Exploring the potential of new technologies to facilitate economic empowerment in developing countries: a focus on online networking

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Abstract

2 billion people across the globe have now access to the internet. More than 900 million are using Facebook. In developing countries as well, web connectivity and usage of new, online services are changing the way individuals, companies and governments interact, exchange and trade.

In particular, the emergence of social networks entails the opportunity to explore new ways of doing business. It promises to make the access and exchange of business information and knowledge more efficient and thus allow entrepreneurs who operate in challenging institutional environments to succeed in scaling up their businesses.

Social networks, however, have not become a panacea to solve economic development issues and their sustainability is not guaranteed if they do not meet specific success criteria. This paper will look at different examples of business-oriented social networks. It will analyse their strengths and weaknesses and suggest ways to leverage the networking power of the internet to foster remote capacity building of managers in developing countries by experts working on a pro-bono basis.

1. *The state of ICTs in developing countries*

Massive Infrastructure Roll-Out Drives Access and Usage

The digital-access divide is narrowing down: over the last few years, both the Internet and mobile networks have been rapidly expanding in the world's emerging economies and developing countries, as infrastructure is being deployed and hardware prices are continuously decreasing. The most spectacular growth has been observed in the number of mobile phone users, which has increased from 200 million in 2000 to 3.6 billion mobile subscribers in 2011 (GSM Association). Mobile phones are no longer a luxury good but an essential utility for the poor including those in low-income countries.

This translates directly into economic growth: according to the World Bank, a 10% increase in mobile penetration drives a 0.6% increase in a developed country's GDP and a 0.8% increase in a developing country's GDP. Moreover, a 10% increase in mobile broadband penetration drives a 1.4% increase in a low- to middle-income country's GDP .

Urban areas across the globe are mostly benefiting from the trend, as equipment roll-out is encouraged by high population density which allows for economies of scale and competitive pricing of "pre-paid", or "pay as you go" services. In contrast, the next two billion mobile subscribers will be found in the rural areas of low-income countries, especially in low-density countries such as in sub-Saharan Africa, which remain largely under-covered in terms of mobile networks.

In parallel, the computing capacity of mobile phones is steadily growing and supporting the usage of advanced software applications for business and leisure. Known as "smartphones", these mobile devices are becoming a serious alternative to desktop and laptop computers, offering advanced functionalities and applications deployed on dedicated operating systems (OS), mainly Google's Android OS, Apple's iOS and MS Windows Mobile OS. The very popular Android OS, which is available at no cost, will most likely contribute to the rapid decrease in prices of smartphones in a context of ever-decreasing hardware costs. According to a recent Credit-Suisse study, global annual sales of smartphones will top one billion in 2014, driven by cost-competitive, low-end devices and growth markets such as China. Africa will also massively benefit from the upgrade in phones as new users get access to the technology and others replace low-end devices.

These phenomena significantly accelerate the expansion of the internet. Even in least developed economies, the estimated number of internet users is growing through mobile access and, to a lesser extent, to other wireless connectivity solutions such as WIMAX, while fixed (or wired) broadband subscriptions are increasing much slower. In Africa alone, access to intercontinental telecommunication networks (materialized by undersea fiber optic cables) has seen a sharp rise in so called "landing points", in particular in East Africa, which was until recently depending on satellite connectivity.

As a result, an estimated 2.08 billion people were accessing the Internet across the globe in 2010 according to the International Telecommunications Union (ITU), which leads the effort of measuring the information society. While overall trends are bullish, figures have to be considered with care: measuring Internet access largely depends on usage estimates. People access the web at work, pub-

lic facilities such as libraries or at internet cafés, without actually being formally a subscriber to a service.

With connectivity improving globally, usage keeps growing in parallel. The web now counts over 200 million websites, with thousands of new domain names being registered every day. Some websites attract dozens of millions of visitors a day. While the web still is dominated by its Western origins, it is gradually becoming more diverse and multilingual. Content can be uploaded to the web in Arabic, Hindu or Chinese without the intermediation of English and the Latin alphabet.

