Fair Trade Software: empowering people, enabling economies

Peres Were, Julie Madeley and Mädchen Munsell

Peres Were is Director, Strategy and Partnerships for Competa Africa in Nairobi, Kenya. She is involved in digital skills development as a catalyst for youth employment in Kenya, through research, consulting, and setting up IT Enabled Services (ITES) firms for both local and international investors in Kenya. She worked closely with the Kenyan Ministry of Information and Communication in developing policy towards the growth of Kenya's ITES industry and served as an Advisor to the former Prime Minister of Kenya. Her role included positioning Kenya as a global ITES destination by encouraging inward investment into the country, implementing growth strategies for the industry, driving automation of the public sector and developing policy for skills development for the ITES sector in Kenya. She has also advised the government of Uganda on strategies to kick-start growth in its ITES sector through the development of incentives specific to the country's ITES sector. Her articles on the ITES industry have been published by the leading regional business media and international journals. Peres Were holds a B.A in Anthropology from the University of Nairobi and an MBA from the University of Leicester.

Julie Madeley is an Outsourcing Consultant for Competa IT in the Netherlands. She began her career as an analytical chemist in the pharmaceutical industry before becoming an expert in Laboratory Information Management and Chromatography Data Systems (LIMS and CDS). Her expertize lies in the analysis of business requirements, implementation management, and testing and validation of these systems. With her former employer, AstraZeneca, Julie gained many years of expertize in system implementation and support. She has extensive experience of ongoing support using external outsourcing of major software projects to locations such as India. Julie is the former director of FairSource, a company that promoted the use of Fair Trade Software in the UK.

Mädchen Munsell is a Communications Intern for Competa CodePamoja in the Netherlands.

Abstract

Fair Trade Software (FTS) builds on the principles of conventional Fair Trade and applies them to software services in developing countries. Using a model of Shared Value Creation, FTS leverages reputation enhancement opportunities for companies in OECD countries to encourage them to share knowledge with partners in developing countries. Working in this way has been demonstrated to improve the quality and capacity of software companies in developing countries and generate digital employment for urban youth. The improvement gains can lead to significant improvements in other sectors that rely on digital services, e.g. healthcare and education.

Keywords: ICT4D; digital training in developing countries; Fair Trade innovation; Fair Trade Software

Introduction

Rapid advances in Information and Communication Technologies (ICTs) have contributed to making the world the global village that it is now often described as, and the digital economy has brought the countries of the world into closer interactions with each other. Trading of diverse digital products and services now takes place on a global scale hitherto not experienced. Lower Middle Income countries present a large market for ICTs, and

the capability of ICTs to transform sectors such as healthcare, transport and logistics, or microfinance in developing nations is well documented. OECD High Income countries are the areas associated with technological innovation. These countries have maintained a lead in ICT and continue to be regarded as the knowledge centre in the field of ICT [1]. Least Developed countries and Lower Middle Income countries mainly play the role of consumers rather than producers of software and ICTs, which can be attributed to various factors including limited expertize and resources to support the industry.

Despite this, digital employment is recognized as playing a key role in employment creation in developing countries and, therefore, there is an urgent need for more effective collaboration and knowledge sharing to fast-track the growth of the software industry in developing nations [2,3]. Fair Trade Software (FTS) is a recent development that has evolved from the conventional Fair Trade movement with the goal of creating employment both directly, though work such as software development, and also indirectly by enabling the use of digital technologies to achieve transformation of other sectors. Taking the established Fair Trade principles of 'North–South' partnership and supply chain intervention, FTS extends Fair Trade into the digital world to help seed the software industry in developing countries and provide employment relevant to marginalized urban youth. This essay explores the FTS concept and shows how FTS can offer a sustainable model in value chains for software production and services.

Conventional Fair Trade

Fair Trade is a market-based social movement that aims to protect the interests of producers located in developing countries by implementing changes to value chains that ensure greater equity. The origins can be traced to European and American imports of textiles and handicrafts from socially and economically disadvantaged communities around the world [4]. Under Fair Trade practices, producers, distributors, exporters and retailers must adhere to established rules and regulations that govern trade dynamics. The rules and regulations are established by a number of network organizations that exist to promote the interests of the movement and to certify that products are made in accordance with the movement's aims. One such organization is the World Fair Trade Organization (WFTO).

