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DESPERATE BID FOR A PROFITABLE FUTURE



To learn or not to learn from the past abuses of the telecommunications sector

On a sunny morning in spring 2022, confusion reigns for but a moment. Executive has an appointment to interview Imad Kreidieh, the chairman and general director (CDG) of state-owned enterprise (SOE). Still, the company's gates are closed and plastered with snap labor strike announcements. However, a brief conversation through the closed gate's metal bars later, and we can enter via a broad and uninvitingly bare courtyard into the telecommunications infrastructure operator's and services provider's sprawling administrative complex.

Walking into the building, a visitor with some background in navigating public offices and varied ministries in Beirut will quickly feel 'at home' – if one can ever develop any homey feelings in a structure that seems to have been designed in the past century for signaling the greater glory of a mighty state to its anonymous supplicants. The setup is admin-perfect for echoing those 'wells of silence' that people easily stumble into when trying to communicate with their state: you pass an empty reception desk in a mentally chilling, sub-utilitarian foyer, ride in elevators that are adorned with large, albeit in one case cracked, mirrors, and then proceed

along lengthy CCTV camera-embellished hallways – a common hallmark of local edifices of government bureaucracy.

One can only imagine how the corridors might look bursting with human activity (on non-strike days?), but the first individuals to greet visitors today are the obliging personnel at the security station in front of the executive suite on the head office's upper floor. Then a surprise: instead of the micro-culture-shock-inducing contrast that one commonly suffers when stepping from the average government ministry's drab corridors into the ostentatious offices of the respective minister, the vestibule and office of Ogero's CDG exudes a cool corporate air, type top-management utility.

Instead of the one of over-the-top luxury of your average political dragon's lair, the place feels more functional than representative, with an atmosphere just on the accommodating side of austere. Also, verbally, with Kreidieh's first comments on his employees' strike expressing explicit support for their action, the conversation starts with an encouraging vibe of realism.

Ogero, the oldest state-controlled corporate unit in the byzantine telecommunications mosaic



of Lebanon, thus presents itself as a suitable waypoint on the quest to unravel the dystopian mysteries of a sector that has for three decades been key to many ups and downs of the Lebanese economy while situated on the frontlines of policy conflicts and shrouded in allegations of corrupt shenanigans and brutally counterproductive political influences.

INSTITUTIONAL MEMORIES

As Lebanon is moving toward (or at least hoped to get to) the end of its crisis of everything, one hypothetical economic value proposition of the telecommunications sector can be shouted out loudly as *conditio sine qua non*, an indispensable condition: a prosperous future is unimaginable without vital knowledge economy inputs and digitization. However theoretical a multi-year vision of digital GDP improvement for Lebanon might be, and to what degrees such ideas and realities might diverge in the end, a competitive telecommunications industry and solid, multi-faceted communications infrastructures are by the wisdom of international economists and local telecom experts (see interview on the envisioned dimensions of the regional digital upside on page xxx and comment piece on page xxx) both decisive and irreplaceable for a productive economy in Lebanon's future.

But can Lebanon rebuild technical capacities that have recently been tethering on steep funding cliffs or ever hope to recoup a comparative regional telecom edge that the country has not held for over 20 years? On operational grounds, the current picture is as dismal as one can imagine, judging by the many worrisome developments that Ogero's Kreidieh, along with civil society advocates, and this year also, the minister of telecommunications, have been sharing in interviews and social media messages over the past two years.

Among these well-publicized headaches are,

for example, Ogero's pain of losing qualified engineers and the SOE's inability to resolve the financial struggles of its employees who, according to Kreidieh strive, despite their woefully insufficient remunerations, to provide the last reasonably stable and affordable bright spot in the lives of their compatriots, acceptable internet access. To other day-to-day worries, Kreidieh also can talk in detail about the high frequency of thefts of cabling and infrastructure components by possibly desperate but certainly not public-minded crooks, the constant need to find fuel for running Ogero's nodes, and the ridiculousness of the fact that less than \$20 million dollars could equip all of the networks with renewable energy by the installation of photovoltaics.

Beyond the operational struggles and the fiscal incapacitation of having nowhere near the needed 2022 funding allocated to Ogero for OPEX (Kreidieh cites a hard ceiling of \$2 million, a fraction compared to the 2019 operations and maintenance budget of \$42 million), let alone CAPEX (zero in 2022 versus \$20 million in 2019), however, loom two existential questions which existentially concern telecommunications, all connectivity, the information technology industry, and the entire future of Lebanon.

First question: can past telecommunications policies and practices in the government-controlled sector teach us lessons to lead the country into a profitable digital future?

The second question concerns the value proposition of the digital future and, as such, is a tripartite question: what value proposition would be currently adequate when trying to monetize the financially dysfunctional telecommunications industry of Lebanon as a public asset; how and how fast can this industry be capitalized for public economic good and profitability; and how important will this asset be in the context of a new and more digital economy on the condition that it is properly positioned and managed?

THOSE WHO DO NOT LEARN

The first question has a short answer and a longish one in the opinion of every industry stakeholder and telecommunications expert whom Executive approached during our inquiry into the value of this public asset. The short answer is yes;

■ [...] a prosperous future is unimaginable without vital knowledge economy inputs and digitization.



the past political mistakes regarding telecommunications are apparent, and repetition can be avoided. The longer answer expands on the short one by insisting that policymakers repent for, henceforth shun, and by all means swear off ever thinking again about short-term revenue and public coffers when dealing with telecom.

THE DECISIVE NO-GO TERM IS “CASH COW”

“Many people used to believe that the telecommunications sector is a cash cow for the government,” laments, for example, politician Ghassan Hasbani. Before entering the political field, Hasbani, a former deputy prime minister of Lebanon, had held consulting roles and senior corporate positions with several regionally essential telecommunications operators in the 1990s and 2000s. According to him, the cash cow approach meant that mobile telephony earnings were “wrongly applied as a tax revenue rather than being used as an economic driver.”

By Kreidieh’s judgment, freely expressed with choice words such as “insane” and “completely stupid” to describe past and recent handling of the telecom industry as a tool of extractive economic and fiscal behavior, the cash cow treatment of telecommunications could not have been more misguided.

Under a virtuous strategy, the unexpectedly strong cash flows generated from mobile telephony operations in the early years “would have been invested to a large extent into improving the quality of service with innovative products and services. This would have engaged the economy into a positive loop. But instead of investing and promoting a proper environment for startups and companies to grow, we considered the telco sector as a cash cow and started financing the rest of the administration through monies that were generated by the telco sector,” Kreidieh says.

■ [...] privatization would have transformed the telecommunications sector into a very serious economic leverage for the whole country.

To him, the trajectories of the past twenty years are blatantly clear: worse decisions were being piled upon bad ones. The vicious cycle commenced when the government canceled 10-year build-operate-transfer contracts and prematurely retook control of the mobile operator duopoly in the early 2000s.

In the following period, attempts at privatization of the mobile operators through license auction in the mid-2000s could have created “a totally different situation than what we find ourselves in today,” Kreidieh says, and a window for competition and the blossoming of a different ecosystem could have been opened. “There is no doubt in my mind that privatization would have transformed the telecommunications sector into a very serious economic leverage for the whole country. It has been the case in all different countries where economies grow with the help of technologies.”

This chance was missed, however, and so were opportunities to bring order to the opaquely government-run affairs of telecommunications in the later 2000s and early 2010s. Owing to political obstruction, the institutional launch of the regulator, years delayed (see interview about the role of the Telecommunications Regulatory Authority on page xxx), was rendered meaningless. Likewise, plans to break up the operator duopoly and incite competition through the creation and partial flotation of a third operator, Liban Telecom, under the inclusion of Ogero as an awardee of the third license, did not come to fruition.

“The creation of the regulatory authority was a second chance after the misery that took place when the government decided to claim back the two privately owned [mobile] operators LibanCell and Cellis. The Lebanese administration obviously again missed that opportunity to set up a proper environment to develop the telecommunications industry,” Kreidieh opines and concludes, “In a summary, we missed (our chance) when the administration claimed back the operators, missed it again when failing to implement and put in place a regulatory authority and we missed a third opportunity which was the implementation of [telecommunications] Law 431 and creation of a third mobile operator.”

A BETTER FRAMEWORK

Plotting the missed takeoff points along a cognitive timeline makes it evident that the telecommunications' protracted government ownership and value-extraction was of a grave error. Can privatization and public-private-partnership (PPP) reopen the door of digital opportunity and innovation that the country needs?

At least in the framework sense, there is some prospect of investment and development by a new competition law, Amine Salam, the minister of economy and trade, tells Executive. According to Salam, this law, the concept of which has been bandied around unsuccessfully for twenty years, has been highlighted by the International Monetary Fund (IMF) as a critical piece of legislation for invigorating the future economy of Lebanon.

Salam says that the new law comprises two competition-enhancing aspects: the abolition of state protectionism of exclusive agencies and lifting restraints in the public sector. "Some people thought the law would only be about removing constraints of exclusive agencies from the private sector. This is one [part of it], but the more important aspect of this legislation is that for the first time in more than 55 years, we have opened the public sector to private investment," he boasts.

Elaborating further, he emphasizes: "This law opens up the entire public sector for FDI. Anyone, foreign or local investors or a joint venture between a foreign and local investor, can now apply and co-invest together to do a telecom project or an energy project. They can start a new airline or open a new casino, [or] go into a water desalination project."

BUT NO READY MOLD

Yet, legislative innovation and leveling of the competitive arena, it would be a long shot to expect a short and straight path to successful telecom privatization or any PPP wins today. Even the theory of telecom privatization under a PPP model – without even venturing into the nitty-gritty of negotiations, valuations, and building of contractual trust – does not lend itself to a straightforward application under present circumstances, says Ziyad Hayek, international PPP consultant and the former secretary-general of Lebanon's Higher Council for Privatization and PPP (HCP).

