***Key Insights and Takeaways from 27th August Webinar / Panel Discussion on “Combating Africa’s Education Barriers Through Innovation”***

All five panelists (+ extra guest speakers) brought their perspectives from years of local work, engagements, and initiatives in many Africa. While three of the panelists (Dries, Rose, and Seif) represented their home countries in the continent (South Africa, Zimbabwe and Egypt respectively), others while residing in US and Europe are either focused on Africa or have been deeply associated with activities in Africa – Corina Gardner as Executive Director of Education for IDP Foundation with predominant focus on low-cost private schools in Ghana; Bob Goodman with World-bank sponsored projects over a decade in 10+ countries in Africa; Raj Valli with several years of work in South Africa to drive Thinkster platform; Mark Grashow and Manning Sutton from US-ACF with their books distribution and Pi computer driven initiative in 6 countries in Africa.

In terms of challenges, panel talked about the following challenges and how they have become more acute due to COVID-19 driven lockdowns:

1. Shortage of teachers and education content (books etc) and associated resources (labs etc) – big gap in demand and supply itself.
2. Poor quality – when the above resources are available, they are often sub-standard (i.e, inadequate qualifications, poorly trained, poorly supported)
3. Technology: COVID-19 disruption has forced the schools to go in virtual mode almost overnight, but Internet connectivity and access-devices are either not available or are not affordable.
4. Affordability – this cuts across to both technology as well as in general (facilities, content, funds for salaries etc), resulting in unaffordable tuition and fees for the parents and students.
5. Lack of standardization in curriculum – which adds to the cost by forcing too many unnecessary localizations / adaptations even in the areas where there should be little need (e.g., science & technical subjects, English language)
6. Relevance – education when disconnected from the local economy makes it hard to solve employability issues as well as become engine for local economic growth.
7. Integration of local culture – lack of local cultural elements create future leaders without deeper roots and empathy.

Following six key themes emerged in terms of innovative solutions and models with promise to address above challenges today itself (as opposed to futures):

