Techvelopment

A new paradigm in Development Cooperation

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Abstract:

The rapid advancement and drop in price of technologies such as internet and smartphones is having an tremendous impact on socio-economic development. This has lead to a new generation of tech-entrepreneurs who are delivering housing, education, electricity, healthcare, infrastructure etc. to the bottom of the pyramid—services and solutions to problems that was previously primarily the domain of large established NGO's and Governments. These new tech driven developments are collectively referred to as "techvelopment". In this article I will briefly describe the key tenets of this paradigm and why it matters.

Keywords: *Techvelopment, development cooperation, frugal innovation, BoP, leapfrogging, hightech-lowcost*

Technological development is advancing faster than ever before, and words like "innovation" and "disruption" is all the buzz. Over the last couple of years these developments has however not only been a gain for the rich and wealthy countries, but products and solutions are increasingly coming down to a price where even the poorest can participate. This has opened a whole new paradigm of tech-driven Development Cooperation, with new actors entering the scene. These new actors leverage modern technologies to provide products and services at a fraction of the cost of existing players, ensuring that a much bigger part of the population can participate. Many of these services are items that have often been considered semi-public goods, such as education, healthcare and access to electricity, but have now increasingly been provided by private sector actors. These new developments open the opportunity for new business models that create socio-economic impact for the world's poor, while also enabling existing development providers to create much more impact for the same amount of money.

Leapfrogging, Frugal Innovation & High Impact

The technological development in the wake of the digital revolution has created unprecedented opportunities, products and services. This is particularly the case in the midst of the 4th industrial revolution, where a number of services and products are drastically declining in prices while at the same time increasing in reach. This has already had tremendous impact on many business, governments and consumers in the western world and will continue to do so for the years to come. However, the impact has been even bigger in many emerging economies, where hightech-lowcost solutions are creating immense value at a fraction of the previous cost of similar solutions. This disruptive impact is partly due to lack of inefficient legacy systems, which means countries can leapfrog straight to modern technologies. The most prominent example being people going straight from snail mail to cellphones and skipping (leapfrogging) landlines. Yet, other prominent examples include cash to mobile payments (leapfrogging credit cards), micro grids, and many public IT systems which have previously been analog.

This technology driven development movement is what we call *"techvelopment"*. While related to terms and concepts such as BoP (Bottom of the Pyramid) strategies, Blue Ocean, Frugal Innovation and *"Doing Well by Doing Good"* corporate strategies, Techvelopment is different in that it is solely focused on tech-driven innovations that lead to improved socioeconomic status. Packing detergent in smaller packages to reach the BoP market is not techvelopment. Frugal Innovations, such as M-Kopa, can be techvelopment, but other examples such as Tata Nano is not. Using smartphones, mobile payments and smart-contracts on the blockchain to revolutionize rural road maintenance is definitely techvelopment. Specifically we define Techvelopment as *"socioeconomic advancement driven, facilitated or caused by digital technologies or the use thereof"*

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Process, product and infrastructure

To understand the drivers and its impact it makes sense to roughly break down the developments into products, processes and infrastructure.

- *Products* is the most visible one. Continuously decreasing prices on technologies such as smartphones, solar panels, medical diagnostic devices, smart measuring devices etc. has ensured that even the poorest people can afford access to, and thus benefit from, modern technological developments.

- *Process* is less visible but equally impactful. As a result of decreasing price of technology, and subsequent increase in access to data and constant feedback, new agile processes are used to more rapidly gain customer/user feedback and ensure higher impact. This is further boosted by data analytics and AI, as well as efficient communication processes. Thus, modern technologies have not only made products in itself cheaper, but also enabled newer, smarter and more efficient processes. Finally, these technologies have also enabled new business models, many of which rely heavily on mobile payments. These for instance include M-Kopa for electricity purchases or Mobilized Construction for road maintenance.

- *Infrastructure:* All these technologies depend on the underlying infrastructure being available and functional. This include mobile phone coverage, data speed, mobile payment services etc. A smartphone is of little use if there is not data coverage or if it is too slow or expensive.

Agility, Creativity and an Entrepreneurial Mindset

With a new technological paradigms follows new requirements for skills. First of all, technology is enabling new more agile ways of working. It is cheaper, faster and easier than ever to do rapid prototyping, get instant feedback and test different solutions or ideas a minimal costs. However, as more and more things become digitized the level of complexity and the number of possible solutions will also grow. In this context agile processes and creativity is more important than ever in order to connect the dots and quickly and cost-effectively select the best approach forward. With more creativity and agility in turn follows even more rapid prototyping, better solutions and products, leading to even more complexity, leading to a higher need for creativity and so forth. This circle of tech enabling agility, which is optimizing the use of tech is only deemed to grow faster and faster as the next wave of disruptive technologies enter the emerging market context. As a result, the importance of agile methodologies and creativity will only grow in importance.

Frugal Innovation: Creating win-win situations

The developments taking place within the paradigm of techvelopment, does not only have the potential to transform the developing economies, but can also lead to significant new innovations and solutions in the developed countries, and the term *development cooperation* may finally justify its name. Thus, the development cooperation becomes more of partnership platform than a donor-recipient relationship. Because of the unique circumstances of developing world, the exchange of knowledge is two-way and *reverse innovation*, i.e. solutions/products/ideas that are developed for a developing world context and subsequently adopted to developed world context (as opposed to the other way around) is becoming increasingly normal. Mobile money was pioneered in Africa, and pay as you go smart grids, micro-insurance and many other products are first seen in emerging economies. The fact developed countries could have a lot to gain from looking at emerging economies, is still taking many by surprise. However, one just has to throw a quick glance at East Asia to see how quickly a country or a region can catch up and even become a leader in some fields.

We need a Techvelopment Alliance

In order to ensure that the opportunities of technology are harnessed and put to effective use we need to ensure that development practitioners have the necessary creative technological skills and capacities, to comfortably navigate this new disruptive era. This does not imply that all practitioners should become coders or programmers. It implies that development practitioners should be aware of the trends that are changing the development landscape and find new innovative ways to collaborate with the tech startup environment to meet common goals. This both applies for traditional development cooperation NGO's as well as government agencies and semi-public institutions working in the field of development cooperation. Reversely technology entrepreneurs, startups and practitioners need to collaborate more closely with NGO's, governments and people on the ground to get a better understanding of how new tech solutions works in practice, and not just on paper. For this to materialize we need to establish a new Techvelopment Alliance that connects all players in the current techvelopment ecosystems and coordinate the efforts. Only through a true collaboration can we harness the immense potential. And there is a lot of potential to be harnessed!