While he asserts that the existing PPP law of 2016 is sufficient to manage a partnership process and also agrees that the telecom sector is a rare area where privatization would make sense, he points to a strong semblance between the current situation

and a post-conflict environment where there is "no financials, no clarity, nothing to base anything on" from a valuation and project perspective.

"A decision to privatize the sector under these economic circumstances is nonsense. We would not get enough for what we have," concurs Kreidieh.

Given that there is no clarity even on the degree to which international accounting standards are applied in the country, "everything related to financial statements and accounting today in Lebanon is just a matter of opinion," Hayek tells Executive. He goes on to warn that conflicts would be programmed if a license auction under a conventional telecom privatization strategy were attempted.

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"If the government were to auction a license without having a base of calculating value, they would be making a big mistake. If the price paid for a license turns out to be too low, the government is going to regret [issuing the license] as it will be bad

for the country. If the price is too high, the government's problems will be with the company that bought the license," Hayek says, advising that the tendering terms for telco PPP packages would need to be invented from scratch and fine-tuned in direct negotiations with the prospective private sector participants to make sure that the terms of the agreement are acceptable to both sides.

THE OBFUSCATION OF VALUE, THE UNKNOWN WHEN, AND THE WHY NOT NOW

Hasbani agrees that a proper assessment of the telecom sector is not feasible as "the net present value of the company's returns could generate in the coming 20 years is very low because of the current situation." He, therefore, argues against an immediate attempt to privatize in favor of a two-phased approach of corporatization followed by privatization. Adding a political economy angle to the question, he frames his vision for the telecommunications sector in the context of the big dispute over state debts and depositors' compensation.

"The first things to do post-election are to start implementing law 431, start unbundling the structure [of the sector], create Liban Telecom as a stand-alone corporatized entity for the fixed operations with published financials, [and put] the regulatory authority into a proper position so that it starts covering its own costs from license fees, [by way of] issuing licenses to the two mobile opera-

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tors and the fixed operator,” he says.

In a second implementation phase, he advocates for “gradual privatization and handover of some of the value to the Lebanese public who lost money in the banks.” This would require the government to list telecommunications entities, provide a stable stock price environment, and allocate shares, albeit with initial selling restrictions, to depositors to compensate for their losses in the banks.

Once the share values of the state assets turned listed companies claw back some of the ground lost in the economic crisis, the sale of shares would be allowed, Hasbani says, adding that an international strategic investor in the telco assets could become at first a partial owner of the listed entities and later on be obliged to offer buying shares from compensated depositors if these want to cash out their holdings.

Overall, the main objective in the governmental telecommunications strategy should neither be revenue generation with the state as operator and ultimate beneficiary – a path that long was heading towards diminishing revenues due to mismanagement – nor the achievement of high receipts in a privatization of the sector. Instead, “privatization will be about improving the service, lowering the cost burden, shifting it away from the government and enhancing the economic benefits of telecommunications through price competition,” Hasbani insists.

THE PRIVATIZATION CHORUS’S SUBTLY DIVERGING TUNES AND CHALLENGES

Like Hasbani and Kreidieh, civil society representative Albert Konstanian sees privatization as the right path for a reversal of the cash cow approach and the activation of the telecom industry under a competition and innovation enhancement formula. This focus would treat telecom privatization as a sectorial play, not a financial one, he believes, meaning that “revenue for the government is not really an objective because the selling price today would be the net present value of the future cash flow and no investor is stupid enough to overpay.”

Having researched a study on SOEs and their valuations in late 2019 unfair use of publicly available data and acknowledging that his estimations of SOE valuations at the time are far from helpful today, he regards privatization as a no-brainer for some SOEs (such as the state carrier MEA and Casino du Liban), as totally nonsensical for others – namely the utilities and transportation. But in a third category, among which he sees the telecom entities, privatization is prudent if strong regula-

tion underpin it, publicly determining strategies, and powerful, independent regulatory institutions.

On such grounds, privatization would not only be the best but practically the only sentient choice for telecommunications as a fast-moving industry where innovation plays a central role and best practices have been established around the world. “Telecom is not meant to be run by the government. It should definitely be privatized, but there are many preparatory steps. For me, the objective of privatization is first to boost investment and second to enhance competition. Those are the two main objectives,” he emphasizes.

Despite strongly favoring privatization as the final objective, Kostanian takes the same view as his political and industrial peers to not rush into

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the process. Specifically, he regards it as untimely before the sharp decline in monthly revenue per user – which he estimates as having fallen from \$18 to \$20 before the crisis, to the neighborhood of \$3 or \$4 – is halted and an upward RPU trajectory initiated.

In other preparatory requirements for telecom privatization, he sees a need for reorganizing the sector structurally. In his opinion, distinctions between operators of mobile and fixed networks and separate data services providers are a legacy of the 20th century and are not appropriate anymore, because these realms have converged.

A phase-wise transformation and privatization emerges as a consensus view of the experts that divulged their telecom visions to Executive – but that does not mean that this transition will be free of hurdles and divergent options. Kostanian, for example, sees the 2002 telecommunications law 431 as requiring a revision and significant update. In contrast, Kreidieh and Hasbani see it as basically still ready to deploy out of the box – the latter being extremely mindful of the law’s tortuous and lengthy adoption process in its original iteration and arguing that only a few technical terms in the text would need to be updated.

Under phased privatization, the near-term management of the infrastructure is the retention of state ownership, reduction of infrastructure costs by consolidation, and the provision of this infrastructure to corporatized operators under a wholesale concept. However, albeit designed to be

temporary, this concept could be applied in different ways and could have a bad ending in the pitfalls of monopolistic behavior.

Hasbani says he has confidence that prominent strategic players would not be deterred by Lebanon's old track record of breaking its BOT contracts and would instead be enticed by today's exceedingly rare opportunity to acquire an existing mobile network from a state-owner. According to him, privately held telecom assets will typically be put on the market when they are not doing well, but state-owned networks in a privatization deal are tasty morsels. "The upscale and delta of improvement is usually much bigger when buying a state-owned entity." An additional benefit of enrolling a larger international player with extensive market power – much more market power than the Lebanese state could muster as the owner of a relatively small network – as a strategic partner would be able to implement infrastructure investments at a lower cost.

Nonetheless, there is a great deal of uncertainty about every financing aspect throughout the coming year, and this uncertainty casts doubts on the likelihood of much-needed investments. Financial experts, telecom stakeholders and international observers invested in the Lebanese case declaring in unison that the time for a privatization by sale is not now because no fair valuation is possible. However, the sector's current valuation question is a delay factor, not a deal-breaker. A long-term view is of value in countering negative expectations rooted in the experience of high inflation and extreme volatility of the currency.

"The problem is not the currency but the other risks. Once Lebanon can stabilize the currency at any level, and issue reliable regulations, making sure that there is a stable and independent TRA that allows the investor to know what they get into, the next step is having a judiciary system that protects them; all this reduces investment risk. Once all this is in place, the Lebanese telecom market still has great growth potential," Hasbani says.

Whether this potential is viewed through the narrow lens of the ICT industry's role – where Hasbani estimates that the direct GDP contribution of ICT could be in the two to three percent range five years from today – or through wider lenses under which Kreidieh envisions that the contribution to GDP from digitally-enabled telecommunication services should be between



8 and 13 percent of GDP after five years, or an even more engulfing view under which in a Lebanese knowledge society and e-government enabled polity (e-government development still being the ardent wish of technology stakeholders from the ICT industry chief lobbyist Camille Moukarzel to a host of corruption fighters and civil society advocates of transparency) everything is connected to everything in terms of econometrics and telecommunications is the tech backbone of a massive, long-term digital upside and an immeasurable but dominant slice of overall societal income and wealth.

In this context, it also is worth noting what Kreidieh says about the most significant danger to the sector, the value of human capital, and having a solid vision. On the one hand, he is openly more fearful of losing people than of seeing the daily deterioration of Ogero's material assets. "Physical assets are easily replaceable. But whenever you lose a good engineer, you have lost him for good. This is more serious and why I consider the brain drain as the most imminent danger for the telecommunications sector in Lebanon," he says, but juxtaposes this on the other hand by emphasizing strong existing opportunities such as the provision of cloud services and having the company become a payment solutions provider, emulating successes of African regional telecom heavyweight MTN as an enabler of banking services or even the Chinese model of WeChat.

"There is always something to be done in the telecommunications industry. There is always hope, and the salvation of Lebanon is technology, the brains that go with it, and telecommunications," he enthuses, all the while acknowledging how being optimistic in all circumstances is a Lebanese business stereotype. Nonetheless, he says it with verve. "We have a chance, but we need decision-makers with vision and guts to make it happen."



A CONTINUOUSLY BATTERED INFRASTRUCTURE



Diving through bottlenecks and unanswered questions.

Crumbling. Crippled. Delicate. These are some of the words used to describe the ailing state of Lebanon's infrastructure for the past two years by experts, media outlets, and international and local organizations. On the operational side, telecoms in Lebanon are characterized by high usage fees and low fixed network quality. Fees for both data and voice services have sparked outrage, most notably in October 2019. While these fees have been dropping in comparison to other costs of living since the beginning of 2020, this welcome relief was attributable entirely to the depreciation of the Lebanese pound and decreeing a hike of tariffs was the last thing that the Lebanese Council of Ministers did before constitutionally reverting to a "caretaker cabinet" status after the May 2022 (yes, under the country's convoluted state ownership of telecommunications operators, communication tariffs astoundingly are the cabinet's business).