1. Off-premise learning: With sudden, and gargantuan-in-scale, COVID-19 driven turmoil, the discussion was naturally dominated by variety of adjustments to fundamental education model. Interestingly, many of these adjustments had already been in motion much before the 6-month turmoil, and some had roots to more than century-old, but still barely known, successful initiatives. These can be grouped into following four sub-categories, with some overlaps but also unique attributes about them:
	1. Asynchronous learning: This is really about breaking the traditional in-person classroom model in vogue for more than a century all over the world, which has led to very strong widespread beliefs that on-campus driven learning through both university-staff delivered classes as well peer-to-peer interactions are critical underpinnings to a quality education outcome. Async learning turns both of those upside down – students use the necessary learning content and resources, but at a different time (of their own choosing) at a different location (of their own choosing) and in different chunks (of their own choosing). It opens the door to address several of the challenges called out above:
		1. Students anywhere in the world can get access to same quality content created by highly qualified and recognized quality teachers / creators.
		2. Scale – a single teacher’s output can be scaled to entire world. Per Bob Goodman, Async Learning solutions are the best hope to overcome continental challenges in Africa, and for that reason, #1 investments Africa needs to prioritize is in Internet connectivity.
		3. Cost – economies of scale brings down the costs tremendously – potentially to zero marginal cost
		4. Access – combined further with store-and-forward options (like Pi – discussed little later) can overcome connectivity and device barriers.
		5. Flexibility – can make it easy for lot more students to get desired education who, otherwise because of social / economic / cultural reasons, are unable to use traditional classroom-based learning.
	2. Distance learning (also called remote learning): Distance learning can be both synchronous or asynchronous. It simply means the elimination of brick-and-mortal classrooms for everyone to come together in one location. The most illuminating example came from Dries of UNISA. UNISA, as the largest distance learning university in the southern hemisphere, has been providing distance learning for more than 127 years and covers 1-in-3 graduating students in S. Africa! It started with teaching material and then completed assignments being transported first via military mail and now via network connectivity. UNISA has been rapidly embracing new innovations, including conducting asynchronous examinations (i.e., students taking the exams over a three-month period at a time and location of their choice) and leverage of WhatsApp type tools to layer peer-to-peer and teacher-student interactions.
	3. Virtual learning: Virtual learning is really about simulating in-class learning using the technology platform (e.g., Zoom, BlueJeans, Microsoft Teams, Google Meetings) where synchronous learning environment is maintained to achieve live teacher and peer interactions.
	4. E-learning: This is about leverage of electronic mediums to augment or replace the traditional education format. Emphasis here is use of electronic medium (I.e., technologies). Distance learning is often done using e-learning, but not always as UNISA has shown. E-learning is often about use of tools like Thinkster to augment (and thus overcome deficiencies in) traditional education experiences.
2. Relevance: Education model (whether curriculum or structure or examples) must be aligned to the local economy. This is key to ensuring the graduates are employable locally as well as can become engines for local economic growth and revival. Rose talked about BECSA’s innovation to achieve this – how BECSA has integrated vocational education elements into their 3-year teacher training college structure which not only produces teachers who are skilled in locally relevant vocations (and then in-turn can teach their students) but also are able to earn money to offset their tuition costs. Similarly, Seif talked about how ACT Microschools in Egypt ensures the curriculum deeply integrates local culture and norms to ensure students stay connected with their roots and grow to be productive local citizens.
3. Internet Connectivity and Device affordability: There was collective recognition that in the current technology-driven economies of the world, Internet connectivity has become the tablestakes, and hence the local governments (along with aid from developed world and institutions) must prioritize that as the highest investment. Bob equated quality Internet access to basic human right, and emphasized the value of Internet not just to solve education ills but also become the growth engine for many other verticals (like medicine, healthcare, services) and transforming the economy and country (by generating foreign capital and revenues by exporting software code etc). Further, team identified ways to overcome current reality (of unstable and inconsistent Internet bandwidth) as well as hard-to-afford access-devices (like tablet / laptop computers). Inexpensive store-and-forward devices like Pi Computer (with WiFi hotspot capability, and pushed successfully by US-ACF, and validated by comments by Charles Moyo from BECSA) and cheap USBs (which can download large quantity of content in batch mode and then store for repeated use by the students either at home or in group format at schools etc).
4. Use of Capitalist models: In the latest (and the last one before his death) book by Clayton Christiansen, “Prosperity Paradox”, there is a compelling argument that for long-term success and locally-grown innovation-driven transformations, investments must be tied to economic value-creation. Along those lines, Raj Valli made a passionate case to develop and deploy creative models that allows learners to pay for education through value-creation activities. He gave the example of Internet service provider selling connectivity for a share of earnings the learner would have from using the connectivity to sell his software development expertise. This has commonalities with BECSA model of integrating vocational elements in their curriculum.
5. Role of teachers: As we shift from sync to async models, demand volumes and value-add (i.e., roles & responsibilities) of teachers shift dramatically too. Group argued that async models do not mean elimination of teachers. Rather teachers would still definitely be needed. Rather their focus and value-add gets elevated – content creators, guide and mentors, analyzing student progress via dashboards / KPIs. It creates tremendous scale and value-enhancement opportunities as well as globalization of teachers.
6. Drive to standardization and elimination of fragmentation: Having every small geographical entity (country, state, city) setting their own curriculum and standards lead to unnecessary wastage – time, costs, complexity. Many subjects can be universal in the curriculum – even if not 100%. This would lead to addressing affordability and access barriers. What if a Gambia student, at almost zero cost and without waiting for months, can get instantaneous access to quality content from US / Europe.
7. Intangibles: Seif emphasized the importance of intangibles (e.g., buy-in from teachers, regulatory frameworks, incentives) in the eventual success of any setup. While focusing on well-talked tangibles like gadgets and Internet and books, we often overlook intangibles at our own peril.

These takeaways taken together present a potentially compelling solution framework that offers promise and warrant more substantive follow-up that CARBON plans to drive through the online community forum (FaceBook community “CARBON for Education Equity for All”).

 *Quality content sourced from non-profit initiatives all over the world +*

 *Leverage of async devices (Pi, USB,..) and async delivery model +*

 *Integration of locally relevant vocational and cultural elements +*

 *Layering of capitalist frameworks +*

 *Supported by policy accommodation for standardization +*

 *Addressing intangibles*