0.666	0.514	41	58
Qatar	0.641	0.493	48	62
Oman	0.594	0.458	64	82
Lebanon	**0.514**	**0.439**	**87**	**93**
Jordan	0.488	0.528	98	51
Tunisia	0.483	0.483	103	66
Egypt	0.461	0.452	107	86
Morocco	0.421	0.329	120	126
Syria	0.371	0.310	128	133
Algeria	0.361	0.318	132	131
Sudan	0.261	0.254	165	154
Yemen	0.247	0.215	167	164
Mauritania	0.200	0.236	181	157

Source: United Nations E-Government Survey

Specifically, Lebanon ranked in 78th position on the Online Services sub-index with a score of 0.471. On the Telecommunication Infrastructure sub-index, Lebanon came in 93rd position with a score of 0.272. As for the Human Capital sub-index, Lebanon scored 0.791, thus ranking in 95th position.

LEBANON'S ICT RANKINGS

HOUSEHOLD DOWNLOAD/UPLOAD INDICES

Speedtest.net, the global leader in broadband speed testing which regularly compares and ranks consumer Internet speeds globally, ranked Lebanon in 157th place among 178 countries worldwide on the Household Download Index (HDI), and in 172nd place on the Household Upload Index (HUI). These mentioned results are based on the comparison and ranking of the consumer download and upload speeds in 2012. The value of each index is the rolling mean throughput in Megabyte per second (Mbps). Lebanon's average download speed was 2.09 Mbps over the covered period, quite below the global average of 11.97 Mbps. As for the upload index, Lebanon had an average upload speed of 0.46 Mbps, also well below the global average of 4.55 Mbps. In the Arab World, and among 17 countries tested, Lebanon ranked in 12th place on the HDI surpassed by Tunisia and Iraq but followed by Palestine and Sudan. In regards to the HUI, Lebanon ranked in 14th place just after Algeria and Morocco yet surpassing Sudan and Syria.

Household Download/Upload Indices

Houshold Download Index		Houshold Upload Index	
Country	speed (Mbps)	Country	speed (Mbps)
1. UAE	11.76	1. UAE	4.64
2. Qatar	6.63	2. Iraq	2.81
3. Saudi Arabia	6.29	3. Libya	2.61
4. Libya	4.74	4. Qatar	2.09
5. Oman	4.43	5. Kuwait	2.05
6. Morocco	3.89	6. Oman	1.44
7. Kuwait	3.80	7. Bahrain	1.34
8. Bahrain	3.34	8. Saudi Arabia	1.31
9. Jordan	2.92	9. Jordan	1.03
10. Iraq	2.81	10. Plaestine	0.87
11. Tunisia	2.33	11. Tunisia	0.74
12. Lebanon	**2.09**	12. Morocco	0.51
13. Palestine	1.95	13. Algeria	0.50
14. Sudan	1.27	**14. Lebanon**	**0.46**
15. Egypt	1.18	15. Sudan	0.44
16. Algeria	1.16	16. Syria	0.39
17. Syria	1.08	.. Egypt	n.a.

Source: Speedtest

CASE STUDY E-GOVERNMENT

ICT is considered a powerful tool for addressing key challenges and barriers for future growth potential and for creating unparalleled opportunities for sustainable economic development. The government agencies and departments' initiatives to use ICT applications and tools, the internet as well as mobile devices to maintain good governance, reinforce existing relationships and establish new partnerships in the civil society, are known as e-government initiatives. E-government constitutes a great stimulus for moving forward with better-quality and cost-effective government services, as well as to improve the relationship between citizens and the government.

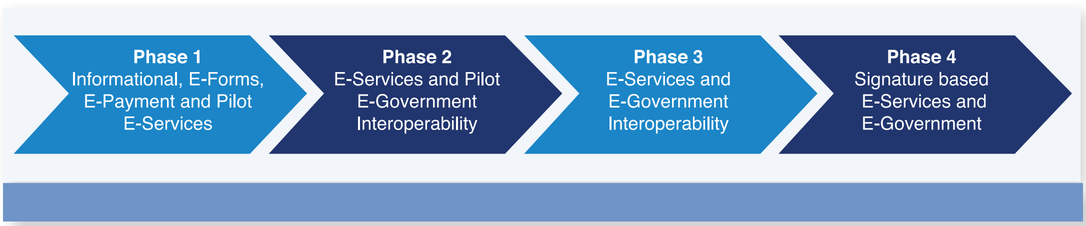
Countries around the globe, even though at varying speeds, began adopting the media, information and communication technologies (MICT) and introduced e-government initiatives. The prospective benefits of the government's network readiness are extensive and varied. As such, Lebanon undertook several initiatives during the past decade to develop a strategy which makes use of ICT in achieving governmental reforms.