This political decision on higher tariffs, however overdue for preservation of crumbling network infrastructures in the mobile and fixed-line sectors, brings back the memory that connectivity charges have long been exorbitant when compared with regional benchmarks. According to McKinsey & Company's 2018 report detailing Lebanon's Economic Vision, mobile data and voice levies in Lebanon were around two to three times more

expensive than in Morocco and Egypt - while the country, perhaps even more shockingly, according to Speedtest.net's Global Index measured between April 2021 till April 2022, ranked 159th out of 181 assessed countries worldwide in fixed broadband speed, behind Iraq and Syria. In absolute numbers, the average fixed broadband speed, as measured, was said to be around 7.91 Mbps in Lebanon, at a time when the five top jurisdictions - notably all small, developed territories - achieved average speeds far exceeding 180 Mbps and the global average speed had risen to 63.46 Mbps as of April 2022.

A SERIES OF INVOLUNTARY STRESS TESTS

It has to be noted that Lebanon did invest into upgrades of its telecommunications infrastructure especially in the 2010s - but some of these upwards developments were halted by budget constraints while still incomplete and others have been impaired due to unforeseen disruptions of society and economy. In this sense, a major surprise blow to the country's telecom infrastructure occurred just after the Covid-19 pandemic hit in the first quarter of 2020. As the pandemic-induced lockdowns forced most of the population to shift from their usual behaviors and exclusively conduct their work, education, and entertainment online, usage pressure on the broadband infrastructure increased tremendously, as demonstrated in the govern-

ment's decision to order for the doubling of internet speeds by state-owned provider Ogero.

The forced shift to digital living and working actually can serve as an indicator of the importance of constantly maintaining and improving the national telecommunications infrastructure, and furthermore as signal that full commitments of the key telecommunications stakeholders have the potential to generate massive benefits to Lebanese society and enterprise community (which was during the evolution of the pandemic further proven by the role that internet Ogero played in the creation and implementation of the Impact e-government platform).

However, a 2022 report and survey conducted by Konrad Adenauer Stiftung and Arabnet, highlighted that the degradation of the Lebanese infrastructure had an overwhelming effect on local startups. The impact has been widely felt across the ecosystem, with 91.3 percent of respondents having confirmed that the decline in the quality of infrastructure services had in fact affected their productivity, with 37 percent reporting missing targets as a result.

Similarly, support services - business incubators, NGOs, education institutions, internet and banking service providers - have unanimously complained about infrastructure failings challenging their ability to operate effectively.

Thus, as dips in reliability and coverage were frequent at the height of the data explosion during the pandemic, the involuntary stress test of the broadband infrastructure unmasked weaknesses and deficiencies but also ascertained that the provision of internet connectivity, albeit realized imperfectly, is of fundamental importance for the society and economy, and that care and development of this infrastructure is therefore a primary public need.

Due to the country's currency collapse, the telecoms industry soon faced another internal hard blow on top of the pandemic. Staff members of Lebanon's two mobile operators, Touch and Alfa, officially went on permanent strike, an act of objection to their salaries now being paid in Lebanese pound but provided at the official FX rate of 1,507 to the dollar while the cost of many goods and services was effectively indexed to the parallel market rate where the pound was depreciating from one daily low to the next, which meant some salaries were merely sufficient to cover daily transportation costs to the office.

The third punch, and what could have been the knockout one, came in the Beirut Port explosion, which, along with destroying telecom infrastructure components in the immediate urban blast zone and neighboring districts of the capital, ripped through the new headquarters of operator Touch in downtown Beirut.

UNANSWERED QUESTIONS STILL LOOM

Apart from noting the damages to the telecommunications infrastructure, it is worth to recall that a report by the World Bank, EU, and UN put the economic cost of the damages of the August 4, 2020 man-made catastrophe in Beirut at \$3.8 to \$4.6 billion, with losses to financial flows of \$2.9 to \$3.5 billion. On the other hand, proper assessment of the aftermath of the catastrophe and its impact on telecommunications infrastructure includes recognition of the rapid actions that were taken by several entities to ensure continued communication services to Lebanon's busiest districts. This included operators Touch and Alfa installing makeshift base

stations in the areas that would otherwise have suffered total communication breakdown and also international NGOs such as Telecoms Sans Frontier which immediately acted to provide support and assistance.

Teams deployed to Beirut

in collaboration with the United Nations Disaster Assessment and Coordination (UNDAC) and the United Nations Office for the Coordination of Humanitarian Affairs (UNOCHA) rapidly restored reliable communications in the area of the disaster.

In combination, the three heavy punches inflicted upon the physical integrity, maintenance quality, and load of the telecommunications infrastructures appear so massive that a total knockout of all mobile and fixed infrastructures for data and voice communications around Beirut and the entire country has been averted under the conditions of these incidents and the epic economic crisis that has beset. Seeking to understand the current and future needs in the preservation and continued securing of telecom infrastructure, Executive over more than two months reached out incessantly to top management of operators Touch and Alfa but was only given a written response on the extent of blast damages by one operator. Interview requests and inquiries into current, pressing infrastructure issues met with polished and politically correct answers (if any) that largely obscured the current and impending challenges faced by the mobile communications sector with regard to infrastructure.

"Touch network was severely impacted in the close areas surrounding the explosion at the port, where more than five sites were completely damaged," the operator acknowledged in an emailed statement, providing as further details that dam-

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ages to 20 sites in other strongly affected areas and outages involving in excess of 40 sites in the neighboring areas” required one month of repair work that was further impeded by limited availability of spare parts and lack of funds due to budget cuts.

ENTER 2022

Against the undeniable and excessively documented reality of massive detriments that have been disabling the Lebanese economy in recent months, examples being the removal of fuel subsidies by the central bank of Lebanon, Banque du Liban, in course of 2021, skyrocketing energy costs and exorbitant inflation suffered by households, it is a no-brainer to see the country’s vital telecommunication infrastructure as having been badly, continually, and increasingly impaired.

It is not just that internet cuts have been creeping up around the country due to insufficient amounts of diesel being at hand to run the generators that run base stations, telecommunication towers, internet switches, and the like. Imad Kreidieh, chairman and director general of Ogero, has since before the end of last year not been shy to repeatedly hit out at the Ministry of Telecommunications, alleging that political red tape was to blame for the supply delays, and threatening to resign if the situation did not improve.

At the end of 2021 and again in February of 2022, Johnny Corm, the Minister of Telecommunications, confirmed the existential struggle for fuel as being one of the sector’s big problems, as he publicly warned that network operators were unable to power critical infrastructure and that the cost of fuel, previously a mere 7 percent, has been projected as soaring to two thirds of the state-owned sector’s budget this year.

Much publicized additional headaches about the existing infrastructure have arisen from the mundane matter of physical pilferage of copper cables and organized thieving intrusions into cable shafts. Instead of providing the vital public good of connectivity, the fruits of these intrusions end up on the black market to the great disadvantage of society. “Every day, there is a robbery, to the extent where we have asked for support from local municipalities to help safeguard the equipment; however, even they no longer have the capacity,” Corm was cited in Arabic media.

While many of these cables could be replaced, the cash-strapped telecom provider has halted preventive and significant maintenance due to its inability to acquire equipment and spare parts as they

are imported from abroad using foreign currencies. “We are not doing maintenance because we do not have the funds for it,” Kreidieh told reporters.

At the opposite end of the situation, matters of infrastructure and development of new technical capacities in the ground, air, and under the sea involve investment needs for further submarine cables, possible consolidation of existing network infrastructures, and the general aspect of the ever-advancing telecommunications technology. Investment by the private sector is much needed to complement and upgrade existing infrastructures (fiber rollout, 5G, submarine cable, data centers, etc.) and increase the overall competitiveness of IT in Lebanon.

Political and civil society stakeholders have told Executive that such investments would be both relatively easy to implement because of the country’s small size and existing hard telecom-

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munications infrastructure and be very feasible and productive because of the positively formidable cost-benefit ratio of expanding our digital economy. It would nonetheless have been valuable to gain the insights of the long-time guardians of mobile infra-

structures, operators Touch and Alfa, for assessing the current state and best path forward in this regard. As mentioned above, Executive’s attempt at obtaining interviews from the CEOs or CFOs of Alfa and Touch, however, did not meet success.

One fact that is known is that the government’s ambitious program for complete roll-out of fiber-optic telecommunications cables around the country was only completed to a minor portion when the plug was pulled by Ogero because funds for the \$300 million endeavor were no longer available.

International telecom operators and private sector conglomerates with wide footprints are today seen as optimally prepared to fuel innovation and adopt best practices to foster and grow the local IT ecosystem, yet, at time of this writing, much remains to be learned as to how the government will look to utilize the telecommunications industry to fuel the economy, whether it be privatization, liberalization, or continuing its cascade of milking the telecom cash cow. But as the dust settles following Lebanon’s parliamentary elections, many of the reforms required to lift the sector back on its feet can be categorized in the meantime as loading...



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THE HUMBLER BUT VITAL HANDSET



The cost-conscious hunt for new down-market smartphones.

The past two years have seen a shift in buyer preferences in the Lebanese handset market.

Anecdotal indicators – in absence of trustworthy statistics – show that residents are resorting to longer device usage before buying a replacement handset, and opt for seeking to repair malfunctioning but still serviceable smartphones.

When buying a new smartphone, they have been down-shifting from flagship and high-end models to perhaps less sleek, less powerful, and less glittery but utilitarian devices, seemingly infusing moments of rational choices into the country's previous culture of business glitterati and at-any-price buyers of the latest ICT gadgets.

Thus, where once the latest iPhone and Samsung Galaxy flagship (great for the casual show-off) was considered a reputational necessity and the, mostly bygone, bling brand Vertu glowed in a few select showrooms, there appears today to only be subdued hampering for the global top brands' latest flagship models by the few that have intact purchasing power.

For the vast majority of Lebanon's four-plus million mobile phone users, the game has turned into a cost-conscious hunt for new down-market smartphone makers and, at best, their plastic flagships, many with names that the image-conscious Lebanese buyer in the past might not even have

cared to know the correct pronunciation of.