2. Advanced Business Networking Usage Yet to Grow in Low-Income Countries

Despite the improving connectivity and the increase in local content, SMEs in low-income countries like in sub-Saharan Africa frequently lack the skills and connections to link up with global markets, leveraging mobile and web technologies. They suffer from their low exposure to international best business-to-business (B2B) practice and are often not able to market themselves in an innovative, cost-efficient manner. As shown in research provided by UNCTAD's Information Economy Report 2011, entrepreneurs in low-income countries still predominately use the web for basic operations such as email as opposed to more sophisticated usages such as cloud-based productivity solutions in developed countries.

It is still unclear whether the above-mentioned usage gap, i.e. the different levels of usage sophistication between small- and medium-sized enterprises (SME) in the North and the South, is being narrowed or widened by the rise of the so-called "Web 2.0", which defines a more dynamic and interactive web. Over the last five years or so, creating web sites, web pages and uploading content has become extremely simple, leading to the explosion of "user-generated contents" and to the web becoming a "conversation" between peers. The conversation distinguishes the one-way, top-down corporate communication seen in the (recent) past from the horizontal interaction between members of online social media. Conversations take place in the developed North as well as in the emerging and developing South. However, to what extent are SMEs in Africa actually leapfrogging "Web 1.0", which they had just started venturing in?

Actually, web and mobile-based social media have emerged as powerful platforms to enhance the competitiveness of enterprises (SMEs and MSMEs) from developing economies, mostly by enabling their marketing & sales capacities.

The diffusion of ICTs in Africa has also lead to the emergence of innovative services, especially in the area of mobile services and applications. Applications and services are being developed for users according to their local needs and habits. M-Pesa, for instance, which is the most well-known mobile banking service in Africa, emerged in Kenya because of the need to provide banking services to a population, which did not have access to traditional banking. It also emerged because the Kenyan financial regulator opted for a laisser-faire approach, as opposed to the more restrictive approaches adopted elsewhere, where monetary control and regulation are slowing down the deployment of similar services.

Other emerging forms of innovative ICT usage with positive economic effects on African business activities are micro-work, sometimes also called "crowdsourcing" and freelancing. Professionals with skills, which can be performed remotely such as the transcription of medical records, logo design and website development, are able to offer their services on web platforms, such as oDesk (www.odesk.com) and Elance (www.elance.com). Their clients can be based anywhere in the world and the transaction takes place online. African freelancers can become substantial contributors to the development of the trade in services in their countries. These online platforms offer advanced networking features, as each user has to create a profile. Buyers and sellers meet online and agree on the terms of the contract on the platform.

Deploying such services has been increasingly easy to do and turn-key services are available at low cost. Users of these services are able to create branded, closed or open networks with many features, such as profile creation, discussion threads, document sharing, multimedia galleries... The UN Global Alliance on ICT and Development (UN GAID), for instance, uses Ning, a cloud-based service provider, to host a customized network of more than 1900 members.

As a matter of fact, online networking has emerged as a powerful and affordable channel for SMEs to expand reach and connect with clients and leads. Global networking platforms like Facebook (900 million users), LinkedIn (150 million users) or Viadeo (45 million users) offer tremendous and mostly untapped opportunities. Similar networks exist at the regional or national level, such as VKontakte in the former Soviet Union and Sina Weibo in China, with already 300 million users.

In Africa, however, the penetration of Facebook was only 5.28% in early 2012, with 41 million users across the continent. It is the most popular social network, while no local player has yet emerged with user numbers on a similar scale. In this context, what is the potential of these networks for African entrepreneurs? How can they be used as tools for economic empowerment? The next section will look closer at the underlying principles of online networking and potential benefits for entrepreneurs, but also challenges in terms of network sustainability.

The way forward: a networked economy building on a networked business community

3. Business-oriented social networks grow increasingly popular

Let us take a step back and understand how these online social networks represent and how they function. "When a computer network connects people or organizations, it is a social network". The quoted re-

search considers that "relations are characterized by content, direction and strength". Content is the information shared by both parties: it can be for instance an update on one's Viadeo profile like "working on a paper on the development potential of social networks: any thoughts?", which will be shared with the person's network. The direction is related to the flow of information. It can be unidirectional (like an update on Twitter, called a "tweet") or bidirectional, and symmetric or asymmetric. The third element – the strength – is related to the intensity of the relation, both over time and in terms of contents exchanged: daily exchanges on Facebook as opposed to an occasional contribution to a small group on LinkedIn. Maximizing the three elements (content, direction and strength) in a social network is likely to ensure its sustainable success.

