



AI for Development Challenge - AI4Dev

Concept Note



Background

COVID-19 proved to have a strong negative impact on our economies and showed how weak they are in terms of performance and adaptation in many different sectors including business, healthcare, education, agriculture, financial sector, and many others.

For example, according to the UN and related to the healthcare sector, COVID-19 has interrupted childhood immunization programs in around 70 countries and caused several healthcare service cancellations that might lead to 100% increase in malaria deaths in sub-Saharan Africa. It is also expected that COVID-19 will cause additional hundreds of thousands of under-5 deaths, reversing decades of improvements¹. Let alone that 50% of global population were lacking access to basic healthcare services according to UN in 2017.

COVID-19 impact had its tolls as well on the economic performance causing the world to face the worst economic recession since the great depression. According to the UN, the global GDP/Capita is expected to decline by 4.2% in 2020. 1.6 billion workers in the informal economy risk losing their livelihoods and formal sectors like Tourism and Aviation are expected to decline by around 1 billion arrivals in 2020 since they were affected by the sharp decline in the arrival rate of international tourists. This caused the steepest decline for the Aviation industry as numbers fell by 51% from January to May 2020².

The unusual threat of COVID-19 that the world has faced, impacted mostly the base of the pyramid. The population at the base of the pyramid represents between 40% to 85% of all food producers in the developing countries according to the UN, and around 60% of worldwide employment according to the ILO report³.

Governments across the globe are challenged on unprecedented levels as they are facing a threat they were never prepared for. In the United States (the world's largest economy), they spent around 6 trillion dollars just to contain the damage of the pandemic, not knowing if those actions were the best courses of actions⁴. Moreover, governments were under a difficult predicament to prioritize between saving lives and/or livelihoods (Die from illness versus Die from hunger) and thus inviting everyone to re-think about how to make our economies more resilient, more agile and more inclusive.

Could our economic agents from governments, businesses, NGOs, hospitals and others respond in a better way?

- Lockdown? Could it have been smarter?

¹ <https://sdgs.un.org/goals/goal3>.

² <https://sdgs.un.org/goals/goal8>, <https://sdgs.un.org/goals/goal9>.

³ <https://sdgs.un.org/goals/goal2>, [https://www.ilo.org/global/about-the-ilo/newsroom/news/WCMS_627189/lang--en/index.htm](https://www.ilo.org/global/about-the-ilo/newsroom/news/WCMS_627189/lang-en/index.htm).

⁴ <https://www.facebook.com/103698646342460/videos/547030539333705>.



- Doing business? How could we minimize the disruption?
- Healthcare? Was there a faster, less exposing, less overwhelming way(s) and more effective?
- Education? Isn't this the perfect time to transform?
- Financial Sector? A hit to the financial inclusion? Or an accelerating force?
- Agriculture? When it is already vulnerable in developing countries, doesn't it call for new business models and innovations to increase resiliency for increased food security?

The challenges our economies are facing are increasingly becoming more complex, and thus demanding innovative solutions. At the same time, Digital and Emerging Technologies from 5G, Low Orbit Satellite, Big Data, Internet of Things (IoT) and Artificial Intelligence (AI) are foundational and enablers in nature, driving the next wave of disruption and impact.

AI in particular will be cross cutting in all verticals, improving service offering, rationalizing usage, allowing efficient utilization of technology and increasing its effectiveness. In a study published by nature⁵ in 2020, the impact of AI on the 17 SDGs and the 169 Targets for those SDGs were studied. The study concluded that AI has a potential to enable 134 targets of the 169 while it can inhibit 59 targets.

AI has been used during the Covid-19 in the Arab and African nations. In Egypt and more specifically its startups, they used AI to drive the success of their companies. Dxwand, one of the promising Egyptian startups, produced chat bots for sales that responds to Covid-19 pandemic by helping people to know about the pandemic using AI through "Nameesa" the virtual assistance. Their AI engine allows them to interpret different slangs and respond to the questions⁶. Also, Afya Rekod, a Kenyan startup allows people to store their health data in real-time. Its platform helps users store their own health data, access health information and connect to health service providers⁷. Through the use of AI, Afya Rekod allowed the health service providers to take data driven health decisions to the best interest of the patient.

AI's contribution to the economies of the Arab and African nations is expected to grow and have a deeper impact even after the COVID-19 pandemic situation. AI will change the work map in the near future in the region starting from creating virtual assistance through the social media challenges to launching satellites. According to PWC report, AI will contribute with up to 19% of the annual GDP contribution of industries like Retail, Wholesale Trade, Consumer Goods, Accommodation and Food Services in the Middle East by 2030⁸.

⁵ Vinuesa, R., Azizpour, H., Leite, I. *et al.* The role of artificial intelligence in achieving the Sustainable Development Goals. *Nat Commun* **11**, 233 (2020). <https://doi.org/10.1038/s41467-019-14108-y>

⁶ <https://dxwand.com/coronavirus-nameesa>

⁷ <https://www.afyarekod.com>

⁸ <https://www.pwc.com/m1/en/publications/potential-impact-artificial-intelligence-middle-east.html>



The 2020 world economic forum (WEF)⁹, identified five areas where AI can contribute to growth in financial services (and financial inclusion), and they are:

- Generation of new revenue potential: through use of AI and alternative data with innovative credit scoring.
- Risk Management: to improve speed and lower cost of detecting fraud
- Process re-engineering and automation: to increase efficiency of core financial service operations
- Customer Service: to generate insights and improve service delivery
- Customer acquisition: increase outreach and personalization, automated on-boarding procedures and others

African and Arab countries are full of many challenges and opportunities, addressing them requires collaboration among several stakeholders. In addition, working with the long-tail or low margin environments and large population requires digitalization, automation, faster and informed decision-making process. AI will be the brain working over the top of all the digital technologies for faster, better and cheaper interventions. AI will complement human intelligence to reach capabilities and possibilities at improved economics.