It is not quite clear how the overall burdens of communication costs, which have for many years been exorbitant in terms of government levies that were more or less poorly camouflaged as mobile phone and data connectivity charges, will develop once the government gets serious about telecommunications sector reforms (see overview story page xxx), adjusting the telecommunications charges.

But for the time being, the handset market exhibits a new equilibrium that is reflective of people's applied coping strategies in the Lebanese electronics market, which like all markets of imported durable consumer goods, has long had to contend with Lebanon's comparably small size and communal fragmentation, along with being plagued with exclusive dealership and import rights.

The latter barrier is rooted in a legal decree issued in 1967, which allowed importers of durable consumer goods such as electronics to assert exclusive agency rights in the Lebanese territory. The Lebanese parliament voted in early 2022 in favor of a new competition law that according to Amine Salam, the minister of economy and trade, abolishes legal backing of exclusive dealership privileges in connection with opening the entire private and public sector to competition.

“This law, according to various studies, will affect pricing in Lebanon by decreasing prices up to 40 percent. Once the competition law is in full execution, you will definitely see between 20 and 40 percent decreases in prices of goods and services where the problem was in the past that a few business tycoons were controlling markets with pricing and distribution,” he tells Executive.

A HARDWARE FREE-FOR-ALL

On the hardware side, from computers to smartphones, the market practices have long circumvented some of the restraints that exclusive agencies posed more strongly in other import segments. “The market is free for all; you will find four importers for HP, three for Lenovo, and nearly six for Apple products,” says Bernard Feghali, owner, and operator of specialty electronics shop EnterSpace in Jbeil. He describes the ability to import computer products as a matter of a small operator’s network, with the main shared denominator of taxes and import duties affecting all resellers.

“Independent businesses can import any brand provided the supplier abroad can cover their needs,” says Fouad Karam, owner of Mass Electronics, a radio, and cellphone business also located in Jbeil. According to him, manufacturers that have entered partnerships with Lebanese distributors may exclusively deal with those local channel partners, but third-party resellers, namely in the GCC, are allowed to act as wholesalers for retailers in Lebanon.

Whereas the state’s control over telecommunications operators has been undeniable since before the first two build-operate-transfer contracts were signed in 1994, the handset market has by comparison been freewheeling. The bypassing of exclusive agencies in the mobile phone market in this sense was mirrored by the fact that governmental efforts to curb the wild flows of smartphones and portables into the Lebanese market during the 2010s have not lasted long.

In an attempt to force official declarations and registrations with tax authorities on inflows of mobile handsets, the Ministry of Telecommunications in 2013 decreed that phones would not be logged into the country’s two mobile networks if there was no record of import duty having been paid by an importer or even the end-user. All mobile phone users in Lebanon received alerts demanding payment of import duties and registering their phones’ International Mobile Equipment Identity, or IMEI, a unique phone identifier code, with the telecom’s ministry within 60 days of its activation on Leba-

nese networks.

This decision was canceled in 2016, before being reintroduced in 2017 by then Minister Jamal Jarrah, whose ministry awarded the IMEI registration contract to Immobiles, a private enterprise.

In the Lebanon Economic Vision (LEV) document – which by some was praised as a holy writ for the Lebanese economy and to others was a notorious and wasted expenditure – by international consultancy McKinsey, the telecoms sector’s contribution to Lebanon’s GDP was cited as amounting to \$1.3 billion in 2017, or 12 percent, up from \$0.9 billion in 2006. However, the 2006 figure represented a higher share of GDP, at 19 percent.

Data on the real performance of the telecommunications industry to GDP in the crisis years from 2019 onward have not been reliably assessed or communicated to the public but have by consensus of telecom and financial experts dwindled. Operators and officials have since the start of 2022

■ [...] the sector remains active in retail and aftermarket support, [...] showing varying degrees of strength depending on the client base.

lamented publicly that the sector has not only become unprofitable for the state as its ultimate beneficiary, owing to the continued “official lira rate” (1,500 LBP to 1 USD) indexation of tariffs in customer invoices but also threatened with breakdowns due to inability to pay for fuel for the genera-

tors powering its substations or replace stolen cables and fix broken equipment.

The best that one might say on the basis of observations of heavy marketing of mobile handsets in the leading e-commerce marketplaces and the consistent presence of small smartphone retailers and repair places around the country is that the sector remains active in retail and aftermarket support, but apparently showing varying degrees of strength depending on the client base.

Both Karam and Feghali said they maintain consistent sales of new phones, particularly high-end products, to clients who have financial inflows from abroad, usually from expatriate family relations. Additionally, handset and device vendors can tap into the purchasing power of young professionals who stay in Lebanon but derive their income from working remotely for international companies or clients in the diaspora.

Owing almost entirely to the sharp fluctuations in the overall vastly deteriorating foreign exchange



rate, local market prices have, according to Feghali, undergone large swings with intermittent down phases. By comparison to the impact of currency fluctuations, international supply chain issues and escalating global shipping costs have been minor factors that weighed on the local market, he added, attributing the relative insignificance of these global price drivers to the fact that phone importers had seen lavish profits in the past. Thus, they were able to absorb regular swings in their cost base and could adjust their pricing to the market's diminished purchasing power in the recent past while retaining their margins.

Numerous entry-level brands have newly entered the Lebanese market in the past two years and have in Feghali's view been essential in this process of aligning handset market realities with the shrinking purchase power of consumers who ever-increasingly depend on mobile communication when facing near-catastrophic hikes in transportation costs and general living expenses.

Several brands that entered the market from East Asia, namely China, and gained market prominence in the past two years since the crisis are Vivo, Oppo, Honor, and Tecno – in comparison to those who entered pre-crisis such as Huawei – brought extremely competitive prices and bundle deals. Covering market demand with models carrying a \$100 price tag, such as Vivo, or \$130 in the case of Oppo, address the large and highly price-sensitive segment of utility-first phone users. And while legacy manufacturers retain their share of the market, resellers are seeing manufacturers like Xiaomi offer some higher-end models which retail at little more than half the price of the big-name flagship phones of Samsung and Apple that generally start around the \$900 mark.

In Feghali's opinion, this is not an indicator that the market shares will shift in the longer term

■ Aftermarket support is functioning well but can be hampered by a lack of standardization for importing replacement parts [...].

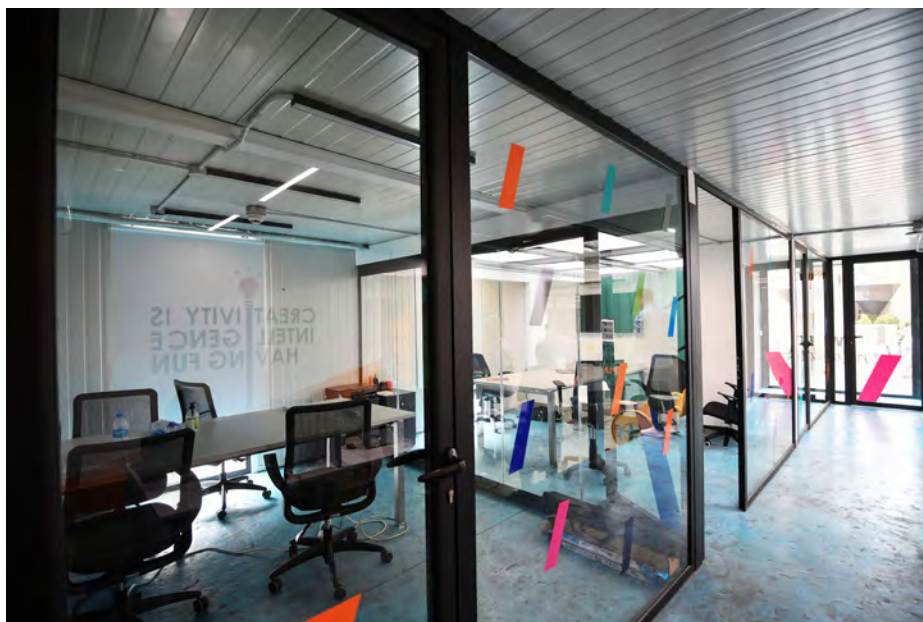
towards the cheaper newcomers. "The market is always rolling, there's consistent demand as clients depend on technology the same way everyone depends on a pharmacy," he says, adding that phone buyers generally tend to switch to higher quality alternatives over the long run and that phone sellers in Lebanon will regularly adjust their prices in accordance with fluctuating prices offered by their international suppliers and also in accordance to issues of a handset's origin and taxation.

With import taxes and telecom provider service rates at the time of this writing still being calculated at the "official" FX rate, and thus providing consumers with affordable services packages by operators and also bringing new handsets into easier financial reach, the market is faced with an immense risk of new price shocks in case of resetting of either importation levies, mobile communication tariffs, or a further deteriorating currency.

On the upside, the market for telecommunications devices has benefited in the past two years from the restrictions and behavior changes enforced by the pandemic. "COVID-19 gave us a bump, but mainly through parents who could afford to purchase a tablet and allow their children to pursue their education remotely," says phone retailer Karam.

Feghali notes that aftermarket support is functioning well but can be hampered by a lack of standardization for importing specific replacement parts such as batteries. "While many importers are bringing in low-quality products to cover the market's needs, [Original Equipment Manufacturer] support is limited to larger market players, with support limited over a set period," he says. For Karam, households and small businesses alike also face uncertainty because of the extent of what is a poorly regulated market for telecom devices. Opening a shop that offers to repair smartphones and portable devices does not require much capital or technical expertise. "Anyone can do it, but few can do it right, particularly when it comes to bringing quality OEM or near OEM products," he says. Karam similarly points out that the market is being exposed to flying vendors who would descend on his shop with travel bags full of displays, batteries, and accessories, with little regulation affecting the way people do business.

