ANALYSIS OF LEBANON'S ICT SECTOR

Bankmed - Market & Economic Research Division

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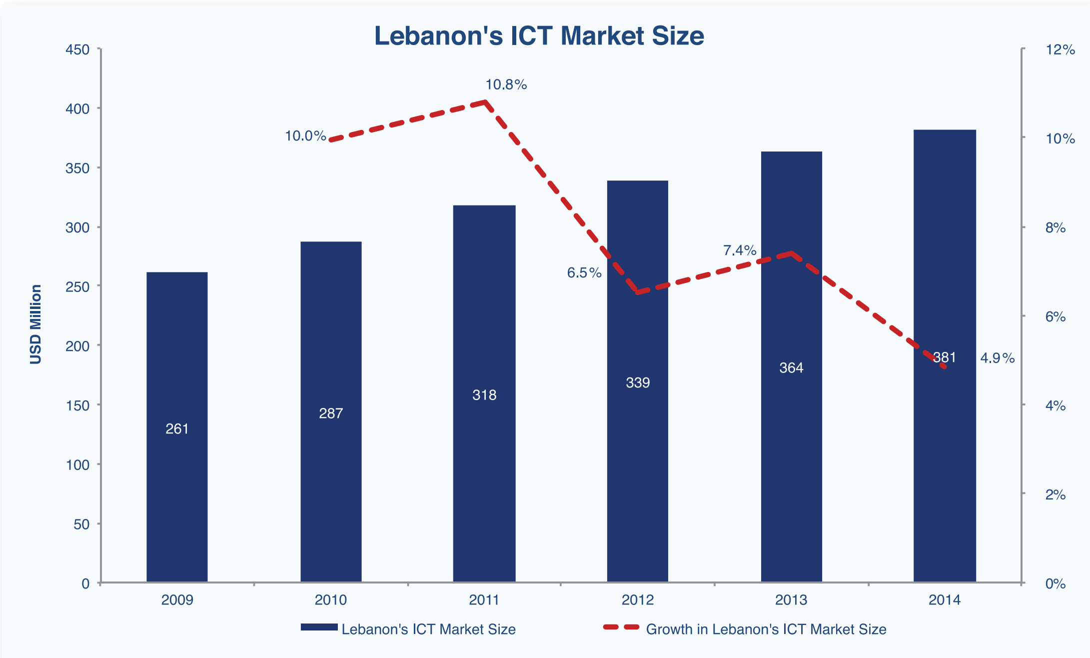
LEBANON'S ICT SECTOR

ICT SECTOR MARKET SIZE

The Information and communication technology (ICT) sector is one of the principal drivers of economic development and social change, worldwide. In Lebanon, the ICT sector witnessed significant growth over the period stretching from 2009-2014, growing by an average annual rate of 7.9% to reach a market size of USD 381 million in 2014.

In fact, several factors have contributed to the growth of the ICT market, including falling device prices, infrastructure enhancements, as well as enterprises and public sector modernization. The sector also 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. The booming tech community has placed Lebanon among evolving ICT markets in the region. However, the development of this sector remains subject to significant uncertainties as a result of security issues that have been slowing down the development of many economic sectors in the country. Furthermore, the vulnerabilities of the IT industry revolve around cyber security threats, which could undermine confidence in this sector.