> Fair Trade is a trading partnership, based on dialogue, transparency and respect, that seeks greater equity in international trade. It contributes to sustainable development by offering better trading conditions to, and securing the rights of, marginalized producers and workers – especially in the South.
>
> (World Fair Trade Organization, 2019)

The WFTO promotes the need for change in the rules and practice of conventional trade, and shows how a successful business can also put people first. This is further expounded through ten 'Principles of Fair Trade', which establish core values that include creating opportunities for economically disadvantaged producers; transparency and accountability; fair trading practices; payment of a fair price; good working conditions; commitment to non-discrimination and gender equity; capacity building; and respect for the environment.

Fair Trade has achieved considerable success and is a well-known and popular concept with consumers. However, the Fair Trade movement also continues to (sometimes unfairly) attract criticism in areas such as inability to monitor standards, lack of supply chain transparency, inefficiency, failure to incorporate ideas from the latest theories on economic development, and increasing environmental criticism related to carbon footprint [5,6,7].

Fair Trade Software

In many developing countries IT infrastructure, such as Internet connectivity, has improved significantly, and ICT skills are increasingly taught at schools and universities. This should have opened up a world of

opportunities for urban youth, a very large and growing marginalized group [8], to earn incomes from the digital economy. However structural market inefficiencies exist, creating capability and capacity gaps that make it difficult for local companies to deliver complex ICT projects or build sustainable ICT businesses at scale [9]. Unemployment is high amongst graduates in African countries and this is often blamed on poor quality of education or a mismatch between education and the requirements of employers [10]. In the context of ICT, Nairobi University anecdotally estimates that 90% of students fail to find a job in ICT. Consequently, many graduates form small companies as a freelance vehicle and an alternative to unemployment. Formed by inexperienced graduates, African-owned ICT companies often struggle to survive, competing against each other for small-scale projects and lacking the management expertize required to engage the market at a higher level. Capability and capacity gaps in the local market result in many mid-sized projects remaining unfulfilled, while most large-budget IT projects are outsourced to international IT service providers outside the continent, excluding local players from participation.

A particular concern is that many of the unfulfilled projects are in areas of high social impact, such as healthcare, transport or agriculture. For example, an NGO may have a project to build, say a local language mobile phone app to provide remote health assistance, check the queue at a well or check the price of products at a market. The business model and requirements for the project may be well understood but the NGOs may struggle to get developers who can deliver their projects on time and to the standard they require. Rules regarding the spending of funds may require money to be spent in-country, despite the lack of appropriate skills. Budgets are often too low to make outsourcing a viable last resort even if it is possible. Key projects fail due to capacity gaps in managing software development projects.

In 2010 Dutch software firm Competa began to investigate whether extending Fair Trade principles to the software development industry could be a way for people in Lower Middle Income countries to acquire the skills required to close the gaps and locally create software designed to solve local problems in areas such as healthcare. The firm made contact with small ICT companies in Nairobi, Kenya, and ran a number of small pilot projects to test the concept. The initial vision for FTS was as a form of 'Impact Sourcing' [11], whereby software would be developed by cross-border teams with team members in both developing countries and the EU. It was anticipated that corporate customers could be found who would want products built in this way, such as websites bearing a Fair Trade Software label as a way to demonstrate corporate social responsibility (CSR) credentials to consumers. Like many other Impact Sourcing initiatives, the initial FTS concept proved difficult to sell. From the corporate ICT perspective, potential customers had concerns over the quality of products, and/or very low-cost expectations due to the perception that wages are very low in Lower Middle Income countries. From the corporate CSR perspective, it was found that companies prefer to create CSR initiatives under their own brand rather than use a Fair Trade brand that may not resonate with all of their customer segments. These problems were further compounded because ICT departments tender contracts, and FTS or CSR credentials do not have a heavy weighting in the selection criteria. Furthermore, those responsible for CSR are rarely involved in ICT projects. Nonetheless there was considerable interest in the concept on an individual level. Feedback from initial conversations with potential clients, meetups, conferences et cetera showed that many, especially younger, people could see a connection between the widely known Fair Trade concept and the desire to utilize digital technologies for economic improvement in less developed countries. Encouraged by this, an independent not-for-profit organization, the Fair Trade Software Foundation, was founded in 2011 to attempt to develop a working economic model and establish rules and regulations applicable to Fair Trade and the software industry. Over the last decade the Foundation has evolved the concept of FTS towards a model based on Shared Value Creation (see below) [12].

