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COVID-19: Consequences and opportunities for the ICT sector

COVID-19 has impacted a large number of countries and is turning out to be even worse than the critical economic, strategic, and political clashes happening around the world. The outbreak has and still is impacting all industries, including the Information & Communication Technology (ICT) sector.

Tech giants have hit the pause button on marketing operations, canceled essential events and conferences, most notably, the Mobile World Congress, and announced financial results below market expectations. The US tech giant, Microsoft, lowered its revenue estimates in the quarter ended March due to the impact of the epidemic with lower sales of Windows software and surface devices[1]. Apple also had last month said its revenue for the quarter to be below forecast. Although demand seems to be in line with expectations, the supply chain is returning to normal operations at a slower pace than anticipated.

According to international law firm Baker McKenzie [2], the crisis has fostered corporate introspection and the need for businesses to re-evaluate near-term and long-term supply chains, resource deployment, and liquidity in the face of what it looks like "a looming global recession."

> In other words, businesses are tightening their belts and being careful with their spending, just like the rest of us.

According to International Data Corporation (IDC), growth in global IT spending is expected to reduce by 3-4% by the end of 2020, considering the 'pessimistic scenario,' due to the COVID-19 pandemic. While the major impact is expected to be on hardware business, including devices, the software, and services businesses are also expected to slow down as the spread of Coronavirus goes beyond the boundaries of Asia. However, the adoption of collaborative applications and cloud service sees a positive impact followed by technologies such as security, big data, AI, IoT, where the impact seems relatively small.

Even though businesses are grappling with current losses, in the long run, the ICT industry might be one of the few still standing and, in many aspects, stronger than before. But, it will not be plain sailing for all businesses in the market. The strain on infrastructure networks, contractions in consumer spending, disruptions to supply chain, reduced availability of components, and the all-around financial impact of the Coronavirus are taking its toll in the short-term.

> In a nutshell, before we see the potential rebound after the pandemic has slowed, we might see some severe short-term implications. There will be a retrenchment in outlook, reduced investments in modernization, as survival instincts trump the drive to prosperity.

Impact on different ICT areas: Growth engines and challenges

The world has never been more interconnected, and this health crisis is affecting the whole world. The ICT industry is already losing a lot of income opportunities, and it's still uncertain when the situation will contain. Amidst the uncertain scenario, many technological areas will be the key focus and keep emerging as clear winners.

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[1] Marketwatch
[2] Baker McKenzie

With organizations promoting working remotely, there is already an exponential rise in video calls/phone calls, as an increasing number of people are organizing meetings via apps or collaboration platforms. Digital media and Over the Top (OTT) content players are benefiting while Virtual Private Networks (VPNs), cybersecurity, and data security are other technologies that will see a surge as most workforces are operating remotely. Cloud services will grow, boosted by higher usage of content, gaming downloads, video conferencing, and the impact of remote access to corporate networks. There will also be an increased focus on technologies like artificial intelligence, big data, augmented reality, and virtual reality, among others going forward. Equipment maker, Huawei, for example, recently posted a surge in its technological services comprising AI, video conferencing, and wireless network coverage across the Asia Pacific, given the on-ground communication challenges to ensure smooth connectivity.

Although the COVID-19 pandemic has certainly not triggered Industry 5.0, it has brought home the reality of Industry 4.0. digital workflows, robots, automation are no longer goals; they are requirements. IoT devices have offered organizations a path toward preserving revenue streams during this pandemic.

Other areas that would see an uptick include e-learning, online education, and e-governance. As shoppers begin to self-isolate and avoid crowded areas, the clear winner is the e-commerce sector, with digital payment taking over a lot faster than the physical payment options.