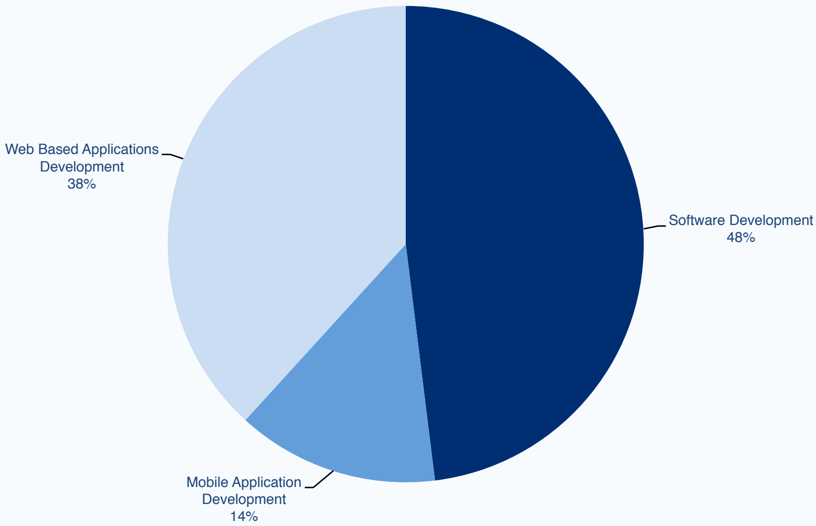


Source: Business Monitor International

LEBANON'S ICT SECTOR

The ICT sector is dominated by small and medium sized firms. These businesses are engaged in the development of software, mobile and specialized applications, web solutions, software outsourcing, e-services, as well as provision of systems' solutions and integration. Specifically, the sector encompasses more than 200 firms, of which 48% are engaged in software development, 38% are specialized in web-based application development, while the remaining 14% are engaged in mobile-based application development.

Distribution of ICT Companies by Sector (2015)



Source: Investment Development Authority of Lebanon

Technological improvements have helped the ICT industry to grow. However, this growth is still restricted 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 limitations for the exponential advancement of Lebanon's ICT market. In addition, 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 weakening security issues. Additionally, the Lebanese ICT industry is vulnerable to cyber security threats, hence undermining confidence in the sector.

LEBANON'S ICT SECTOR

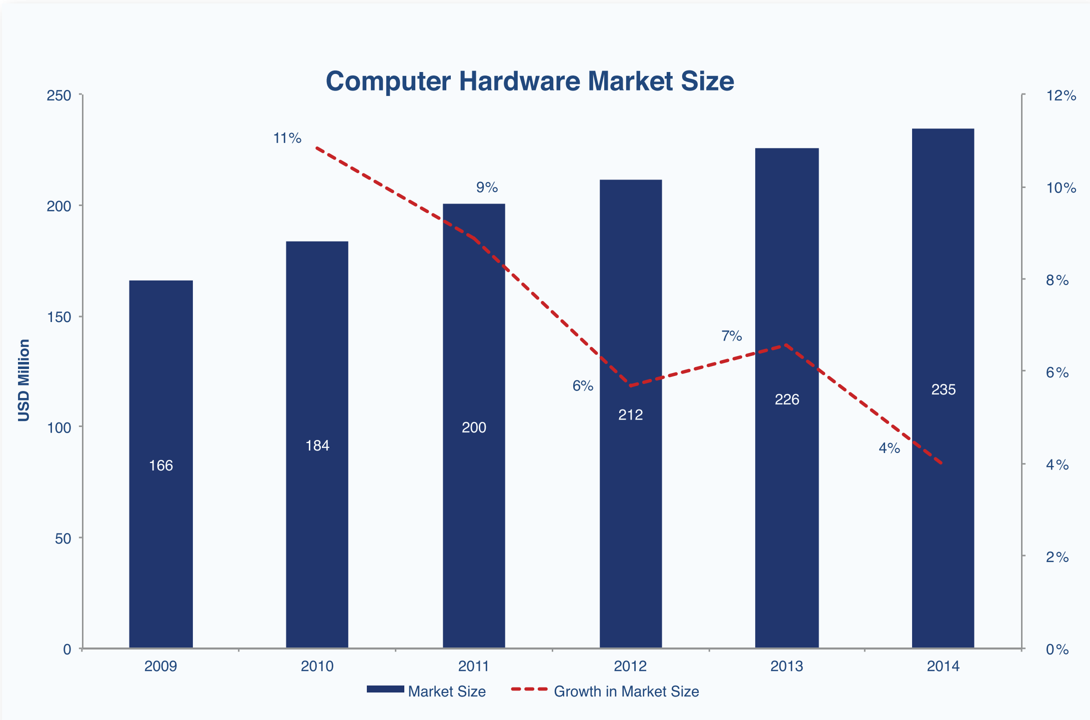
ICT SUB-SECTORS

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 2009-2014, 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 29% 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.

Computer Hardware

Lebanon's ICT market is dominated by the computer hardware sub-sector, which has expanded by an average annual rate of 7% over the period 2009-2014, to reach a value of USD 235 million in 2014. The young ICT consumer market in Lebanon is the main driver behind this growth, revealing a good appetite for high-tech products.

Computer sales, including notebooks and accessories, account for 82% of the country's computer hardware market with a value of USD 192 million in 2014. Lebanese consumers are recently showing preference to purchasing tablets rather than desktop computers and notebooks. As the number of tablets sold expanded, the growth in the computer hardware segment slowed down due to the fact that the tablets' average selling price is on the decline.



