Tunisia in the Light of COVID-19: Technology Comes to the Rescue

Syrine Ben Romdhane*

Department of Finance and Accounting, High Institute of Management, University of Tunis, Tunisia

***CorrespondingAuthor:** Syrine Ben Romdhane, Department of Finance and Accounting, High Institute of Management, University of Tunis, Tunisia*

Tunisia's potential has long been acknowledged.The country upholds a plethora of undeniable structural and strategic assets, stemming inter alia from its historical openness, its geographical location allowing it to be very close to a huge European market and serving as a hub for world powers, and its cheap qualified, responsive and multidisciplinary workforce which undoubtedly embodies the essence of its competitiveness on a global scale.

Last but not least: the country has a multidimensional economy and modular industrial structures adapted to the rapidly changing international requirements. Its efficiency-driven approach allows Tunisia to consolidate its integration at the heart of global value chains.

The sudden coronavirus outbreak put the spotlight on an even more significant asset. Indeed, and as an old French proverb says "There is something good in everything bad"; Sources of innovation and genius have flourished massively all over Tunisia since the beginning of the crisis and have revealed young Tunisians of exceptional level: scientists of great value, high-caliber doctors and health personnel , world-class engineers, not to mention creative and talented startuppers.

A myriad of initiatives and accomplishments with as much skill and sensitiveness have been deployed and well implemented since the start of the epidemic. More than everthey tapped in artificial intelligence, robotics, big data, or even 3D printing and connected objects using them on multiple fronts. This is nothing new for a country which maintains its competitivenessthanks to the thousands of engineers that are trained every year and that boast internationally recognized technical qualifications in knowledge-intensive fields like IT and multimedia (ranked 2[nd]in the world according to The Global Innovation Index, 2018).

If we zoom in on the main bright initiatives, particularly in medical and scientific research, we cannot but relate the remarkable scientific success achieved by a microbiology laboratory which succeeded in defining the genetic characteristics of COVID-19 in Tunisia; a major step forward in the fight against the pandemic and a victory for the research community in Tunisia.

Furthermore, Tunisian engineers have shown salutary inventiveness and responsiveness with the available means and in record time through the design of masks, respirators and face shields using 3D printing technology, intended mainly for nursing staff. Others have set out to develop, with the greatest pragmatism and with a desire for immediate operational use, a platform - always making use of artificial intelligence - for an instant diagnosis of the coronavirus from chest x-rays, therefore allowing a rapid screening for COVID-19.

Medicine is not the only area benefiting from the innovation frenzy. That of buildingrobots is just as important. An ambitious approach unprecedented in Africa consists in the manufacture by a Tunisian start-up of a robot packed with advanced technology remotely controlled by police forces in order to ensure proper compliance with lockdown rules in Tunisia. Similarly, a virucidal robot to assist hospital staff has just been created. It transports clothing, medicines, food and equally disinfects rooms and corridors of hospitals and medical institutions. An even more ambitious project consists in an intelligent telepresence robot that was designed to maintain links between patients in hospitals and their families and thus minimize physical contact. Another invention "made in Tunisia" whose main mission is to determine the risk of being infected with the coronavirus.

Likewise, as a result of a "triple helix" model, a project for the construction of disinfection tunnels operating with ultraviolet rays was designed for hospitalsbased on a participatory approach as a

bulwark between universities, research institutes and young companies. This is what collective intelligence is about; a touch of pride which suggests an adaptation to new trends, a high-tech robotic future and a positioning of Tunisia in tune with innovation and modernity.

This enthusiasm for efficiency and for a new virtuous dynamic has undeniably shaped the media landscape and the journalism field as a whole. Indeed, it is under a magnifying glass that the world, impressed by the technological leap, continues to observe Tunisia. This country has indeed its own merits in terms of innovation (recognized as the second most innovative country in Africa according to the Bloomberg Innovation Index 2019) and digital connectivity with the best mobile internet connection on the continent (Speedtest Global Index 2019).

"*Innovations: the Rise of Tunisia*? " is the headline chosen by *Le Point* listing the advantages of Tunisia as an ecosystem conducive to innovation and a pool of skills in the fields of artificial intelligence – considered as no longer a mere futuristic vision – tech and digital innovation. The newspaper *Le Monde* also intensively covered the design by Tunisian researchers of a 3D print respirator. Likewise, the Tunisian invention born from the idea of helping to instantly diagnose the new coronavirus from simple chest x-rays thanks to artificial intelligence has been brought to the fore by the French regional press *La Provence*. Another French media, *La Dépêche*, praised in its article entitled "*In Tunisia, Artificial Intelligence and Robots Facing the Virus*" the diversification and hybridization of major Tunisian initiatives to counter the harmful effects of this formidable enemy that is the coronavirus.

The French-speaking pan-African reference magazine, *JeuneAfrique,* took an immediate look at the first genetic COVID-19 sequencing in Tunisia. Another audacious Tunisian project was showcased by the English media with international influence, *BBC News*, "Coronavirus: *The Students that are Printing PPE Masks in Tunisia*". Better yet, *RT France* commented on Tunisia's innovative efforts in the COVID 19 era by preparing a report entitled: "*Providing Solutions with Robotics, with Artificial Intelligence, to Fight the Virus*".

The media landscape is thus full of articles about Tunisia that is considered as the example to follow in terms of technology deployments that only needed a boost to hatch. It is in this wake that Tunisia, a country of opportunity compared to others, will tend to project itself towards a future of post-COVID 19 digital transformation.

There are certainly many projects to be undertaken. However, the strength of its human capital is emerging as an opportunity and a pillar of the country's attractiveness with a view to both promoting the ecosystem of innovation and Tunisian knowledge at the international level and positioning as a hub for Africa and the Arab region, particularly in artificial intelligence. This is all the more so as Tunisia was ranked 2nd at the African level in terms of the maturity degree of governments in AI (Government AI readiness Index 2019).

Covid-19 could thus serve as a trigger for a sustainable digital transformation!

AUTHORS'BIOGRAPHY
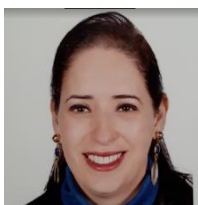
Syrine Ben Romdhane holds a Doctorate in Management Sciences from the Faculty of Economics and Management of Tunis. The author is currently Assistant Professor at the Higher Institute of Management of Tunis where she teaches Financial Management, Portfolio Management, Financial Mathematics, Advanced Financial Analysis and Financial Diagnosis. The author also provides supervision for students enrolled in a Research Master or a Professional Master. She has published research articles in reputable journals and wrote a book entitled "Impact of Information Technologies on Banking Performance", European University Editions. She taught Finance courses also in private institutes (ULT University, Time University, Central University and ESPRIT).