LEBANON'S E-GOVERNMENT STRATEGY

Lebanon's e-government vision revolves around the accomplishment of several strategic objectives that undertake citizen-centric and business-centric approaches. These objectives are backed by institutional and legal frameworks and are made possible through facilitating the role of information and communication technologies.

Formal efforts to integrate ICT in Lebanon following the civil role were initiated under the National Administration Reform Program. The Office of the Minister of State for Administrative Reform (OMSAR), was established in 1993 in order to lead e-government efforts through technical assessments, specifications preparations, and outsourcing functions. Furthermore, the United Nations Development Program (UNDP) headed the founding of a Technical Coordination Unit in OMSAR, which aims at promoting the modernization process within the government, and at raising the awareness of the general public about these achievements. In October 2003, UNDP and OMSAR, developed the National e-Strategy and e-Readiness Report. The e-Strategy vision aims at "moving the economy and society of Lebanon towards a Knowledge-Based Society in the shortest possible time while at the same time addressing related challenges and opportunities that Lebanon is facing."

In 2010, OMSAR developed an action plan for the implementation of the e-government strategy. The plan is scheduled to run over the period 2011-2015, and its implementation is divided into four phases:



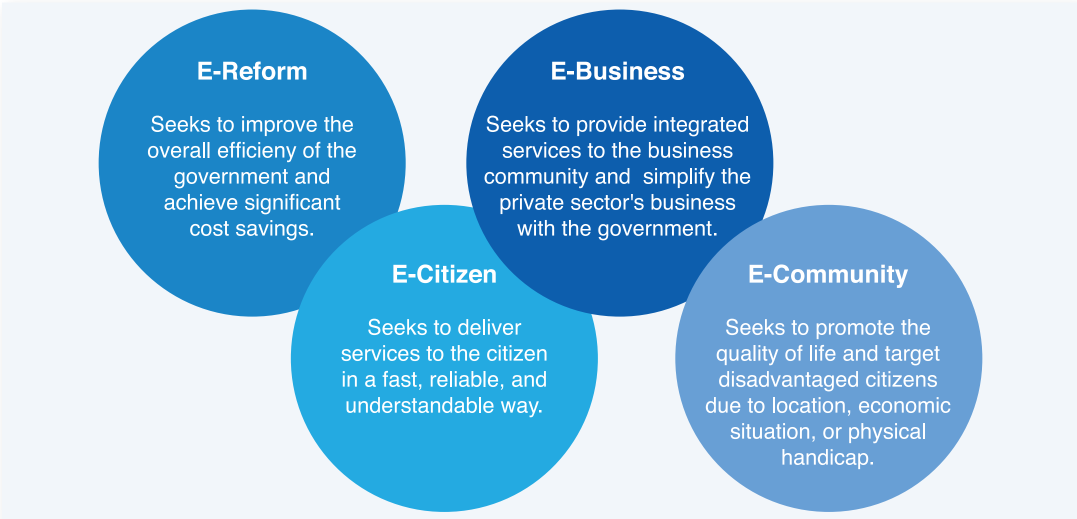
So far, Lebanon has implemented some e-government projects within the implementation plan devised in 2010:

- Water Evaluation and Planning System: Electronic system which interrelated the Ministry of Water and Energy's information that was previously distributed on different platforms. The system aims at providing water forecast in order to better plan water distribution and usage.
- NAJM Project: Custom clearance automated information system that adopts the International Harmonized System Tariff (ASYCUDA), which was achieved through a World Bank loan.
- E-Taxation Service: An electronic service, which allows Lebanese residents and expatriates to settle taxes and fees via the Ministry of Finance website.

CASE STUDY E-GOVERNMENT

PILLARS OF LEBANON'S E-GOVERNMENT STRATEGY

Lebanon's e-government strategy revolves around four major pillars:



Source: International Arab Journal of e-Technology, January 2013

A LOOK AHEAD

Today, Lebanon's governmental agencies possess a pool of ICT knowledge, skills, and experience, which need to be further developed in order to deliver efficient e-services to citizens, like "one-stop-shop" concept. However, e-government should not be an end in itself, but rather must be considered as enabling means for solving several complex issues. As such, for e-government to be a promising achievement which would bring potential to development goals, it necessitates a devoted policy, a leadership to overcome challenges, a readiness to adapt to new technologies, and a capacity to reap its advantages.

Benefits of E-Government	Challenges of E-Government
Increases communication, the amount of information available and the utilization of resources	Threatens public sector jobs which may result in higher unemployment.
Enhances Transparency and empowers citizens.	Lack of resources, capabilities, and infrastructure along with high investment capital required.
Eliminates redundancies and inconsistencies and improves the speed of service delivery.	Internal resistence to change and lack of leadership.
Increases efficiency and effectiveness and Reduces costs (communication, labor, paperwork).	Privacy, security, confidentiality, and information overload concerns.

Source: International Arab Journal of e-Technology, January 2013

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