The media industry (both traditional broadcasters and newer streaming platforms) are playing a vital role during the pandemic in providing correct and responsible health information to the public with search engines and social media platforms. In terms of the morale of those isolated, access to the wealth of quality content available is important. (Refer to our whitepaper: Implications of COVID-19 on cable tv and streaming business3 for a more in-depth analysis)

The current circumstances may also accelerate the adoption of 5G to meet the demands of bandwidth, performance, and network slicing. There will be more focus on the sufficiency of networks to carry the significantly increased traffic as working from home continues to ramp up. Social distancing and self-isolation mean that telecommunication has become an elevated essential service. It will be worthwhile to see how the Communications Service Providers (CSPs) both Mobile Network Operators (MNOs) and cable operators meet the challenge of their new critical role in the changed world.

While people are mostly using home WiFi, they would still use their mobile phones for voice communications, and this is the area that MNOs need to keep a close eye on. With video conference services (Skype, Zoom, and others) traffic is going through the roof right now, the dial-in option is an alternative if video conferencing platforms are overloaded.

Also, with the need for social distancing, people are communicating more, which will drive additional voice traffic, whether it's on legacy circuit-switched systems or the 4G network with Voice over Long-Term Evolution (VoLTE) calls. The strain on voice services, though, will be helped to some extent by the convergence of WhatsApp, Messenger, Skype, Hangouts, and FaceTime calling within the iOS and Android ecosystems. Nevertheless, some CSPs are predicting significantly higher voice traffic growth against the regular year-on-year increase of only 5%.[4]

With the potential congestion of fixed broadband service, there is a chance that devices will fall back on mobile networks, and this will cause a significant surge of mobile data traffic. Likewise, in areas where MNOs also provide home broadband connectivity, one would expect a significant increase in data traffic, and in some parts of the world where unlimited data isn't pervasive, an increase in subscriber costs.

The cable operators, on the other hand, will be more impacted than MNOs due to the increased activity at home - working from home and a greater demand for streaming services. Netflix and Google have already announced that they would be reducing video streaming quality in Europe for a month from high definition (HD) to standard definition (SD) to prevent network overload and collapse.

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[3] Implications of COVID-19 on cable tv and streaming business
[4] Spending time in the new normal

With significant changes in user behavior, escalating use of telemedicine solutions for remote diagnosis, and the corresponding data traffic shifts, it will be increasingly important for CSPs, whether it's a mobile or cable operator, to keep vigilant and closely monitor their network.

> Overall, the future for the ICT industry is here, but only the savviest businesses will bring it to its full potential.

The pivotal role of AI and analytics in supporting ICT businesses

'During the crisis and its aftermath, winning companies will reinvent themselves by putting data and AI at the core of their organizations.' They can leverage AI and Analytics on two major fronts:

I. Driven by its internal needs as new challenges, opportunities, and use cases emerge.
II. Driven by the systematic shifts in consumer behavior in what will be a 'New Reality.'

I. Key areas *(driven by internal needs)*, where AI and analytics will play a crucial role:

- **Revenue and Business Continuity Planning**: Some of the massive shift to remote work due to the pandemic might be temporary. However, much of it will persist as more businesses provision for long-term, flexible working arrangements and on-demand staffing models will become more common. AI is no silver bullet for implementing new ways of working, but it can play an important role. It can help companies better simulate live-work environments, use predictive analytics for precisely forecasting sales and operational challenges, such as staffing needs and supply disruptions, and create the on-demand staff. Data-driven strategies can help to effectively address uncertainties by creating a scenario-based analysis using key variables while updating the model dynamically as the new data comes in.

- **Network and operational analytics**: AI/ML-based analytics can provide automated anomaly detection at scale. As traffic increases and network chokes-up, understanding spikes and breakdowns in a scaled, automated manner will be critical. AI and analytics help track these anomalies much more efficiently and accurately than manually looking at the system issues.

- **Collaboration services leveraging AI**: Communication and collaboration platforms have already seen an exponential rise in voice and video calls. Using voice-based AI, video conference users can start, join, or end a meeting. Voice-to-text transcription, another AI feature, can take meeting notes during video meetings, leaving individuals and their teams free to concentrate on what's being said or shown, boosting efficiency, and collaboration. This AI/ML-based technology will get smarter and more accurate as more people will use it. With many tech events/summits becoming virtual, this may see an increase in demand.