The Foundation, governed by an independent international board, aims to create growth and opportunity in the ICT sector in developing countries through global partnerships, with a focus on improving economic prospects for marginalized urban youth in developing countries through sustainable digital employment. As with conventional Fair Trade, FTS focuses on value chain innovation. The FTS concept has evolved from simple Impact Sourcing, with the emphasis now on creating and sustaining partnerships between software companies

in developed and developing countries and encouraging them to collaborate on projects in Africa. A typical model is that an African partner is paid by a contracting client, such as an NGO, with an EU-based partner supporting the project pro bono. FTS programs have a strong mentorship component that leverages local teams working with more experienced international teams, creating an 'expertize supply chain' that supports the transfer of modern best practice in teamwork and management to people in developing countries. The goal of this is to help create a robust local IT sector in developing countries, not only creating employment directly but also shortening and strengthening supply chains, thus enabling the development of other sectors that are highly dependent on IT.

It should be noted that some of the people working on FTS projects are from very poor backgrounds, many had no job prior to being involved in an FTS project, and several have been from slums or been homeless. Some practitioners of conventional forms of Fair Trade have a preconception that poverty is a rural phenomenon, and there is a prevalent misconception that possession of a university degree implies a wealthy background. However, the majority of graduates in developing countries are predominantly locally educated (as opposed to children of wealthy parents educated abroad) and, whilst some may be from backgrounds that could be defined as 'middle class', graduates include people from poor backgrounds who have managed to obtain government scholarships or have benefitted from other initiatives to attain higher education. Educational initiatives include conventional Fair Trade initiatives – revenue from Fair Trade funds schools in poor areas and the beneficiaries of such initiatives are now old enough to graduate. For example, one of the people who was trained on CodePamoja and went on to run the Barclays bank project (see below) grew up on a small farm selling crops to a Fair Trade cooperative and attended university on a scholarship. It cannot be a goal of Fair Trade to educate people who are then unemployed or only engaged in low-grade employment – ways need to be found to enable social mobility beyond agricultural and rural communities. By filling in the missing rungs on the economic ladder FTS helps to extend Fair Trade, offering an alternative to agricultural employment for the offspring of those engaged in production of conventional Fair Trade products and thereby improving social mobility.

FTS has a clear benefit for participants located in developing countries, but the economic driver to encourage participation by companies in OECD High Income countries is perhaps less apparent. Economists Porter and Kramer [13] demonstrated the link between competitive advantage and participation in social value creation. Competa has demonstrated that direct financial incentive to participate in FTS projects is not necessary as secondary commercial benefits, such as brand and reputation enhancement or improved employee recruitment and retention, can far outweigh any potential benefit derived from simple financial margins on products or services sold (see Figure 1).

Other companies are now running similar projects and a joint project between Competa and German development agency GIZ, WorkPamoja, exists to encourage more organizations to work in this way. WorkPamoja seeks to promote three-way partnerships between NGOs and others with a need for ICT services in sub-Saharan Africa, with local ICT companies working under the guidance of mentors based in EU countries in accordance with FTS principles. To date, WorkPamoja has been in contact with more than 150 NGOs and development organizations, and around 20 projects are in the start-up phase.

FTS is proving to be sustainable due to the mutual benefit derived from collaboration, and is not reliant on making a margin on products sold in developed countries, nor on charity, philanthropy or other external donations (see Figure 1).

The FTS Foundation is run by a board with representatives bringing domain expertize from industry, technology, economic development and media. The Foundation actively engages with governmental development organizations, universities and non-governmental organizations on current themes in both software engineering and international economic development, with the goal of further developing the concept of FTS.