REBUILDING THE KNOWLEDGE ECONOMY



The trickled down effect of a strengthened telecommunication sector

In Lebanon, the under-provisioning of infrastructure has created gaps in services delivery, hence exacerbating productivity, and putting the country on a lower growth trajectory. Lebanon does lag behind in providing vital basic services, among them telecommunication.

While other middle-income countries are evolving, Lebanon is falling behind them when it comes to its telecommunication sector. In this country, the telecom sector is heavily set back by low service quality, high cost to consumers, and weak regulatory governance.

According to the World Economic Forum, Lebanon ranked 95 out of 141 countries in ICT adoption in 2019. Whereas it was ranked 161 out of 177 countries in terms of broadband connection speed for the year 2020, according to the Speedtest Global Index – which ranks countries according to their internet speeds monthly.

LEBANON'S GREAT DEPRESSION

Amid its worst economic crisis to date, Lebanon is facing dangerous depletion of its resources, including human capital with brain drain, hence creating – among others – an economic loss for the

country. Despite this depression, one could identify that very limited policy responses had been taken by governmental authorities to reverse the further sinking of the country.

Since the uprising and the revolution in 2019, Lebanon has faced a multi-tiered, MEGA economic/financial crisis, COVID-19 pandemic challenges, and a devastating explosion of Beirut Port. These compounded crises are severe and long-lasting and led to the halting of any development in the country and an estimated drop in real GDP by more than 30-40 percent.

As far as the telecommunications sector is concerned, degradation of services started from a weak and disadvantageous national infrastructure already before the recent burden on Lebanese communities and businesses. Even if Lebanon had been the first Arab country to introduce the internet, unfortunately, it is considered among the last to provide High-speed Digital Subscriber Lines (DSL) and fiber-optic services. It is only in 2017, that the Ministry of Telecom signed a memorandum of understanding with the Cyprus Telecommunications Authority (CYTA) to increase Lebanon's share of the submarine cable Alexandros from 310 to 1,920

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gigabytes per second (GB/s). By boosting the telecom cable's capacity, the local users had been provided access to international servers at high speed. Was this initiative enough to strengthen the national telecom sector? Did this initiative or any other related project prove to be a sustainable backbone for this sector? Was it fulfilled completely as per the adopted plans? Was it implemented appropriately, transparently, and upon international standards?

It is time, at this stage, to look forward and seek opportunities and compounded elements to regain macro-financial stability for Lebanon.

TELECOMMUNICATIONS: AN ECONOMIC TRIGGER

While there is a consensus among key stakeholders on the importance of the telecommunication sector and its relevance to the financial sector's recovery, this sector is still not thoroughly considered a key economic trigger for initial investments and contributions to job creation and recovery.

Immediate transparency initiatives and policy and regulatory changes are required allowing the telecom sector to improve the performance of the various economic sectors while curbing expenditures in the long run. Lebanon needs urgent investment in this sector, hence minimizing or even preventing additional immigration of human capital, and creating new job opportunities.

A DIGITAL GOLDEN TICKET

Lebanon has a golden ticket and chance to bounce back its economy by reinforcing and strengthening its telecommunication sector and incorporating it into the digital economy. Thus, boosting the creation of opportunities and jobs for the local ICT, startups, and tech freelancers to position Lebanon as a Tech Hub in today's Gig Economy and contribute around 20-30 percent to the local GDP, hence reaching 7-10 billion USD by 2025 and possibly more. The creativity that exists in the Lebanese startup community, is a foundation stone to achieving the above-aimed growth.

One of the major advantages of the COVID-19 pandemic is the push of the digital world and remote working in precise. The foundation of any remote work for local and international markets requires a robust and sustainable telecommunication sector. Therefore, we are to explore options and exhaust all efforts to ensure services for the local, regional, and international markets.

Stable and fast internet could bring heavy savings and enable quicker productivity growth towards

becoming a real tech hub that could employ tens of thousands of employees and freelancers while pumping new foreign investments into the local economy.

MISSED OPPORTUNITIES TO BOOST THE LOCAL ICT, STARTUP, AND TECH SCENE

As per Imad Kreidieh, Ogero Chairman "revenues were on the rise before the country's financial crisis broke out in 2019, earning \$450 million per year since 2017, with a 70 percent profit margin." Whereas in 2021, revenues lost more than 90 percent of their value in two years.

While Lebanon had been diving deeper into its economic crisis, we did not see a national comprehensive and credible stabilization strategy which includes the telecom sector that would prevent a worse financial crisis and mitigate the survival of local businesses and startups.

Executive did not see that there is a strategy looking at the reliance on the telecom sector to empower Lebanese startups and tech companies which will surely play a big role in rebuilding the economy. For instance, let's look at Anghami as an example of a unicorn in Lebanon that went out to public listing from the UAE, that could have potentially contributed to the reform of the economy.

When looking at other Arab states, there is no doubt that the UAE Government realized that any vision for the future would be meaningless without the integration of the fifth generation of mobile network, or 5G, because, in the future, there would be a great

■ Lebanon has a golden ticket and chance to bounce back its economy by reinforcing and strengthening its telecoms sector [...] incorporating it into the digital economy.

need for rapid transfer of data, artificial intelligence, machine learning, and other emerging technologies. As of time of writing this article, China, namely its largest telecoms vendor, Huawei, has begun deploying heavy R&D efforts into 6G technology.

For instance, in April 2021, Etisalat deployed a 5G network with Nokia as a key

partner, providing an enhanced mobile broadband service and expanding 5G coverage and revenue opportunities. The 5G capabilities enable innovative applications, such as Virtual Reality (VR) and Augmented Reality (AR). It also addresses Industry 4.0 opportunities to benefit enterprises from various Internet of Things (IoT) use cases in energy, healthcare, education, transportation, and entertainment, thus, generating new revenue and aiding the growth of the market.



TELECOMMUNICATION AND ECONOMIC REFORM

We cannot claim that the path to reforms path will be easy, quick, and even straightforward, but we should push the current and upcoming government toward including the telecommunication sector in the package of the reform agenda and lobby for faster, accessible, and cheaper telecommunication. Accordingly, if Lebanon truly paves the way toward more a sustainable sector then some key and advantageous interventions which could empower current national businesses and inspire new startups will be needed:

- Empowering the Telecommunications Regulatory Authority TRA of Lebanon law 431 by Implementing reforms toward Privatization or Liberation of the mobile operators' market with a clear policy thus allowing domestic and/or foreign private investors that could drive growth and lower prices. To provide Emergence of value-added services and call centers as new niche sub-sectors.

- Establishing governorates/cazas internet hubs (PPP model) public co-working spaces with sustainable electricity (solar panels) to become an inspiration and innovation hub. For instance, the Lebanese National Library and Rashid Karami Stadium could be used as hubs, providing, internet/electricity stability helping innovation, productivity increase, and aiding in creating remote/Nomad jobs and leaving no one behind.

- Approving IDAL's new proposal (2020) for Lebanon Tech National Brand or Tech-Hub and

new companies' formation with tax and other incentives could boost Lebanese startups and entrepreneurs in creating new companies and possibly the next unicorn in the region.

- Advertising Lebanon as a support and international call center especially since it is heavily based on the internet. Highlighting that Lebanese people are known for having bright minds and trilingual advantages, helping achieve the job creation revolution that is needed in the sector-specific and the economy.

- Localizing the national data center, rather than building a new one as proposed in CEDRE Conference i.e., empower and commercialize Ogero as a national cloud provider that is currently available, to open the possibility for more innovations for the private/public sector by being the infrastructure needed and help kick off the national digital transformation strategy.

- Empowering the new emerging technologies IoT, Artificial intelligence, and blockchain that has big financial returns over one trillion-dollar worldwide industry that could be tapped on.

- Encouraging and exploring additional incentives on currently successful digital opportunities such as EDTECH, health tech, and InsurTech to cater to the region, especially the Arabic language.

- Approving and implementing the developed national digital transformation and cybersecurity

strategy to provide more trust and transparency that could transform Lebanon and drive innovation in the public sector.

The upcoming government's priorities are to integrate a digital mindset into their action plan, hence ap-

proving and issuing a set of regulatory texts which have been prepared, consulted, and readied.

Getting Lebanon out of its current economic crisis while relying only on IMF is not enough. The telecom sector powered by a digital economy could be the biggest supporter of GDP, subsequently helping the country recover at a much faster rate and be positioned on the global map for technology similar to what Cyprus has done in recent years while utilizing many of the Lebanese Resources and bright minds.

This sector remains the most promising engine and hope for national economic growth and sustainable development.



■ The upcoming government's priorities are to integrate a digital mindset into their action plan [...]

THE COMPUTER INDUSTRY'S PERSPECTIVE

In the perspective of Lebanon's Professional Computer Association (PCA), the industry's two main sub sectors of hardware and software companies are moderately upbeat after having delivered stable or slightly growing performances in the crisis years of 2020 and 2021. "Hardware companies achieved some growth because of demand for tablets and computers used in home office work. Software companies retained their level but did not achieve growth," PCA President Camille Moukarzel tells Executive. Sector firms applying the outsourcing destination Lebanon philosophy, companies specializing in the provision of remote IT services to client companies abroad, benefited from the boom in remote working that coincided with the growing cost competitiveness of Lebanon-based remote professionals. For 2022 to date, software and hardware companies both have recorded "moderate growth," Moukarzel adds, attributing impulses of business optimism in the ICT sector to the currency-depreciation-based boost in competitiveness and the fact that client companies in the Arab countries entertain a positive cultural bias vis-à-vis the tri-lingual Lebanese software vendors.