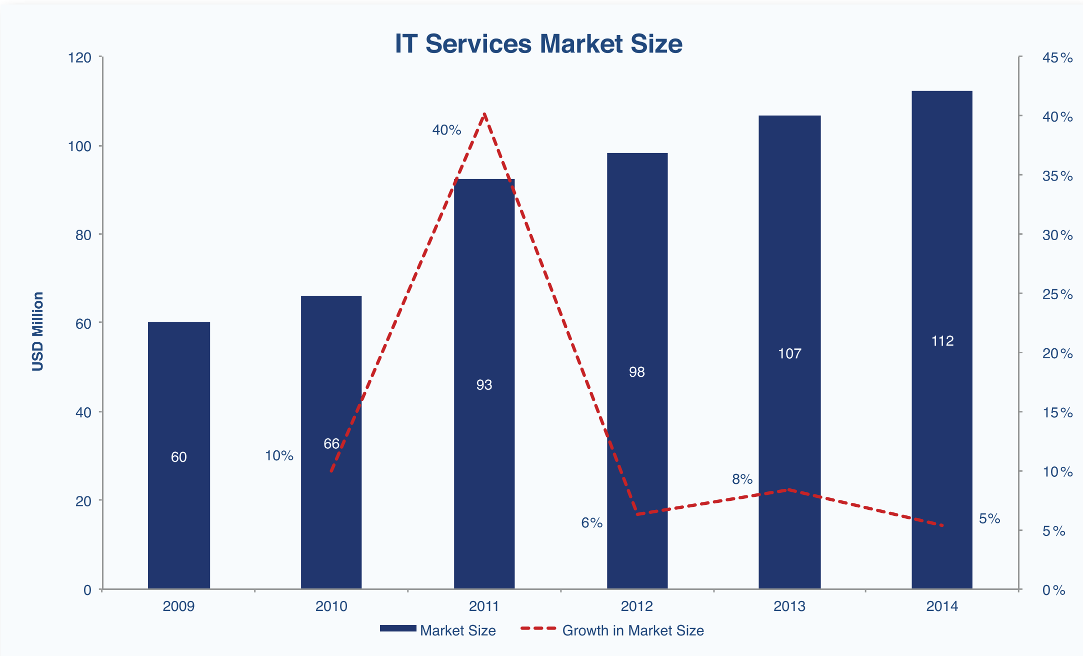
Source: Business Monitor International

IT SERVICES

IT Services

Lebanon’s IT services sub-sector – support, implementation and integration, training and maintenance – reached a value of USD 112 million in 2014, growing by an average annual rate of 14% over the period 2009-2014. 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 a 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 governmental departments. Further, higher growth is expected to be driven by improved infrastructure and cloud services.