The FTS Foundation strives to avoid or eliminate criticisms of conventional Fair Trade, particularly in the region of standards compliance and monitoring. The Foundation is collaborating with Utrecht University on the

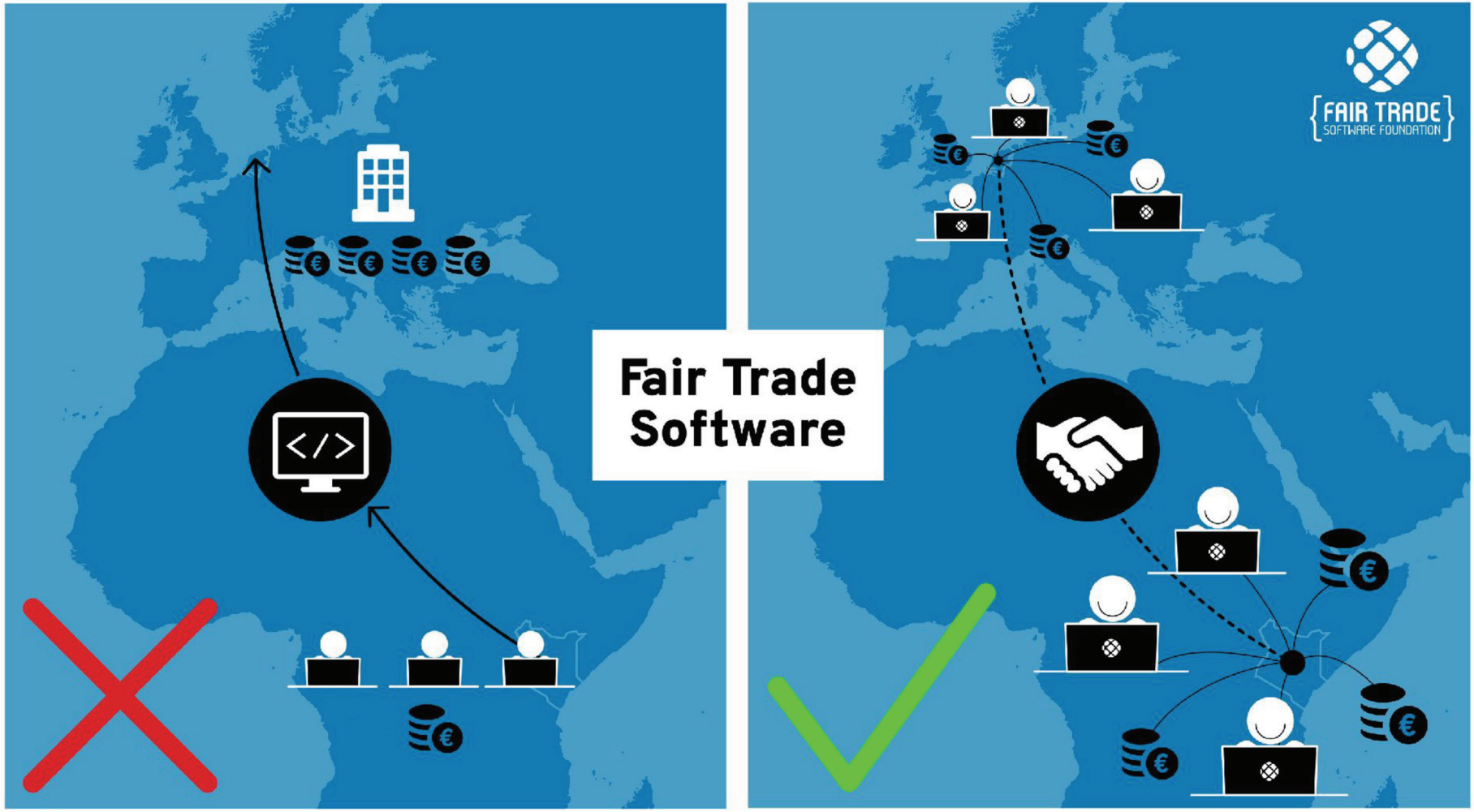

Figure 1 Impact Sourcing vs. Shared Value Creation

development of a Social and Environmental Auditing tool, openSEA [14]. This is a web-based tool that allows 360-degree reporting and auditing of project participants, and shows results in several ways (text, numbers, charts). The openSEA tool facilitates benchmarking and can check the results of auditing against thresholds for pre-defined certification levels. The Foundation intends to make tools such as this available to other groups, including to the wider Fair Trade community to help address auditing, monitoring and transparency concerns.