The Lebanese information technology industry, and its extended tribe, the ICT industry (IT with the added moniker of communication), has since the mid-1990s constituted a high-profile building block of the country's digital footprint and a promise of growing digital fortunes. With an abundance of new formations of software development companies in the post-conflict reconstruction years and up to the

Y2K crisis and the burst of the New Economy bubble, Lebanese ICT vendors produced software suites such as enterprise resource planning (ERP), marketing, and customer relations management (CRM), and banking and accounting ledgers that on the one hand were aligned with Arab business cultures and on the other hand benefited from the rise in regional computing needs. Over the course of the 2000s, the Lebanese ICT sector could draw on the increasing local supply of computer engineering and software design graduates while further diversifying and specializing. Beirut-staged ICT-centric trade shows proliferated in numbers. While no global giant by a long shot and also having to deal with the vagaries of rapidly changing regional IT markets, the local IT industry stood out in adding economic value, thereby contributing nicely to the country's GDP growth spurt in the late 2000s. However, by 2016, the ICT industry as a building block of the local knowledge economy contributed no more than 3 percent to GDP, the second-lowest percentage among the Lebanon Economic Vision, or McKinsey plan, listed as 14 "productive sectors."

When compared to OECD averages of 6 percent ICT value-added in the early 2010s, or the up to 10-15 percent increases of employment and total factor productivity in the early 2000s by globally leading ICT growth countries, including one neighboring Lebanon, this latter-day GDP contribution of Lebanon's ICT industry – slightly less than the sectors of agriculture and hospitality and only a third of the manufacturing industry (which the LEV authors McKinsey

had decided to focus on) – appeared to indicate a loss of the sector's economic luster.

Specifically, the Lebanese ICT industry's compounded annual growth rate (CAGR), which had been 12 percent between 2005 and 2010, was shown as minus 3 percent, having, according to the LEV, reversed into a contraction for the "2010 (sic) to 2016" years. This swing into negative growth was in the same direction as the swing in Lebanon's total nominal GDP CAGR that reversed from 8 percent to a 2 percent contraction for the two periods. Still, the reversal of growth was the largest among all cited productive sectors and extremely severe by comparison to the total. Whether it was in an upswing or recession, the domestic IT market rarely sufficed as the mainstay of Lebanese software developers; they instead nurtured their organic development potential in the Arabic-speaking world. Notably, this location advantage of Lebanese software houses does not broadly extend to hardware companies, which according to the PCA's Moukarzel and the industry organization's senior advisor Hussein Ayoub, today means local, sub-regional, or in some cases regional, distributors and resellers rather than the assemblers that one could see setting up in Beirut in earlier years.

Hardware distributors with a regional focus can still operate from Lebanon, albeit without fanfare and the blowing of PR trumpets. Still, this segment of the ICT industry appears to be impacted primarily by global industry factors such as upside and downside supply shocks. One Beirut-based distributor, for

example, described, in an informal conversation with Executive, the closure of the Russian market as a shock that created oversupply and thus downward price pressure in the Middle East.

An international market intelligence report recently seems to agree that ICT budgets in Russia and Ukraine are poised for “a steep decline and slow recovery for ICT spending” (International Data Corporation in a commercial report dated March 2022). However, according to IDC and others, there are also signals of counter pressures in ICT markets, such as pressures related to defense spending in Europe, further supply chain bottlenecks in chip production because of a shortage of rare gases used in chip making, migration of experts, and currency issues.

On the domestic scale, the economic challenges of the past two years are juxtaposed with new opportunities. On the side of disruptions, the PCA has seen a shift from the standard business practice of software developers to having high shares of staff in Lebanon – administration and development – and partial workforces or smaller customer-facing teams in their target markets.

Research into this company migration was scheduled for completion this spring but was stopped abruptly by the tragic death of its conductor, PCA board member Gabriel Deek, leaving the PCA saying that numbers are significant but not precisely known. Moukarzel and Ayoub tell Executive that lately, in addition to long-standing location attractions, Dubai and Paris, Cyprus, being seen as gates to European markets, and Egypt,

with a population of more than 100 million and large IT projects, have been locales to which some IT developers have relocated much of their teams.

Other challenges include scavenging of Lebanese talent by international companies, the desire of frustrated professionals to work anywhere but in a capital of corruption and waste under the absence of power and water, and basic difficulties to earn a living wage without taking on remote side jobs have not eased in the slightest. Moreover, avalanches of poorly researched media stories and sensationalist rumors have continued to generate image concerns over Lebanon’s corporate ICT sector as a reliable partner for international clients. Still, the outpouring of one-sided and often incorrect narratives “has affected the reputation of the Lebanese [ICT companies] but not the Lebanese talents,” says Ayoub.

On the side of new domestic opportunities, hardware, software, and app-focused Lebanese IT companies – the latter two also on regional levels – presently have their best opportunities in education due to schools and universities’ high demand for online learning solutions. According to Moukarzel and Ayoub, the education technology subsector is the most active among several subsectors where PCA member companies are plying their business.

Since the start of the Covid-19 pandemic, the market for education solutions has seen edtech companies close the gaps created by the inability to attend classes in person, Ayoub says, adding

that the field of Lebanese ed-tech startup success stories includes eFlow Education, a two-year young startup (<https://www.executive-magazine.com/special-report/pure-education>) that has this spring been named among the winners of a World Summit Award (WSA) for digital innovation, in the category of “quality education” (Ayoub is an investor in eFlow Education). “In other subsectors, such as e-commerce and CRM solutions, where PCA members are active, we have some startups that are branding and positioning solutions for the Middle East region and using Dubai as the hub for their activity,” he goes on to say.

Moukarzel elaborates that the PCA promotes the endeavors of all member companies through international exposure as well as collaborations with trade attaches at several Lebanese embassies. In the arena of international trade shows, the PCA provides support to Lebanese IT companies in various subsectors of the digital economy by organizing pavilions and industry delegations, business matchings, and workshops about hardware, software, as well as consulting and services.

The most recent PCA trade promotion activity, which Moukarzel describes as a modest success, occurred at the recently concluded Dubai 2020 World Expo. “Expo 2020 was average, not so good, and not so bad,” he acknowledges. “We kept fighting to support all the Lebanese companies by recommending their solutions and connecting them with prospective partners and clients so that they can sell their solutions in the international market through our network,” he says



FACTORING IN THE REGULATOR



Q&A with Kamal Shehadi

Creating and empowering an independent, strong, fair, transparent, and accountable regulatory and supervisory institution is, by experience of virtually all countries with a thriving telecommunications sector, indispensable for the development of a viable sector. To assess the need for a revived regulator in the context of enabling the telecom sector to be a, or even, the spearhead of economic development, Executive had a virtual sit-down with Kamal Shehadi. Shehadi is not only an expert on regional telecom operations; he was the chairman of Lebanon's telecom regulatory institution in the first years after its formation.

By Executive's reckoning, the once-promising national telecom regulator has fallen into deep dormancy. How do you, as its first chairman, today evaluate the role of Lebanon's telecommunications regulatory authority, the TRA? Do you agree that the entire telecommunications and ICT sector has been stagnant or in a state of arrested development for too many years, and how, in your opinion, could the sector, and the TRA be revived?

I will start with the second part of the question; how do you revive the telecom industry and the ICT industry in general? Here, I want to focus on two different related issues. First, the telecom industry in Lebanon is in dire need of new and large investments, new management, a competitive market structure, and the ability to draw on international networks that promote innovation. This is something that cannot happen with the current market structure. So, we need to work on reviving the telecom industry, which requires injecting private investments [into existing operators] and allowing [strategic buyers] to bid for large percentages [of ownership] with a controlling stake in each [existing or newly formed telecom operator].

Today, the entire telecom industry in Lebanon is generating no more than \$100 million of revenue for the government. This is down from a high of \$1.2 billion, only three years ago. [Networks] cannot continue for much longer. To [engender investments into the networks] you need to have a different market structure, the government monopoly over mobile services as well as fixed [network] has to be ended immediately. That's the only hope [for reaching] a vibrant, dynamic telecom industry.

And if I may add a note of caution, no one should be advocating [for] the privatization of the mobile or telecom industries in Lebanon on the basis of how much revenues they would generate, because that's no longer the issue. Today, it is about the survival of the industry which can only be secured with a huge injection of capital into these companies and their networks, along with, of course, reforming the market structure taking it from a monopoly to a competitive one.

There is another industry you've mentioned, which has always been important, even 15 years ago, when I [assumed office] as Chairman of the

TRA in 2007. This is the ICT industry or the digital or tech industry as it is called today. Tech has always been the promise of a country [brimming] with talent such as Lebanon. [Actually, this potential for creating jobs and generating profits for the country is] the reason I went into telecom [and] into the TRA. [However, today] the tech industry is in need of attention and nurturing. But it also needs to be given a chance to thrive. It is one of the few promising industries in Lebanon today, and I don't see anyone focusing on this industry on the policy side. To answer the first part of your question, the TRA, having an independent Telecom Regulatory Authority is an instrument, and a necessary one, to achieve the objectives that I mentioned earlier about a competitive telecom industry and vibrant technology industry.

E *You've mentioned privatization. If it were to happen, how would it change the current telecom reality or the value proposition and economic impact of the state-owned telecom sector?*

Reforms to the telecom industry, whether through privatization and, of course, transformation into a competitive market cannot be an isolated initiative. And by itself, it will not really change the dynamic of the overall economy. There has to be a restructuring of both the banking and public sectors. And above all, there must be a restoration of balance between the external and internal [sides] of the economy. The equilibrium [of the internal and external balance of trade and payments] is necessary [to address the] foreign currency problem.

Reforms to the telecom industry can contribute to [creating such equilibrium] because it [can bring] hundreds of millions of dollars, and maybe a couple of billions of dollars as investments into the country over a number of years. I'm not saying [that reform of the telecom sector would be about the price or about] money going to the Treasury. [The issue is] no longer about getting money for the Treasury. Anyone who argues that privatization should happen because it will help close the budget gap, the debt gap, or the debt service gap, I think is losing the plot.

Privatization is important because this is one of the most important industries in the real economy. Telecom and digital [developments] necessitate investments, opening up to the rest of the world, bringing in international expertise, [in order to elevate] Lebanon back to a level where it used to be: a leader in the [regional] telecom space.