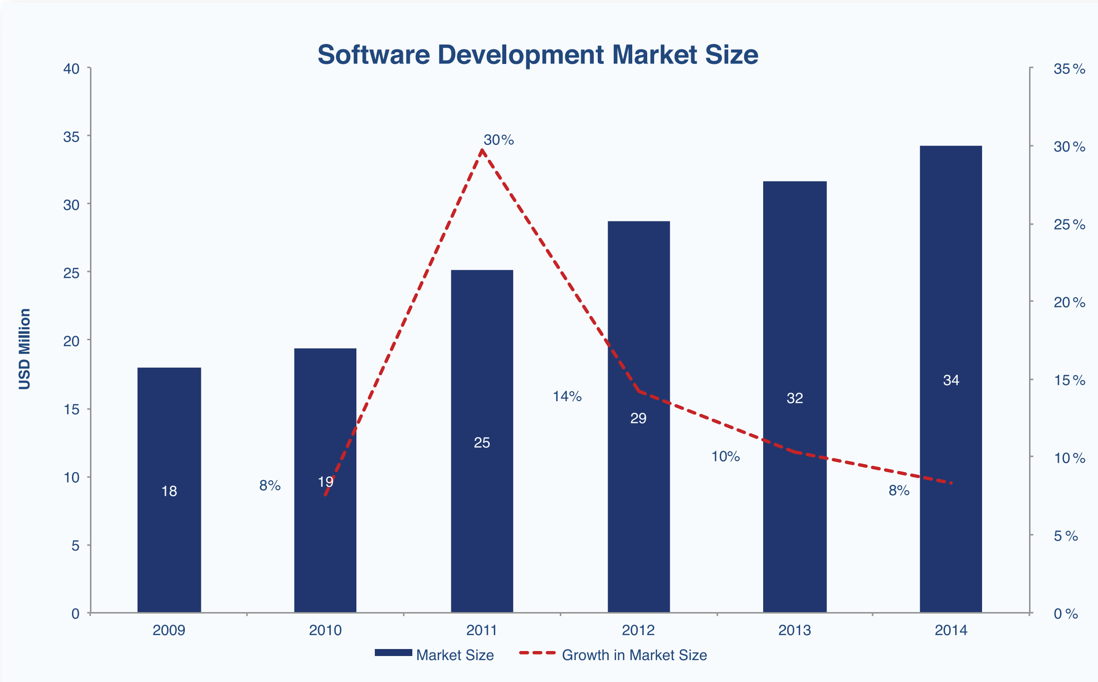


Source: Business Monitor International

SOFTWARE DEVELOPMENT

Software Development

The software market value reached USD 34 million in 2014, growing by an average annual rate of 14% during 2009-2014. Software sales are expected to be the fastest area of growth in Lebanon's IT market in the coming years, despite the continued drag from piracy, due to the implementation of some government and private projects. Further, the government appears more focused on copyright protection issues. In fact, software piracy has 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. 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.



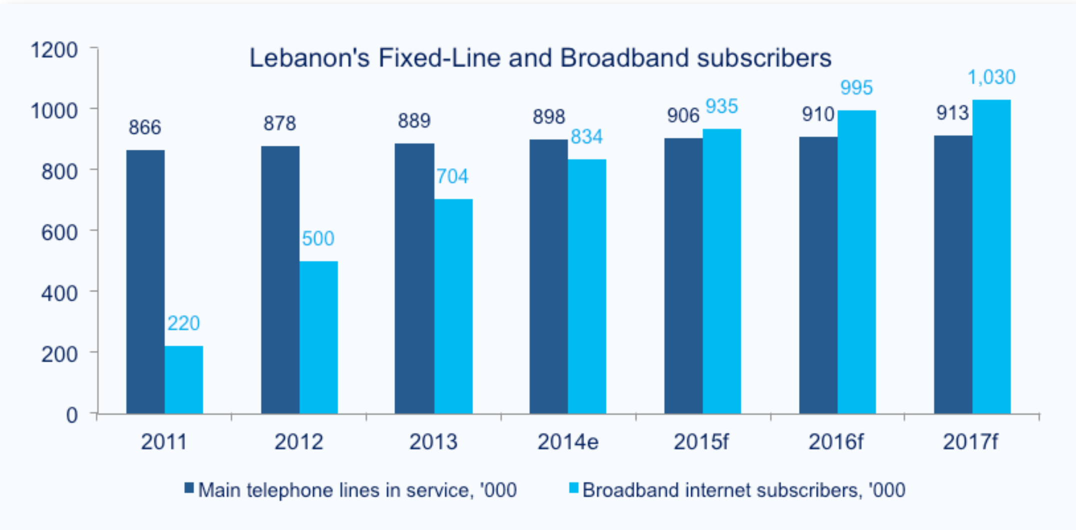
Source: Business Monitor International

FIXED-LINE AND BROADBAND MARKETS

In the last few years, the yearly average fixed-line subscriptions growth in Lebanon was below 2%. However, the positive growth trajectory is notable considering the increased fixed-to-mobile substitution in the country. Also, the rising demand for ADSL-based broadband services is the main growth driver for fixed-line connections.

However, the expected increase in mobile broadband usage will pose downside risks to the fixed-line market, as a significant proportion of potential fixed broadband subscribers will opt for the more convenient mobile broadband option. In fact, Lebanon has one of the highest internet penetration rates in the region. This is largely due to its small yet well-educated population. Based on the Business Monitor International (BMI) estimates, the internet penetration rate is expected increase over the next few years to reach to 77% by 2017.

In parallel, the broadband sector recorded a sharp increase in the number of connections during the last few years. It is also estimated that a considerable proportion of 3G subscribers in the country access the internet using dedicated datacards and 3G dongles. This category of users is expected to drive growth in the broadband sector in the near future, considering the limited coverage of the fixed-line network.



Source: Business Monitor International

ICT-RELATED LAWS

The main laws covering the ICT sector in Lebanon include:

Investment Law

The Investment Development Authority of Lebanon (IDAL) offers incentives under the Investment Law No. 360 (2001). Companies investing can receive up to a 10-year 100% corporate tax exemption, depending on size of investment and employment generation commitments.

Intellectual Property (IP) Law

Lebanon's IP law was passed in 1999. The law covers a range of activities including patents, trademarks, copyrights, unfair competition and penalties for infringement.