Moreover, the above-mentioned research showed that people are connected by a set of social relationships, such as friendship, co-working or information exchange. These define the nature of the network. Friendship, and to a certain extent, information sharing, are the underlying motivations for the participation in social networks such as Facebook. Twitter offers a social networking feature (following people and being followed by them and/or others) on top of its main micro-blogging feature (sharing 140-characters of information, analysis, mood). The service has been gaining ground rapidly over the last two years and counts more than 200 million users.

Business-oriented social networks, on the other hand, gather people who are interested in working together and exchanging business information like events, trends, leads... We will review three such social networks, which are used for business purposes, where the emphasis is on working together and exchanging information. We will analyze how they integrate – or not - the success criteria mentioned above. The first one is LinkedIn, a global social network for business people. The second is Com4Dev. It is also professionally oriented but has a narrower geographic footprint (companies listed are either from Africa or from the Caribbean) and a much smaller marketing capacity. The third example is the still small, but very innovative networking platform focusing on e-mentoring, http://match.atdforum.org.

4. LinkedIn, the online business network giant

LinkedIn is a business-oriented social networking service that was launched in 2003. Its users create a profile, which they can easily update, and then are able to access groups, which are open, or can apply to join closed ones. LinkedIn focuses on professional networking so the individual user profile is heavily weighted towards details of qualifications and work experience. Users can connect to a group of contacts based on knowing them from their professional experience, and can receive recommendations from people they have worked with.

LinkedIn allows very powerful business networking, based on company, type of job, or industry. The service also encourages discussions and business questions to be answered by users.

Moreover, LinkedIn allows the creation of open and closed groups, which can be used as discussion forums. It also gives users the opportunity to create company profile pages, featuring information on companies such as news and who has recently joined or left the organisation. Creating a profile page for a company can be a very powerful way of ensuring that related information can be found online. Business partners are able to "follow" a company, i.e. receive information about updates to the company's page. For African companies, this offers new networking opportunities, which so far local online yellow-pages or directories managed by trade-support institutions could hardly provide.

Obviously, the growing popularity of LinkedIn builds on the relevance of information it provides and its relative accuracy. More than 2 million companies have LinkedIn Company Pages and members are sharing insights and knowledge in more than one million LinkedIn Groups. LinkedIn generates revenues by selling hiring services (53% of revenues in Q2 2012) and marketing solutions (25%), while premium subscriptions account for 20% of revenues. Statistics about inactive groups and members, who never or only sporadically update their profiles, are not provided by LinkedIn and little research has been done so far on the topic. Exponential growth in revenue, however, seems to indicate that the network is considered as reliable.

5. Lack of critical mass and value addition jeopardize the sustainability of online networks

While LinkedIn relies on private funding and its stock is being traded at the New-York Stock Exchange since 2011, the "community of opportunities for development", better known as Com4Dev (http://www.com4dev.com/), is a web-based platform, which was set up in the framework of the ProInvest programme, funded by the European Union. Com4Dev offers standard features of social networks such as the creation of a profile, the creation of groups, the sharing of profile updates... There is also a very interesting feature under http://observe.com4dev.com, which visualizes news and events on a dynamic map.

It only requires users to register and create a rather basic profile consisting of the name, country, email address, password and confirmation of password. Registering preferred areas of interest, such as type of actions, focus areas, sectors, products or countries are optional. As a result, most profiles hardly give any information about the user. Many of them are not even linked to an organization or a company. The obvious benefit of giving a maximum level of authenticating information, which will generate the required trust to build a virtual business relation has not been taken into account.