E *If new license bids were to be made, can you take me through what you visualize would be the process of negotiation and vetting?*

The priority today should be to privatize the three networks that exist, two mobile and one fixed... Concurrent with privatization, there's got to be an auction of licenses, and the use of the fre-

quencies over the next 15 years or so. The only way to achieve privatization as the sale of operations is to move away from [the government's telecom] monopoly. [On this condition], I think all

■ “Tech has always been the promise of a country [brimming] with talent such as Lebanon.”

three [operators] could be privatized with a single auction. It has to be done in a way that with each winning bid, the investing company [is awarded] a license and the network that they have been [bidding on]. Law 431 is clear that the terms of that license have to be defined by the TRA, and then submitted to and approved by the Council of Ministers. [Whereas] those licenses have to be issued by the Council of Ministers, only the TRA has the legal mandate today to draft those conditions.

E *But in that regard, would the TRA have to be revised or updated either in matters of the law, human capital, or its mandate? Would the TRA, as it is situated today, be ready to issue all the required documents and launch the whole process for creating a new type of public-private partnership in telecom?*

The TRA board definitely has to be appointed and given time to bring in new blood and strengthen the team. Do we need to make changes to the law [to be able to launch tenders for licenses]? Given that time is of the essence, [the answer is] no, we don't. Would it be good to make changes to the law? Of course. We started drafting this law, and I worked on it as an expert consultant, beginning in 1999. After the law was enacted [in 2002], the decrees were issued years later, and the TRA was appointed in January 2007. This leads me to think that if we were to tinker with the law, it's going to take another year or two. So can we do it? Yes, the TRA needs time to get ready, the TRA needs time for the board to be appointed and prepare the work, and the Higher Council for Privatization will need to get its act together. There's a lot of work to be done there. We're talking about months and months of diligent work. But getting it ready, yes, if there's a team that's dedicated, given the proper environment, this is a matter of a few months, not years.

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E *Given that according to the new competition law, policing of anti-competitive behavior falls under the jurisdiction of the Ministry of Economy and Trade, will exclusive dealership rights be affected in the telecommunications sector?*

There is an issue of commercial law and there's a competition law that's been [held up] for years that deals with this matter. Now, in terms of the telecom industry, there are no exclusive agency or exclusive dealership rights. All of these rights, these distribution rights, wholesale and retail, are contracts that can be negotiated. The telecom industry, I think, is not the focus of the exclusive agency discussion.

E *How will issuing licenses evolve, considering emerging technologies such as FinTech, 5G, and such?*

First, the license should not specify what can and cannot be done in terms of new services, because the services you mentioned, from FinTech to health tech, to artificial intelligence, and the use of machine learning, all are not regulated [by the TRA]. This is except for data privacy, which is a very important component of the regulatory structure. Licenses, according to Lebanese law, have to authorize the construction and the investment in networks, the sale of mobile and fixed services, and the commercialization of these networks. The law today does not allow [the TRA] to regulate all the other services that you mentioned, from FinTech to others. However, these would be regulated today by the sector regulator. So if it's FinTech, there could be and there are regulations that the central bank of Lebanon issues; if it is health tech, there will be other regulations that maybe the Ministry of Public Health [could co-determine].

But in the bottom line, this [provision of services] is not for the TRA or for the ministry of telecom to regulate, except from the one perspective of data privacy and data security. I am in favor of very strict data privacy and security legislation and regulation; there must be an empowered authority to enforce these regulations. A data privacy law has been approved by parliament; it's not ideal, but it meets 80 to 90 percent of the requirements. It is not quite aligned with the GDPR, [the General Data Protection Regulation of 2016] which is the European standard, but it's close enough [to protect data privacy] until we can amend and improve this law.

E *In addition to the GDPR regulation, the European Commission recently has been moving forward on a digital markets act (DMA) that is designed to curtail the data*

exploitation and market power of online behemoths. This act, similar to GDPR, is expected to have global implications. But in the Middle East, we are still very far from achieving GDPR. How can we close this mental gap between a very fast-moving knowledge industry where digital services are the future, and regional mindsets, which seem stuck in a previous era?

This gap is today even more shocking than it was 15 years ago when it already existed. If I were speaking to Lebanon-based businesses that have digital ambitions and ambitions to sell and market their services in Europe or to European citizens, I would advise them to make sure that they are compliant with GDPR and all [other] European legislation.

E *If we take into consideration the demographic and geographical size of Lebanon, how many telecom players do you think the market can absorb?*

This is a very difficult question because Lebanon is a small market. The important thing is to have competition. Now, the law is clear that there has to be at least three mobile operators and I think that [three operators] are the maximum we can take. [At issue] is not just the market size, it's about the distribution of spectrum. Because the more you divide the spectrum between different players, the higher the cost of coverage, unless you do what some people are advocating [for], which is [selective coverage], 'give me some spectrum, and I will cover who-

ever I want to cover in any area that I want to cover.' It doesn't work that way.

When you have public telecom licenses, for example as a mobile operator, you have coverage obligations. To provide this coverage of most of the territory, [operators] need to have enough spectrum. And as we move from one level of technology to another, from 3G to 4G, we require a lot more spectrum. From 4G to 5G, we're gonna need a whole lot more spectrum. Then, once you set that threshold high enough, you must make sure that you are creating an industry that is competitive, but at the same time able to sustain itself. [You cannot allow things to] degenerate into a situation where you have small players that [exist] just because they have a license to access spectrum, but are unable to survive, invest, and innovate. Thus we have a big issue with the market structure. In terms of public

■ "This gap is today even more shocking than it was 15 years ago when it already existed."

telecoms, I think three is the maximum number; in terms of other providers like data providers, you could have an additional small number of those.

E *Do you specifically mean DSPs when referring to other providers?*

Yes, what's called [data services providers and internet services providers] DSPs and ISPs. By the way, I think that the whole category has to be revised. In the Lebanese market, ISPs and DSPs are one and the same, which duplicates the structure, duplicates their cost. The issue is how do DSPs survive? This is a very important question for a regulator to answer; how do these data providers survive in an environment where mobile operators offer broadband with 4G and later maybe higher speeds, [such as] 5G? Are they able to compete with them? Or do they simply become resellers? These are questions that the regulator has to think about and provide a solution that is approved by the Council of Ministers because, in it, there's the structure of the industry.

E *While researching this special report, we spoke to several people who were advocating bundling the infrastructure and keeping it under the government while letting the TRA license the service layer. According to those ideas, a state-owned provider would wholesale the infrastructure services and in this way make sure that the cost of the infrastructure is reduced. Is that something you see as viable?*

I will need to look at [such proposals to evaluate them] but I can tell you one thing; it is foolish for anyone to imagine that the public sector in Lebanon for the next five to twenty years will have any funds to invest in anything other than what is socially urgent, [such as] social services, education, and healthcare. [The state] cannot be spending whatever they have in an area where the private sector can invest and can invest better.

[Secondly], I think it is reasonable [to aim for] a third [operator] as a competitor, but even that is going to be a stretch. I don't think a third mobile operator in most countries makes a profit. That is not to say that we shouldn't have a third one, it may be useful for competitive dynamics. Lebanon needs a huge inflow of foreign direct investment and this can only happen if these large industries are opened up for private investment or Public-Private Partnerships (PPP). PPP still is the most promising avenue and not just on a national level, [but also] on a municipal level, [since it] is the most promising avenue to attract investments and wealth found outside the country.

E *Indeed, the proposals that the state should hold on to ownership of the infrastructure that this ownership should be retained 'for the time being' and also mentioned co-investment and PPP options.*


When you put the qualifier 'for the time being,' the question becomes what you mean. Is 'the time being' one, two, or five years? I agree that [temporary state ownership of the infrastructure is called for], but having said that, I am not talking about 'the time being' [in a non-specific way]. I am saying that if we are thinking six months to a year down the road when genuine reforms are being implemented, [the question needs to be solved] if this industry should remain in

■ “PPP is the most promising avenue and not just on a national level, [but also] on a municipal level [...]”

public hands. Should there be one single network [infrastructure]? [On this,] I can tell you that there is not one experience from around the world where a single wholesale network has proven to be a viable option.

E *Lebanon is in dire need of regulatory competency and ethical regulatory institutions, which mandates putting a high priority on staffing the TRA with the most knowledgeable experts that can be found. How can we incentivize our expatriate experts in telecommunications, such as yourself, for example, to accept positions on the TRA?*

The answer to your question is that I have seen in the last two years, especially since the October demonstrations, a huge outpouring of commitment and goodwill from younger generations and interest in public issues, in policy issues. Those of us who were in Lebanon in the 90s and early 2000s, all shared a concern that there weren't enough smart young people being attracted to public service. Today I'm comforted because I saw over the last few years how people were engaging with the country and saying 'this is my country, I want to improve the situation in Lebanon; I want to take care of those in poor areas, I want to provide coverage.'

When given the right opportunity, there are many talented Lebanese women and men who would be willing to roll up their sleeves and get to work in public service. But you have to provide them with the political environment that starts with a parliament pushing for reforms, and a government implementing them. Unless this happens, you're not going to attract talent. No one wants to waste their time for a title or to have a position in the public sector. 

WORLD BANK ENVISIONS DIGITAL MIRACLE FOR MENA



Breaking down Lebanon's digital potential.

A new report on the digital upside of MENA countries states that over the long run of more than the coming 20 years, "the socioeconomic upside of digitalizing the economy of countries in the Middle East and North Africa (and other low- and middle-income economies) is probably huge."

"GDP per capita could rise by more than 40 percent, manufacturing revenues per unit of factors of production could rise by 37 percent, employment in manufacturing could rise by 7 percent, and tourist arrivals could rise by 70 percent, creating jobs in the hospitality sector. Long-term unemployment rates could fall to negligible levels, and female labor force participation could double to more than 40 percent."