Telecommunications Law

Lebanon's government passed the Telecommunications Law 431 in 2002, under which it adopted the principle of liberalization of the telecoms sector and established the Telecommunications Regulatory Authority (TRA) of Lebanon as an independent public institution. The TRA is legally mandated to liberalize, regulate and develop the telecom sector.

Competition Law

Lebanon's competition law covers all forms of anti-competitive agreements and abuse of dominant position.

e-Commerce Law

The Lebanese government drafted a basket of laws to support the development of e-commerce in Lebanon. This includes areas such as e-signature, e-payment, e-transactions, updated consumer protection, privacy, copyright and cyber-crimes.

FINANCING ICT

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 circular 331, 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.

LEBANON'S ICT RANKINGS

Over the past years, Lebanon has achieved major enhancements on several ICT indicators. Moreover, 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

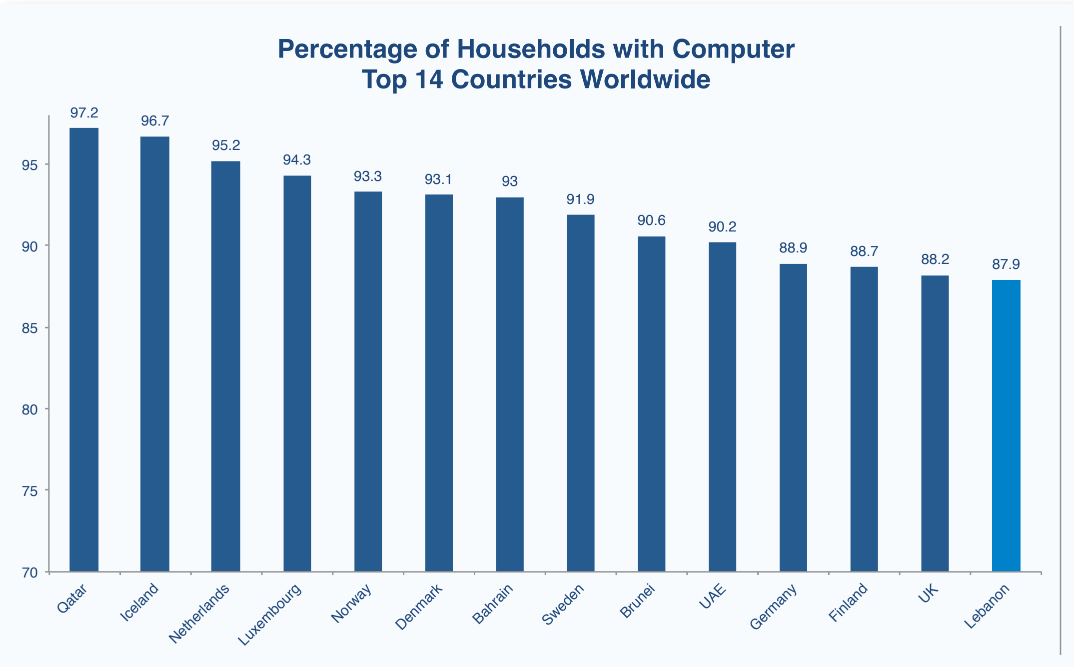
The ICT Development Index (IDI), published by International Telecommunication Union, is a composite index, which combines 11 indicators into one benchmark measure that monitors and compares developments in information and communication technology across countries. The index depicts the ICT development 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 5.71 and has ranked 62nd in the ICT Development Index in 2013, improving from 64th in the previous year.

ICT Development Index				
Country	Rank 2013	IDI 2013	Rank 2012	IDI 2012
Bahrain	27	7.40	28	7.22
UAE	32	7.03	46	6.27
Qatar	34	7.01	42	6.46
Saudi Arabia	47	6.36	50	6.01
Oman	52	6.10	61	5.43
Lebanon	**62**	**5.71**	**64**	**5.32**
Jordan	87	4.62	84	4.48
Egypt	89	4.45	87	4.28
Morocco	96	4.27	92	4.09
Tunisia	99	4.23	96	4.07
Syria	112	3.46	112	3.39
Algeria	114	3.42	114	3.30
Sudan	122	2.88	121	2.69
Yemen	138	2.18	138	2.07
Mauritania	147	1.91	145	1.90

Source: International Telecommunication Union

LEBANON'S ICT RANKINGS



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. Lebanon ranked 99th out of 143 countries on the Network Readiness Index in 2015, compared to the 97th position among 148 countries last year. Lebanon received a score of 3.50 points, lower than the Arab average of 4.03 points.