In addition to efforts to improve standards compliance and monitoring through the use of digital tools, the Foundation is keen to stress that the digital supply chain of FTS inherently avoids issues such as carbon footprint that are associated with the transportation of products. Digital payment reduces the opportunity for corruption.

Case Studies

The FTS model has successfully delivered a number of ICT projects in Kenya. Some examples are given below.

CodePamoja

CodePamoja (meaning 'Code Together' in Kiswahili) is a training program to give IT graduates in Kenya the opportunity to gain work experience by participating in real software development projects with counterparts in the Netherlands. The program recognizes that important soft-skills, such as project management, can only be learned by working with more experienced mentors. Collaboration in virtual teams with members in different geographical locations provides role models that are otherwise in short supply in developing economies. Over a two-year period CodePamoja trained over 100 young people in Nairobi, improving skills and increasing employment prospects for young graduates and, at the same time, ensuring the adoption of international best practices among the Kenyan firms that hire people from the CodePamoja program. CodePamoja succeeded in transferring key project management and customer requirements analysis skills needed to make a success of IT projects that would otherwise have failed due to poor management. Many of these projects have a real social impact in areas such as healthcare and finance [15]. As a result, youth engaged in these projects have benefited from business growth, access to jobs, international linkages and partnerships. Around 90% of those trained secured employment or have gone on to form start-up companies, compared to only 10% of regular IT graduates. A recent (2019) survey conducted by the authors of this essay on behalf of an international NGO followed up former CodePamoja attendees and invited them to report a number of metrics designed to measure career progress. The survey revealed significantly faster career growth and much higher current salaries for CodePamoja-trained graduates compared with graduates who did not attend the program (see Figure 2). Partners are currently being sought to expand the program further.

Barclays Bank of Kenya (now renamed Absa Group)

Barclays Bank of Kenya required a mobile customer relationship management system to enable the bank to provide accounts and microfinance for people in rural areas who were previously almost impossible to finance. The complex software was built by a Nairobi IT firm, BTI Millman, with Fair Trade Software collaboration to teach project management. The proprietary software is now being used by the bank across Kenya and has resulted in more than a million people in rural Kenya gaining their first bank account and access to financial services, and tens of millions of Euro being made available as microfinance.

mPAMANECH

mPAMANECH (Maternal, Newborn and Child Health) is an FTS-enabled project for the African Population and Health Research Centre. Nairobi IT firm DewCIS built the mobile application to replace numerous paper-based forms and allow healthcare facilities to save and store patient data for better referral and management of patients. Fair Trade Software collaboration taught the skills required to understand how to gather and analyze customer requirements from people who are not used to providing input for IT projects.

How CodePamoja works

"By working on real projects run to international standards, students get hands-on experience in the modern management techniques and tooling required to produce high-quality software"

- **Vocational Training**
- **International Work**
- **Building Resumes**

Our Results

90
IT Experts
trained in Kenya

80
Graduates
found employment after their training

17
Scrum masters
have been trained

Starting salaries immediately after CP on average
USD 600 per month

Current salaries on average
USD 1700 per month

Current roles: Business Intelligence, Scrum Master, Cyber Security Consultant, Software Engineer, Systems Developer, Technical Associate

Figure 2 CodePamoja

Current Developments and Challenges

The concept of FTS is now adequately developed and tested, so the present challenge lies in scaling the concept and encouraging wider adoption. The number of organizations involved in FTS is growing and the Foundation currently has around twenty members and forty prospective members from commercial, government, academic and NGO organizations in the EU and sub-Saharan Africa. The Foundation would like to increase participation further – the number of ICT companies in the EU is sufficiently large that it is likely that far more EU companies could participate in FTS projects without a dilution of the commercial benefit in the EU.

One of the mechanisms being considered to encourage wider adoption of FTS is the creation of tools and services that can be used more widely. Where possible tools will be released as Open Source software to encourage product development and re-use. The intention is to host some tools, such as openSEA, on the Foundation website to make them available at a low cost, or for free.

It is thought that the principle of finding synergy through cross-border collaboration can be applied across a number of other sectors – there is nothing particularly special about the ICT industry other than the high degree of international collaboration and extensive use of online collaboration tools. The Foundation welcomes contact with other sectors interested in adopting the model.