Christina Wood is a senior economist in the World Bank's Office of the Chief Economist for the Middle East and North Africa. As one of the report's authors, she agreed to answer our questions in an electronically conducted interview.

E In your research of the digital upside in MENA countries, you have diagnosed what you called a digital paradox that consists of a relative to GDP per capita, high usage of social media accounts versus a low use of digital tools to conduct payments. As you flagged this significant regional gap between usage of social media and reliance on digital payments, can you give us an idea about the size of this digital paradox in Lebanon specifically?

I can give you the data for internet use in Lebanon and also for digital payments use. The share of the population using the internet is 78 percent for Lebanon and by way of comparison, the non-high income MENA country average is 52 percent. Lebanon is clearly over performing when compared to the MENA region's non-high income countries. As far as digital payments is concerned, Lebanon's percentage is 33, [meaning] 33 percent of the population over 15 years are using digital payments. That compares with the non-GCC average of 32 [percent]. So, Lebanon is about average with developing MENA in terms of digital payments and is using [the] internet more for social media than developing MENA countries. The data that I cited is publicly available, and I am confident that the population numbers used as the denominator are acceptable numbers.

E You say in your report that the obstacles on the road to a flourishing digital economy in MENA appear to be more analog than digital. What do you mean by this?

As you are aware from [our report], adopting digital technologies has a huge payoff for the MENA region, and this will be when universal adoption is achieved. What we mean by "analog" is that investing in digital technologies [and] ICT infrastructure is not enough. Also, the supply side of the technology is not enough. What is important is that people use this technology, and use it for digital payments purposes. The demand side of the equation needs to be emphasized and people need to have trust in financial and government institutions, to make payments and be sure that their information is secure. The regulations regarding e-commerce, regarding data protection, [and] consumer protection are important, as well as the skills of the population in using digital payments to find it comfortable shifting from cash to using digital technology. So, what we mean is that it is not just a question of investing in infrastructure but you also have to make sure that people have trust in using digital payments and have the ability and skills to operate in the digital sphere.

E You referred to three basic pillars in your report, namely one, the telecommunications infrastructure, then the trust in banks and digital payment systems, and the regulatory environment as the third. In recent reports on Lebanon, by comparison huge dimension of the economic crisis in the country is

strongly noted, but the Lebanese scenario also is one where distrust in the government is depicted as exceptionally high and the distrust in the banking sector has been racing to levels that rival or surpass the distrust in the government. With these levels of distance between the people and the banks and government in mind, can Lebanon be part of the MENA digital transformation hopefuls or must it be considered a downward outlier in the foreseeable future?

In our report, we emphasize priority areas of reform that address the issue of trust or distrust and make the population more comfortable with using digital payments. I already mentioned the regulatory framework for e-commerce transactions, to make them more secure, and then consumer and privacy protections. The other thing that the government can do to help increase the use of payments is to expand government services in the way of [digitizing] them. One example I often use is cash transfer payments. If the government is able to pay them digitally into e-wallets or mobile wallets, this will make the population more familiar with using digital payments and [rendering them] more comfortable in using them. The other priority area of reform is with respect to the telecommunications sector, where Lebanon faces some challenges relating to this overall governance [issue]. With regard to the telecommunications sector, we emphasize that there should be competition in the telecommunications markets and there should be an independent regulatory authority. I was very happy to see that [very recently] the Lebanese parliament was able to approve a competition policy, and not only that, that this policy would cover private sector activities as well as state-owned enterprises.

E *And you see this as having a positive impact on the competition environment in the telecommunications sector in Lebanon?*

Right. Our research has shown that when you have both the independent regulatory authority and competition in the telecom markets at the same time, it will greatly facilitate rapid technological progress [in the telecommunications sector in general] and particularly in mobile broadband. Telecom companies will move much faster from offering lower technologies like 2G to invest and offer 3G, 4G, and then 5G. What this means is that you can [offer] greater coverage with mobile broadband services to the population, higher quality, and, as more people use mobile broadband, the cost will go down. I think that Lebanon has moved in the right direction. Of course, it is one thing to have the laws, and one must now look to the implementation. What is also important with respect to mobile money, through mobile broadband, is that it allows people to sidestep some of the constraints involved in using the traditional banking sector. There may be constraints in using the banking system as there is low trust in it. Being able to

use mobile money will allow [for] greater increase in use of digital payments without the constraints that are posed by the traditional financial [systems].

E *There are elements of finance which are widely used in Lebanon today but do not constitute digital payments per se. One is the cash remittances to family members via money transfer companies and the other is increased incidence of cash disbursements to beneficiaries by international NGOs. According to what Western Union's main local partner company OMT told us, some 220,000 Lebanese households per month received inbound money transfers in 2021, albeit mostly in cash and not at this time through digital wallets. Would you see this incidence of inbound transfers from family members or INGOs, which have been increasing at least in terms of recipient numbers if not amounts, as something that will enhance trust in digital systems or would this be a neutral factor in your opinion?*

The more the population uses digital means, the more familiar and comfortable they become in using digital payments. Digital payments provide the population with a level of security in being able to receive those remittances. If those remittances would have to make their way to the households physically [by being carried across the border in cash], the digital way is definitely a convenience for the population and much more secure. It is a step in the right direction.

E *Your numbers on the projected upside of digital on the regional level sound very enthusiastic, almost sensational, as far as predicting additional GDP growth, increases in total factor productivity, and tourism arrivals all going up significantly between now and 2045 and female labor force participation rates more than doubling by virtue of digital economic transformation. Is it correct to assume that these numbers are predictions based on general trends and regional averages rather than being added up country per country?*

There are global estimates that we make use of, but those estimates are calibrated to MENA country-by-country specifics and then aggregated. Also, yes, those numbers look impressive. You have to recognize that you will get those huge gains if you imagine that you [achieve] universal adoption. Why are the gains so large for the developing MENA region? It is because there is a wider gap between the share of the population that uses digital right now, to where it could be, to 100 percent [universal usage]. If you look at the GCC countries, they have a much narrower gap and moving from where they are to universal offers not much more gains for them.

E *Talking about universal coverage still sounds a bit utopian even for some economies in the G7 club. Given overall developments and the latest political, cultural and military disruptions*

Telecom

of the bad kind in global markets, how much do you today see it as realistic timeframe, as your study did, to achieve universal digital usage over the period between 2017 and 2045?

There is no doubt that reforms take time and that it would be challenging to get to universal adoption. But what we like to emphasize is that unless you take steps now, you will not have a chance of getting there. It is realistic to know that reforms are challenging and difficult to achieve; [in the case of Lebanon] take Lebanon's competition policy. I understand that it has been in the making for over a decade. And reforms take time even in the most advanced countries. So, we know that reforms take time but [what] we are emphasizing is that it is important not just to take steps towards reform but also to ensure that you are focusing on the priority areas that will help make a difference, faster. That is why we focus on the telecom markets and the regulatory environment to be able to increase the use of mobile broadband in particular. Continue to cover [the country] with fixed broadband but ensure that you are prioritizing coverage with mobile broadband because this will allow you to reap benefits much quicker and to overcome the challenges of traditional ways of doing things through the financial sector where there is a lot of distrust, and so on, and so forth.

E *Would integration of regulatory environments on the regional level and increasing integration of the GAFTA (Greater Arab Free Trade Area) help with achieving targets such as universal digital transformation better and faster or will it make no difference if countries take this road all individually?*

Taking advantage of regional integration solutions is important where it is feasible. I think that this objective should remain on the table and be pursued to the extent feasible, given the context of the region and geopolitics, conflicts, etcetera. Why is regional important? You have to imagine the size of the market. Digital technologies that are general purpose technologies have greater benefits the wider they are used, and have benefits across all activities in the economy. So, the wider one is able to increase the market, the greater the gains that can be achieved. And being faster in achieving universal adoption [means that] the cost of providing those services to the population will go down, the greater the numbers that are accessing the technology.

E *How much would factors such as increased tourism inflows and improved total factor productivity in industry work in favor of Lebanon when comparing the small tourism market and industrial sector to the much larger markets and sectors in the North African countries that are part of developing MENA?*

For the moment, we have focused on the re-

gional averages on the full MENA level as well as the developing MENA. We have not focused on country specific improvements, though we can obtain those numbers by using our methodologies [in the future]. I cannot make comparisons, I can just make general statements which is that the greater the gap between the current level and the 100 percent [universal digital usage], the greater the gains from digitizing for the country. I am comfortable to make this general statement.

■ unless you take steps now, you will not have a chance of getting there

E *Could rivalries among Arab countries impede the regional digital integration and transformation to digital economies?*

One thing I can say in that regard is that the Maghreb countries are actively pursuing regional options in ICT. It is not going to be easy [given that] countries have national regulations and that the competition is at the national level. However, those Maghreb countries recognize the benefit of regional solutions and are actively engaging in dialogue at the telecom sector level to see how to move the regional agenda forward, so that they can take advantage of a wider market that would be more efficient for the telecom companies to invest in technologies to roll out services to the broader population, services that are of higher quality, reliable, and ultimately will be more affordable for the populations to use. The Mashreq region should keep regional integration on the agenda. It is a different sub-region [of MENA] with different challenges, and more challenges, but that does not mean that the priority of reforms should not remain on the table as something to pursue when the conditions allow.

E *What are your future plans at the World Bank on the regional level as far as accompanying MENA countries into the digital future? Are you providing specific technical advisory services, World Bank Group project funding, or going to issue further reports like the one we now discussed, on a periodic timetable?*

We have very strong teams in the Bank that are very experienced in digital transformation aspects from the infrastructure to the data side, to the consumer side, with ensuring communication among all stakeholders. I am not on the side that does technical assistance. [In the department where I work] we are doing the analytical work; we are planning to present our reports in the region at country level and to engage in dialogues.