AI for Development Challenge (AI4Dev)

AI4Dev is a challenge organized by the International Telecommunication Union and Facilitated by Nile University, in partnership with Governments, UN Agencies, and other local and international organizations. The challenge is targeting multitude of stakeholders including Entrepreneurs, Startups, Innovators, Mobile Operators, Technology Providers, Policy Makers and others in the Middle East and Africa.

The challenge objectives are as follows:

- Identify great ideas in AI and potential utilizations to address developmental challenges
- Prompt new collaborations and partnerships around the use of AI to achieve SDGs
- Build the capacity of new innovators in Emerging Technologies and support their entry into the market

AI for Development challenge will seek innovative solutions using AI to address the following SDGs

- SDG 2 on Zero Hunger
- SDG 3 on Health and Well Being,
- SDG 8 on Decent Work and Economic Growth and

⁹ <https://www.gsma.com/mobilefordevelopment/blog/ai-and-mobile-money-bridging-the-financial-inclusion-gap/>



- SDG 9 on Industry, Innovation and Infrastructure

The participants will be requested and assisted to develop a prototype and a pitching presentation. The solutions will be presented to a judging panel comprising, Tech, business, Entrepreneurship Ecosystem and attended by representatives from UN, Government, and key stakeholders for the sustainability of the ideas.

Prizes

Total prize secured for the challenge is 10K USD to be paid as follows:

- First Place Winner: 5K USD
- Second Place Winner: 3K USD
- Third Place Winner: 2K USD

Partners and Sponsors

In order to achieve the AI4Dev Challenge goals, four tiers of partnerships are sought:

- **Outreach Partners**

They will contribute to the following activities:

- Marketing for the challenge
- Reaching the largest number of teams that can participate in the challenge,
- Disseminating the challenge's activities

- **Technology Partner**

They will be providing the following:

- Mentoring sessions
- Training sessions
- Technology tools

- **Strategic Partners**

They will assist in reaching and connecting with:

- Potential Users of Innovation (for the sustainability of the graduates)
- Policy makers and enablers of AI adoption

- **Sponsors**

They will be responsible for providing:

- Financial support towards the program
- Significant in-kind contribution
- Support to the teams after the challenge duration



List of Partners and Status

Partner	Contact information	Partnership Mode	Status
Nile University		Challenge Facilitator	On Board
NilePreneurs		Partner	On Board
Etisalat		Sponsor	In Progress
GSMA		Technology Partner	Not Started
Microsoft		Technology Partner	Not Started
Google AI Lab		Technology Partner	Not Started
Udacity / One Million Arab Coders		Outreach Partner / Technology Partner	Not Started
UNDP		Strategic Partner	Not Started
FAO		Sponsor / Strategic Partner	In Progress
IBM		Technology Partner	Not Started
GDG	Salimabid@google.com	Technology/ sponsor	Not Started
ArabWIC Egypt		Strategic partner	Not Started
Robusta			
Valeo		Technology/Sponsor	Not started
UNTIL		Strategic Partner	Not Started
Saudi Data and Artificial Intelligence Authority		Technology/Sponsor	Not Started

AI for Development Challenge Activities and Milestones

AI4Dev is expected to launch 1st of November 2020, and it will go through five milestones as shown in the table below.

Stage	Description	Due Date
Stage One Application	<p>Applicants will fill the applications and will conform with eligibility criteria to assess their innovative idea and eligibility to apply.</p> <p>The application will request different types of information including:</p> <ul style="list-style-type: none"> • Personal information • The team 	1-Nov-20



	<ul style="list-style-type: none"> • Idea brief (Presentation & Video) • Prototype information (optional) • Business Model (Optional) 	
Stage Two Selection	<p>Applications will be evaluated, and applicants will be shortlisted according to an evaluation metrics which will take into consideration factors like:</p> <ul style="list-style-type: none"> • Idea stage • The problem • Beneficiaries (direct / End) • Market size • The solution • Building Blocks (Solution Design) • Data acquisition, keep relevance • Team and competencies (2 – 5) • AI Model Performance (Precision, Recall) 	22-Nov-20
Stage Three Challenge	<p>In this stage, the applicants will receive different sorts of support</p> <ul style="list-style-type: none"> • Technical support AI technologies landscape, how to use AI technologies in real Apps, different aspects related to AI (data acquisition, cleansing, models, models evaluation..etc.) • Business support Business Model validation, design for scalability, pitching, sessions on how to take the idea to market, product-market fit 	23-Nov-20 till 16-Dec-20
Stage Four Judging	<p>Judges will evaluate the applicants' ideas and prototypes, shortlist them and choose the winners according the judging criteria</p> <ul style="list-style-type: none"> • Idea stage • The problem (and its urgency) • Beneficiaries (direct / End) • Market size • The solution and its uniqueness • Building Blocks (Solution Design) • Data acquisition, keep relevance • Team and competencies (2 – 5) • Going to market strategy and knowledge • Product Financials Feasibility and Knowledge 	16-Dec-20



	<ul style="list-style-type: none"> • Up-sell and cross-sell potential • Scalable Product • AI Model Performance (Precision, Recall) 	
Stage Five Closing Ceremony	The winners will be notified, and prizes will be announced	17-Dec-20

AI for Development Challenge Timeline