Network Readiness Index

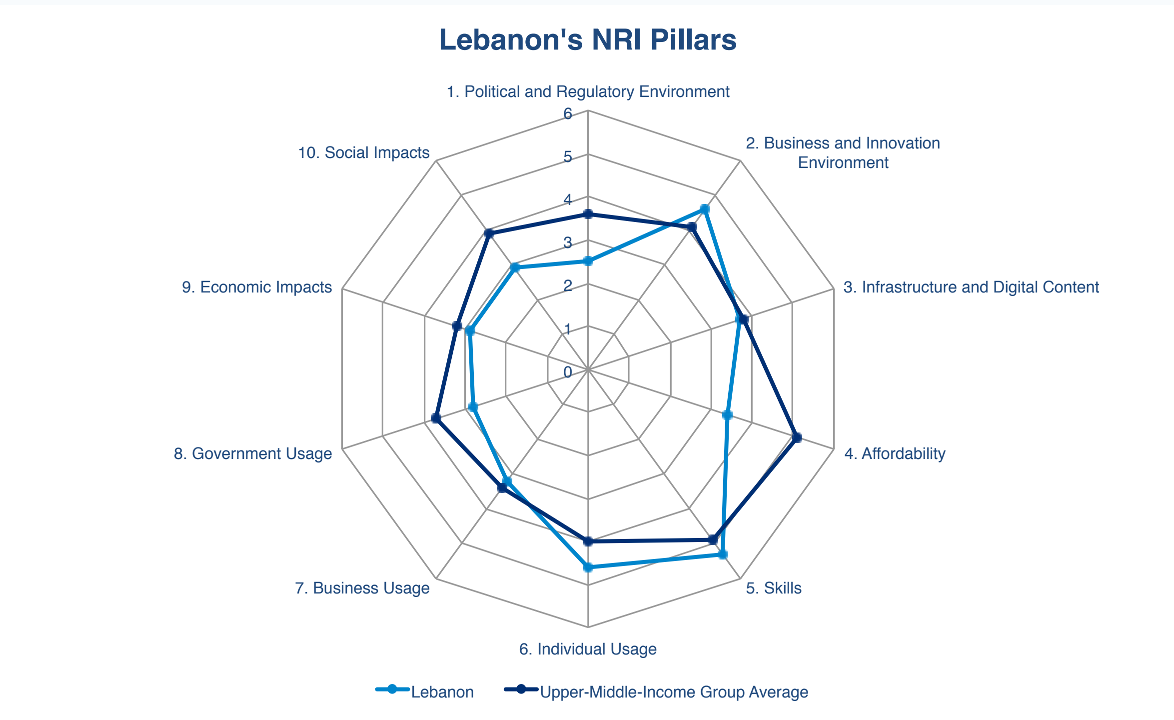
Country	Arabe Rank	Global Rank / 143	Score (1-7)
UAE	1	23	5.30
Qatar	2	27	5.10
Bahrain	3	30	4.90
Saudi Arabia	4	35	4.70
Oman	5	42	4.50
Jordan	6	52	4.30
Kuwait	7	72	4.00
Morocco	8	78	3.90
Tunisia	9	81	3.90
Egypt	10	94	3.60
Lebanon	**11**	**99**	**3.50**
Algeria	12	120	3.10
Libya	13	131	2.90
Yemen	14	136	2.7

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 107th on the Environment sub-index. Within this sub-index, while Lebanon ranked 52nd on the business and innovation pillar; it lagged significantly in the political and regulatory pillar, ranking 139th. When it comes to the Readiness sub-index, Lebanon's readiness towards ICT was at the 98th rank. Specifically, despite the high-skilled ICT workforce as indicated by the country's ranking of 28 on the skills pillar, the country ranked 117th on the affordability pillar, indicating the high cost of ICT in Lebanon. Moreover, Lebanon ranked 86th on the Usage sub-index, mainly due to the low 130th rank on government usage pillar, which offsets the 53rd rank on individual usage pillar. As for the Impact sub-index, Lebanon came in 117th position worldwide, with 104th rank on the economic impacts and 125th 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.



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, assessing 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 websites. 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.

