



WOMEN ENTREPRENEURSHIP AND INFORMATION COMMUNICATION TECHNOLOGY - CASE STUDIES FROM KOLLAM DISTRICT

Aryanathu V.¹ | Venkata Ravi R.²

¹Research Scholar, Gandhigram Rural Institute, Gandhigram

²Associate Professor, Gandhigram Rural Institute, Gandhigram

ABSTRACT

Current era is focusing on Technological Advancement and Empowering Women through Entrepreneurship that has become an integral part of our development. Women are almost developed all aspects of life and they are overcomes the threatening areas. Earlier Entrepreneurship is dominated by men. Now many women are successfully leading their own business. The word entrepreneurship is the key contribution of women's economic Stability, Social stability, livelihood, and its leads to decision making skills. Because, we can see that the Model of Kudumbashree and SHG Programmes. Kudumbashree is a poverty eradication mission for strengthening rural women. Many women's groups started business and become the label of successful Entrepreneurs'. Modern world more depended technology and it creates markets and open up new areas for business. In this regards technology can help and shown new ideas and it leads to new venture, livelihood opportunities, economic, and social stability. Information and communication technology open up markets and it is competitive in nature. Every day the Markets shapes, visions, taste, ideas, are changing and updating. The current generation especially women are curiously watching and updating new styles and also they are imitating. Women's are engaged different business activities and the technology helps them to express their ideas in the world and they earning income. In this context, this paper is an attempt in presenting women entrepreneurship through ICT in rural area of Kollam district, Kerala. The paper is based on the case studies from the selected habitations of the Kollam district, Kerala.

KEYWORDS: ICT, Enabling Technology and Women Entrepreneurships, and Employment Rural Development.

INTRODUCTION:

Entrepreneurship is the process of designing, launching and running a new business, which is often initially a small business. The people who create these businesses are called entrepreneurs¹. Entrepreneurship has been described as the "capacity and willingness to develop, organize and manage a business venture along with any of its risks to make a profit²."

The Information Communication Technology [ICT] has three dimensions - Information, Communication and Technology; to promote information via communication with the help of technology. The Communication is a process that promotes the forces of transformation and survival of communities³. The ICT is providing Information as a resource that can affect the life of the people in a given area. It needs to be understood that as the technology enables the transaction of information as a resource.

Current market is running fastly and made a lot of changes. World market is occupied with advanced technology. Now everyone is in the digitized world and they are aware about the market nature and they are opening small business like Different Shops: Vegetable Shop, Beauty Parlour, Computer café, Akshaya Centres, Tailoring shops, mobile shops etc.

Earlier Entrepreneurship is dominated by men. Now many women are successfully leading their own business. The small business help them to earn income and they are confidently stand and lead happily life. So In this background this study is to find out how the ICT is influencing the women and their business activities.

Definition on Entrepreneurship, woman entrepreneur and ICT:

Entrepreneurship is an economic activity which is undertaken by an individual or group of individuals. Entrepreneurship can be defined as the making of a "new combination" of already existing materials and forces; that entrepreneurship throws up as innovations, as opposed to inventions and that no one is entrepreneur forever, only when he or she is actually doing the innovative activity⁴.

According to Medha Dubhashi Vinze, a woman entrepreneur is a person who is an enterprising individual with an eye for opportunities and an uncanny vision, commercial acumen, with tremendous perseverance and above all a person who is willing to take risks with the unknown because of the adventurous spirit she possesses⁵.

A woman entrepreneur is one who starts business and manages it independently and tactfully, takes all the risks, faces the challenges boldly with an iron will to succeed. Women entrepreneurship is an economic activity of those women who think of a business enterprise, initiate it, organise and combine the factors of production, operate the enterprise and undertake risks and handle economic uncertainty involved in running a business enterprise⁶.

Angello.C. and Wema (2010) Defined that the Information and communication

technology refers to the use of electronic and computer based technologies to access information and communicate with others⁷. The information transfer through electronic devices like computers, mobile phones and tablets. The role of ICTs as enabler of socio-economic development is being stressed by the international development communities because of the prospects associated to it for the developing countries.