As the platform was launched late in the implementation of the ProInvest programme, its promotion was too short to mobilize and retain users, which needed to be convinced to actually create yet another online profile. Moreover, the marketing of the platform did not leverage all

Region/Country	Total, in millions	Region/Country	Total, in millions
Europe, Middle East and Africa (EMEA)	**44**	**USA**	**63**
	of which:	**Asia and Pacific**	**25**
Europe	**34**		mainly in:
	mainly in:	India	14
UK	9	Southeast Asia	4
France	3	Indonesia	1
Netherlands	3	Philippines	1
Italy	2		Rest of the world, mostly in:
DACH	2	Canada	5
Spain	3	Brazil	8
Belgium	1	Australia	3
Turkey	1	**Total**	**161**

LinkedIn use per region and in selected countries

Source: LinkedIn statistics, March 2012

available channels, online and offline, which are used by private ventures with strong communication planning capacities.

Upon the completion of the Proinvest programme in late 2011, the management of the Com4Dev platform was handed over to the Centre for the Development of Enterprises (CDE). The platform is still being updated, and new users keep registering. Appealing, innovative features like the visualisation of relevant news on a dynamic map could have them actually use the service. An optimistic evolution would be that Com4Dev reaches a critical mass and will be properly maintained by CDE. Another outcome could be the fate of the Global Broadband initiative, an ICT4D portal managed by USAID, which will be not be updated anymore at the end of the summer of 2012, despite its impressive start and sophisticated design.

To summarize the findings from the comparison of the two social networks described above, one can say that there are basically two main networking concepts that can draw on these experiences: building on an established social network such as LinkedIn, by creating a closed or open group. The UK Trade and Investment agency has done so, as well as the Dutch Centre for the Promotion of Imports from Developing Countries. Both set up large networks of LinkedIn members in open groups, where they share information and encourage discussions amongst their members. The other option is to establish a stand-alone networking platform, like Com4Dev. The latter can be fully customized and branded, but is exposed to never reaching the required critical mass to survive, while the former benefits from the fact that it builds on an enormous mass of users, which are exposed to privacy issues and to the fact that social networks like LinkedIn monetize the ownership of their members' data.

6. Leveraging online networks with advanced features: a case for e-mentoring

As shown above, establishing an online network has become extremely easy. Ensuring its sustainability, on the other hand, is getting increasingly difficult for new platforms, which are competing for attention with more established social networks such as Facebook and LinkedIn. Any new online network needs to reach a critical mass of active users to ensure its sustainability. Users keep using online services, which they see as offering value, ideally a value they cannot get elsewhere.

At the same time, as shown in UNCTAD's Information Economy Report 2011, "ICT use can help improve access to advice and training in business skills". Leveraging social networks to that end is likely to yield substantial results for entrepreneurs in developing countries who had previously no access to this kind of support. In view of the above, the "e-mentoring platform" experiment conducted by the National Centre of Competence Research on Trade Regulation (NCCR II) under the World Trade Institute (WTI) with ATDF is certainly an interesting experiment with serious potential to succeed in delivering a useful service, which will ensure its scaling-up and sustainability.

The initiative was funded on a small-scale project from 2009 to 2011 to address the challenges of entrepreneurs by means of an E-mentoring platform that matches searching entrepreneurs in the developing world with supporting mentors in the developed world (see http://match.atdforum.org). The platform links entrepreneurs to possible mentors, i.e. problem-solvers, business partners and investors in Switzerland and other parts of the world. In this regard, it is a powerful tool to promote aid for trade and trade facilitation. The main advantages of this e-platform are (see also Aerni and Rüegger 2012):

(1) The empirical foundation of its design (based on the ATDF experience with an entrepreneurship hub in Zambia),

(2) The numerous and valuable feedbacks to the test-platform in 2010, which were subsequently integrated into the final version

(3) The extensive network of entrepreneur coaching- and mentoring organizations in developed and developing countries that will assist the project team in the creation of a large database of registered entrepreneurs and mentors as well as support activities on the ground.

However, these advantages still need to be confirmed as the platform gets marketed on a large scale and its usage goes beyond the pilot level. If it fails to provide its members with the features they can expect from similar social networks, and if it does not deliver the provision of innovative, differentiating features, such as a functioning online mentoring service with relevant

matches suggested and actually available mentors, it is likely to struggle to gain market share. Its promotion will also need to be as large as possible, leveraging all communication channels. The support of the EMPRETEC network looks promising, as it will also contribute to making the service commercial and sustainable.