A new FTS Foundation website is currently under development and is scheduled for release by the end of Q2 2020.

Conclusion

Fair Trade Software is a growing initiative grounded in the internationally accepted principles of Fair Trade. It has been demonstrated that by extending Fair Trade into digital employment for urban youth, FTS can leverage international synergies to achieve measurable development goals through collaboration and the exchange of knowledge. ICT companies and ICT professionals in developing countries find that through participation in FTS projects they have improved capacity to engage with local markets, unlock potential and facilitate the growth of other sectors of their economies. However, FTS is not simply about job creation but rather about giving people the ability to create the digital tools they need to unlock other sectors of the economy. The capacity of FTS to enable and catalyze forward linkages into other sectors of the economy means that FTS carries the potential to play a role in transforming economies, as well as improving social mobility in developing countries.

References

1. Kirkwood, A. (2001). Shanty towns around the global village? Reducing distance, but widening gaps with ICT, *Education, Communication & Information*, *1*(2), 213–228.
2. Choudrie, J., Islam, M.S., Wahid, F., Bass, J.M., & Priyatma, J. E. (Eds). (2017). *Information and Communication Technologies for Development: 14th IFIP WG 9.4 International Conference on Social Implications of Computers in Developing Countries, ICT4D 2017, Yogyakarta, Indonesia, May 22-24, 2017, Proceedings* (Vol. *504*). Springer.
3. Bukht, R. and Heeks, R. (2017, August 3). Defining, conceptualising and measuring the digital economy. *Development Informatics Working Paper no. 68*. Available at SSRN: https://ssrn.com/abstract=3431732 or http://dx.doi.org/10.2139/ssrn.3431732
4. Cole, N.L. and Brown, K. (2014). The problem with fair trade coffee. *American Sociological Association*, *13*(1), 50–55.
5. Cole, N.L. and Brown, K. (2014). The problem with fair trade coffee. *American Sociological Association*, *13*(1), 50–55.
6. Smith, A.M. (2009). Evaluating the criticisms of Fair Trade. *Economic Affairs*, *29*, 29–36.
7. Smith, A.M. (2009). Fair trade, diversification and structural change: Towards a broader theoretical framework of analysis. *Oxford Development Studies*, *37*(4), 457–478.
8. Sommers, M. (2010). Urban youth in Africa. *Environment and urbanization*, *22*(2), 317–332.
9. Heeks, R. (2002, October 30). Failure, success and improvisation of information systems projects in developing countries. *Development Informatics Working Paper no. 11*. Available at SSRN: https://ssrn.com/abstract=3477762 or http://dx.doi.org/10.2139/ssrn.3477762

10. Ponge, A. (2013). Graduate unemployment and unemployability in Kenya: Transforming university education to cope with market demands and the lessons for Africa. *International Journal of Social Science Tomorrow*, *2*(3), 1–12.
11. Carmel, E., Lacity, M.C. and Doty, A. (2016). The impact of impact sourcing: Framing a research agenda. In Nicholson, Brian; Babin, Ron; Lacity, Mary C. (Eds.) *Socially Responsible Outsourcing* (pp. 16–47). London: Palgrave Macmillan.
12. Porter M.E. and Kramer M.R. (2019). Creating Shared Value. In G. Lenssen and N. Smith (Eds). *Managing Sustainable Business*. Dordrecht: Springer.
13. Porter M.E. and Kramer M.R. (2019). Creating Shared Value. In G. Lenssen and N. Smith (Eds). *Managing Sustainable Business*. Dordrecht: Springer.
14. Haxby, A. and Lekhi, R. (2017, May). Building capacity in Kenya's ICT market using cross-border scrum teams. In Jyoti Choudrie; M. Sirajul Islam; Fathul Wahid; Julian M. Bass; Johanes Eka Priyatma (Eds.) *International Conference on Social Implications of Computers in Developing Countries* (pp. 359–366). Cham: Springer.
15. España, S., Bik, N. and Overbeek, S. (2019). Model-driven engineering support for social and environmental accounting, *2019 13th International Conference on Research Challenges in Information Science (RCIS)*, Brussels, Belgium, 1–12. doi: 10.1109/RCIS.2019.8877042