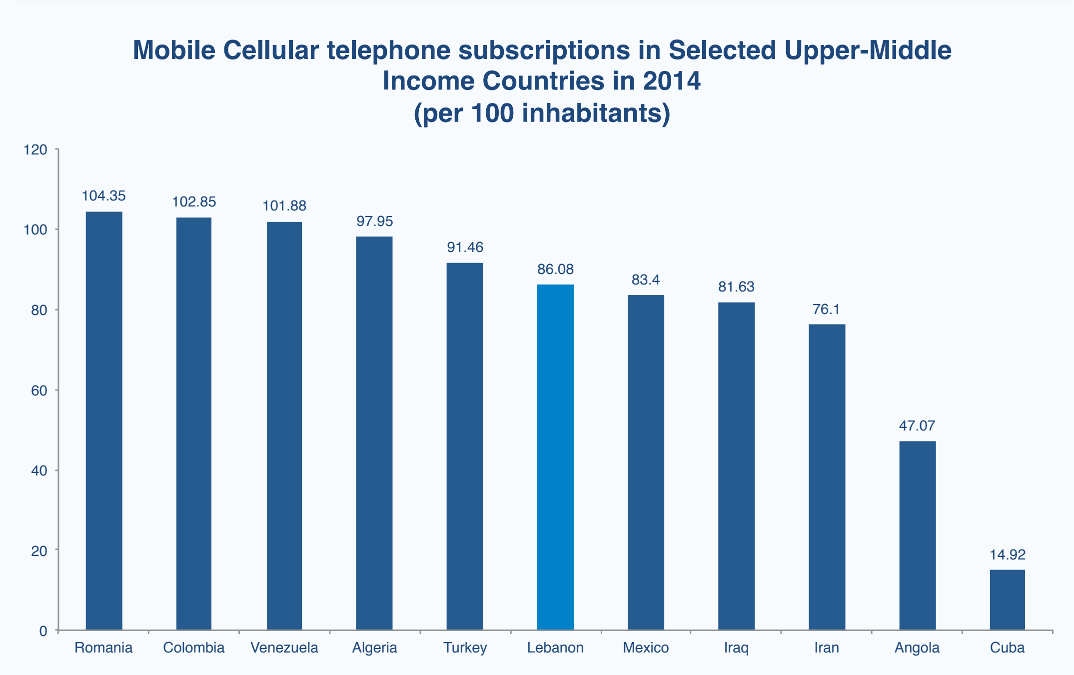
Lebanon scored 0.498 point on the EGDI in 2014, down from a score of 0.514 in 2012. As such, Lebanon’s ranking dropped from 87th position in 2012 to 89th position in 2014.

E-Government Development Index

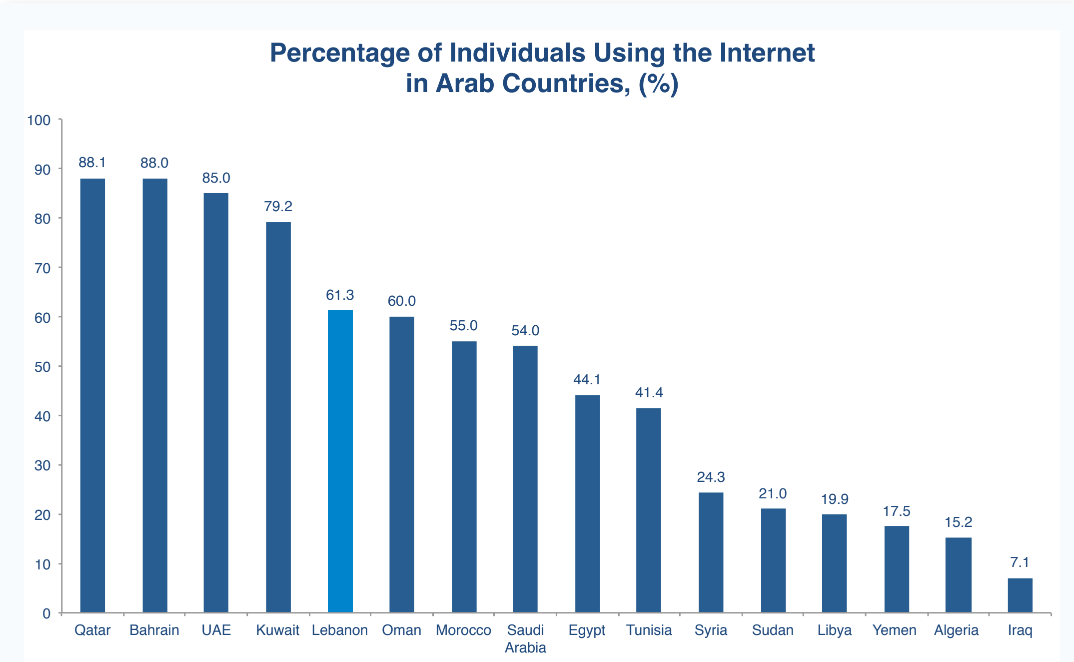
Country	Index Score 2014	Index Score 2012	Rank 2014	Rank 2012
Bahrain	0.809	0.695	18	36
UAE	0.714	0.734	32	28
Saudi Arabia	0.690	0.666	36	41
Qatar	0.636	0.641	44	48
Oman	0.627	0.594	48	64
Tunisia	0.539	0.483	75	103
Jordan	0.517	0.488	79	98
Egypt	0.513	0.461	80	107
Morocco	0.506	0.421	82	120
Lebanon	**0.498**	**0.514**	**89**	**87**
Syria	0.313	0.371	135	128
Algeria	0.311	0.361	136	132
Yemen	0.272	0.247	150	167
Sudan	0.261	0.261	154	165
Mauritania	0.189	0.200	174	181