7. Conclusion

As illustrated by the above, business-oriented social networks allow users to create profiles, which they can use to promote themselves and their organization, but their value goes beyond mere marketing activities. Groups on LinkedIn, for instance, allow users to exchange information, where more senior users are sharing "pro bono" with less experienced ones; they also allow for discussions among peers. Equally, the Answers section of Linkedin illustrates the tremendous potential of social networks in terms of coaching and mentoring: members can ask questions related to topics such as management and offshoring, and experts are offering answers, which are then rated by the LinkedIn community. Nevertheless, further research is needed to get a better understanding of the actual percentage of members who engage, which will be useful for smaller platforms as they try to build up their membership base.

In any case, LinkedIn owes its success to its considerable resources that enable it to create a critical mass and promote its services. For start-ups such as the e-mentoring platform, which do not have the same level of resources, their success arguably depends mainly on their operating staff and networks of local partner institutions that can help to mobilize potential members online. Hence, the question of financial resources really is at the heart of any such initiative, as illustrated by the case of Com4Dev. Ultimately, a sustainable source of funding, or at least a long-term commitment to manage and promote such platforms, is certainly required.

In the future, we are likely to see a dramatic growth in online networking, which goes beyond merely establishing and maintaining relations. The provision of advisory services, for instance, can, to a large extent, take place online.

The regular growth in connectivity across the African continent will most likely contribute to enlarging the user base for such services. Managing such platforms will benefit from the lessons learnt from successful networking sites such as LinkedIn, and by pondering the difficulties faced by newcomers such as Com4Dev in establishing a network of active users. As discussed in this paper, offering specific advantages such as value-added information and contacts relevant for business to users is key, which in turn will ensure high retention and usage rates.

Footnotes

i) http://www.gsma.com/newsroom/gsma-research-demonstrates-that-mobile-industry-is-creating-a-connected-economy/

ii) http://www.mobileactive.org/files/file_uploads/African_Mobile_Observatory_Full_Report_2011.pdf

iii) http://www.reuters.com/article/2012/04/12/us-smartphonemakers-research-creditsuiss-idUSBRE83B0LS20120412

iv) For instance, in April 2012, the GSMA announced that India will become the second largest mobile-broadband market globally within the next four years with 367 million mobile-broadband connections by 2016. It currently counts 100 million such connections.

v) Implementing WSIS Outcomes: Experience to Date and Prospects for the Future. Commission For Science and Technology for Development, United Nations, 2011.

vi) Labbé, Martin (2012) Information and Communication Technologies for Development: the Trade-related Technical Assistance Perspective. In: M. Burri & T. Cottier (eds) Trade Governance in the Digital Age. Cambridge University Press, Cambridge UK.

vii) Unctad (2011), Information Economy Report, Geneva.

viii) Dynamic because websites draw their contents from databases instead of being static pages created with an html editor and which can only be edited with the same tool. Interactive, because a growing number of websites allow visitors to post comments about their contents and even upload contents themselves, which become the main equity of the site, as in the case of the Google-owned, video-sharing platform YouTube.

ix) OECD, Participative Web: User-Generated Content, Paris 2007. Pp. 13-15.

x) Levine,R., Locke C., Weinberger D., The Cluetrain Manifesto, Basic Books 2009. Pp. 147-154.

xi) Secrets of e-Commerce, International Trade Centre, 2010.

xii) Implementing WSIS Outcomes, Commission on Science and Technology for Development, New York and Geneva, 2011.

xiii) http://www.socialbakers.com/countries/continent-detail/africa

xiv) Garton, Haythornthwaite and Wellman (1997), Studying Online Social Networks. Journal of Computer-Mediated Communication, Indiana. http://jcmc.indiana.edu/vol3/issue1/garton.html

xv) The section on LinkedIn is taken from "Leveraging Social Media for SMEs", a handbook published by the International Trade Centre, Geneva in 2012.

xvi) http://press.linkedin.com/about

xvii) Aerni, Philipp & Rüegger, Dominik (2012) Making use of e-mentoring to support innovative entrepreneurs in Africa. In: M. Burri & T. Cottier (eds) Trade Governance in the Digital Age. Cambridge University Press , Cambridge UK.