Mamaghani, F. (2010) the role of ICT in developing countries it has accelerating the economic, local development and reduction in poverty. It also helps to develop in the areas of healthcare, workforce, education, agriculture, government services etc. to improve the livelihood of poor people. So Developing countries and their global economy shown the improvement in the individual level income. Fundamental role in boosting the livelihoods of rural population.

Nie.et.al (2010) singh et al opinion about the Information and communication technologies (ICT) are a complementary tool for developing social and economic conditions and it may help to improve the poor and marginalized people's livelihood.

Stauffacher and Kleinwacher, (2005) have observed that information has the ability to improve standards of living for everyone by enhancing all aspects of our lives, from trade to telemedicine, from education to environmental protection⁸. It means that ICT is capable of influencing the ability of the people which lead to development.

Richard Heeks (2014) pointed out his paper on the views about the Relation between ICTs and Poverty Eradication⁹. The **direct ICT** use there are mainly three categories first one is **Other ICT Uses, Used by the Enterprise, ICT Sector**. Other ICT Uses These could be non-economic. Typically an ICT-enabled information flow or transaction involving a user from a poor community. Increasingly this might involve their true direct use rather than the typical intermediated model in which the ICT is actually handled by, a local kiosk owner. An example might be an SMS reminder to a tuberculosis patient to take their medicine. These "other uses", though could also be economic that is financial uses of ICTs by the poor which are not directly related to enterprise.

Other ICT Uses to Enterprise ICT Use:

The poor make direct use of either the technology or the information and services it carries. They can do this either as entrepreneurs or in other roles:

Intermediated consumer: this can represent all three main levels of consumption related use of ICTs one-way broadcast of information, interaction, transaction, but in no case is the consumer a direct ICT user hence there is limited ICT enabled change in role. A typical example might be the delivery of e-government services in India (Bhatnagar & Singh 2010)¹⁰. These services are undertaken at kiosks and service centres staffed by intermediaries. Evaluation shows that impacts vary quite significantly across projects but that they are relatively limited in terms of changing the consumer's pattern of

functioning and opportunities.

Passive consumer: a role in which there is direct use of the ICTs but just to receive “broadcast” information e.g. about health (Kliner et al 2013)¹¹ or market prices (Katengeza et al 2014)¹².

Active user: digitally-enabled interaction and transaction with socio-economic contacts. for example, the remittance of “mobile money” from urban migrants to rural relatives (Duncombe 2012), or the use of tele-centres by farmers to get agricultural guidance from distant advisers (Heeks & Kanashiro 2009a)¹³, or use of mobiles by micro-entrepreneurs to contact customers (Donner & Escobari 2010)¹⁴.

Second one is **ICT Used by the Enterprise**. The use of ICTs by the poor in their own micro-enterprises, but micro-enterprises which fall outside the ICT sector. An example would be use of a mobile phone by a cloth retailer or farmer to stay in contact with customers.

Enterprise ICT Use to ICT Sector:

Producer: creation of enduring digital content. This could be undertaken by an entrepreneur, for example, advertising goods and services on a voice-activated information service (Agarwal et al 2010)¹⁵. But it also overlaps into the ICT sector category; for example, musicians or video producers recording then sharing content on mobile phones (Impio et al 2008, Walton et al 2012)¹⁶. Third one is **ICT Sector** and the use of ICTs by the poor to create a new income-generating livelihood. An example would be sales of mobile phone calls or of top-up cards.

ICT Sector: In these roles, the use of ICTs is so central to the livelihood that it is seen as lying within the ICT sector:

Worker: employment in an ICT-based activity (one that could not exist without ICTs); for example, those employed to undertake data entry and other digitization tasks as part of IT impact sourcing contracts (Madon & Sharanappa 2013) and rural BPO contracts (Knowledge Wharton 2010)¹⁷. Though only indirectly connected to the technology, one might also include here entire new livelihoods that are directly attributable to the ICT sector, such as the ancillary staff who work in ICT enterprises (e.g. Lakshmi Ratan et al 2009)¹⁸.