- **Digitalization and Automation**: The current crisis is an excellent accelerator of digitalization for both consumers and businesses. Even the most skeptical ones, will be prepared to integrate digital agenda in their organizations and will be in much favor of automating their operations. For many technology firms, data-driven automation will be a strategic focus beyond Robotic Process Automation (RPA). Businesses will need to leverage automation across multiple areas, including customers, employees, and network. Marrying AI and analytics to digital agenda will be vital to building resilience. AI can be an enabler of digital transformation covering multiple use-cases such as digital relationship management, adoption of digital channels, digital identity verification, digital onboarding, digital fraud prevention. With more traffic being directed to digital channels, AI-based automated solutions can help quickly detect friction points and its root causes in customer journeys and hence, timely intervention/ resolution to drive more sales and better customer experience.

- **Augmented data management and integration**: As cloud services continue to grow, and data continues to collect from multiple touchpoints, data management & integration sees bolstered growth. This involves leveraging ML capabilities and AI engines to make enterprise information management categories, including data quality, metadata management, master data management, data integration as well as Database Management Systems (DBMS) self-configuring and self-tuning. It is also automating many of the manual tasks and allows less technically skilled users to be more autonomous using data and allows highly skilled technical resources to focus on higher-value tasks.

II. Key areas *(driven by the shifts in consumer behavior),* where AI and analytics can play a crucial role:

- **New Consumption patterns**: The pandemic is drastically altering consumption habits worldwide as consumers are making more purchases online and digitally. This will fuel more online purchases of technological products & services, an upsurge in cloud-based services, and the need for more devices per household. As their focus shifts to recovery, more companies are likely to deploy AI-enabled solutions to reignite top-line growth. AI can help companies discover emerging trends, detect new consumption patterns, and identify the change in preferences. It also enables the 'hyper-personalization' of products to improve customer engagement and sales.

- **Customer Experience Optimization**: With front-liners being flooded with customer calls and queries, contact centers will need a more efficient workforce and capacity planning. The manual process based on experiential learnings could result in inaccurate capacity planning for ramp-ups and unprecedented demand. AI and analytics can provide more accurate and efficient capacity planning models for predicting the volume of agents needed, effective staff utilization, better management of agents, and enhanced customer experience. Effective planning will also reduce Average Handle Time (AHT), the number of complaints, and overall operational costs of the contact center. Alongside, businesses can use Natural Language Processing and AI capabilities to speed up wait times in call centers

- **Last mile fulfilment**: Increasing trade barriers is forcing companies to re-think their supply chain strategies and re-assess the merits of redundancy. Disruption in the global supply chain has moved redundancy higher up on companies' agendas as a means of reducing risk. Rather than heavily concentrating sourcing and production in a few low-cost locations, businesses are looking to build more redundancy into their value chains. But redundancy and duplication entail a significant cost. AI offers the potential for companies to build resilience into their operations while minimizing the cost and damage to margins. It enables cost optimization in each factory through predictive maintenance and better planning. It also allows them to operate a larger number of small, efficient facilities nearer to customers, rather than a few big factories in low- cost locations. With the deployment of advanced technologies such as 3D printing and advanced robots, it can now handle tasks that previously required humans.

Conclusion

AI and analytics will be a must in enabling ICT businesses to thrive and seize competitive advantage in this new environment. AI capabilities will be enormously valuable as businesses confront and adapt to the new reality of the current crisis and its aftermath.

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Fractal's products include Qure.ai to assist radiologists make better diagnostic decisions, Cuddle.ai to assists CEOs and senior executives make better tactical and strategic decisions, Theremin.ai improve investment decisions and Eugenie.ai to find anomalies in high velocity data.

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