Source: United Nations E-Government Survey

LEBANON'S ICT RANKINGS



Source: United Nations E-Government Survey



Source: United Nations E-Government Survey

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 174th place among 200 countries worldwide on the Household Download Index (HDI) and in 175th place on the Household Upload Index (HUI). These mentioned results were obtained by analyzing test data between April 25, 2015 and May 24, 2015. The value of each index is the rolling mean throughput in Megabyte per second (Mbps). Lebanon's average download speed was 3.73 Mbps over the covered period, quite below the global average of 12.4 Mbps. As for the upload index, Lebanon had an average upload speed of 1.81 Mbps, also well below the global average of 5.0 Mbps. In the Arab World, and among 17 countries tested, Lebanon ranked in 13th place on the HDI and in 12th place in regards to the HUI.

Household Download/Upload Indices 2015

Household Download Index		Household Upload Index	
Country	speed (Mbps)	Country	speed (Mbps)
1. UAE	21.25	1. Qatar	9.58
2. Qatar	17.53	2. Kuwait	8.90
3. Oman	15.83	3. UAE	8.37
4. Bahrain	11.44	4. Bahrain	7.59
5. KSA	10.74	5. Iraq	6.38
6. Kuwait	9.98	6. Libya	5.39
7. Jordan	8.47	7. Jordan	5.22
8. Iraq	6.81	8. Oman	3.82
9. Morocco	6.21	9. KSA	3.64
10. Palestine	5.37	10. Palestine	2.66
11. Libya	5.07	11. Tunisia	2.26
12. Tunisia	4.53	**12. Lebanon**	**1.81**
13. Lebanon	**3.73**	13. Algeria	1.36
14. Algeria	3.2	14. Sudan	1.23
15. Egypt	2.86	15. Morocco	1.14
16. Sudan	2.45	16. Egypt	1.10
17. Syria	1.76	17. Syria	0.57

Source: Speedtest

CONCLUSION

Given the IT-literate, cosmopolitan, and linguistically skilled workforce, the Lebanese ICT is well-positioned to be one of the region's ICT hubs. Nevertheless, the political instability, lack of reform, as well as uncontained cyber security issues are delaying development within the sector.

SWOT Analysis: Lebanon ICT Sector

Strengths	Weaknesses
- The IT-literate, cosmopolitan and linguistically skilled workforce is still potentially a draw for global vendors.	- Political instability continues to be a drag on the development of the IT market.
- Lebanon is well positioned for regional hub status.	- High telecommunications costs and the lack of high-speed internet connections.
- Relatively low penetration in key areas of the IT market makes it potentially one of the fastest growing in the region.	- High rate of software piracy a drag on market growth.
Opportunities	**Threats**
- Development/Construction projects led by international organizations, with ICT infrastructure as an important element	- Continued political instability may delay necessary economic reforms.
- Tablet sales are booming, with greater range of low cost devices expected to drive growth.	- Lack of political will to develop a national ICT strategy or tackle high levels of piracy.
- The telecoms and banking sectors' growing demand for IT products and services	- Cyber security is a pressing issue in Lebanon and the Middle East, with the potential for attacks to undermine consumer and enterprise confidence.
- Economic reform and privatisation, attracting more foreign direct investments	
- Large companies and government departments should be looking to upgrade and replace PCs as well as install efficiency generating enterprise software.	

Source: Business Monitor International, Bankmed Research

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