Entrepreneur: creation of a self-employed ICT-based livelihood for example, the umbrella people selling phone calls by the roadside (Neuwirth 2011, Baro & Endouware 2013)¹⁹, or the PC kiosks providing digital photography, e-ticketing and e-government services (Rangaswamy & Nair 2012)²⁰.

Innovator: adaptation of the technology by modifying the technology itself such as the “street hacks” that alter mobiles to accept dual SIMs (Chipchase 2009)²¹, or by modifying ICT-enabled processes such as the mobile money agents who adapt methods of service delivery to match their local context (Foster & Heeks 2013)²².

The **indirect uses** of ICT could be Non-economic and Economic. It is typically internal use within the public sector or international agencies or NGOs, in a way that affects the organization but does not lead to direct usage by poor communities. An example might be use of ICTs to assist policy-making within a government department. Economic usage of ICTs by a private firm that is external, but in some way linked, to the poor community. An example might be use of ICTs to lower the cost of manufacture of goods sold to those communities.

e-Commerce is the application of information and communication technologies in business and commerce. It is “the buying and selling of goods and services, or the transmitting of funds or data, over an electronic network, primarily the internet²³.”

It can be any of the following types:

1. **Business-to-business or B2B** – buying and selling between businesses or companies using enterprise e-commerce platforms in a closed environment
2. **Business-to-consumer or B2C** – traditional retail model conducted over the internet
3. **Consumer-to-consumer or C2C** – consumers trade, buy, and sell products and services online
4. **Consumer-to-business or C2B** – consumers sell products and services to businesses online
5. **Business-to-government or B2G** – businesses whose sole clients are governments
6. **Government-to-business or G2B** – government sells to private businesses
7. **Government-to-consumer or G2C** – government sells to the general public

Wikipedia (2019)²⁴ pointed out Information and Communication Technology (ICT) has proved its usefulness and influence to different businesses all around the world. Communication became easier and work became more time-efficient. Businesses used ICT to enhance and develop their systems in terms of recording, processing, analyzing, and producing different files and data simultaneously. It made a big impact and change on how businesses keep up with the trends and demands of a fast changing and competitive digital world²⁵.

FOCUS OF THE PAPER:

Hence, the ICT is serving as one of the factors that facilitate the business development and enterprise development. Otherwise the ICT is enabling the women entrepreneurship. Case Studies used to demonstrate how the ICT is used by the Women in the process of their enterprise development and taken advantage the technology for the development. The authors have made an attempt to bring out the field level experience and observations on application of ICT in the enterprise development by women. The researcher has used a personal interview and discussion as research method for gathering information so as to document case from the identified women in the study area. This is part of the large survey being done by the researcher for her Doctoral Research programme.

CASE STUDIES:

Case -1 : Vasantha (50 years old) women, she is residing at Neduvathoor village, running a textile shops. She has been engaged to earn through tailoring to meet day to day expenses of the household. She has recently completed her S.S.LC through Kerala literacy mission Examination and obtained 70% marks. She told never got opportunity when young age otherwise she is becoming a well known fashion designer in the world. Her husband is also completed only school level of education. Her family is a nuclear family. One daughter; she is studying plus two and one son he is studying degree. The attempt was started since her 19 years as she was skilled in stitching unit in her house itself. She gave training for some women in the nearby areas and started stitching shirts and frocks for small children in her surroundings. This was also helping her husband in finding financial support for the education of their children. The shop was established in Neduvathoor village and the major customers were nearby cashew factory and schools. Since most of the people were women, the shop was meant especially for women.

Usually she is purchasing cloth materials from Madurai and Coimbatore. Thus she got the contact for the communication and gradually she could develop the business through that she underwent the online banking for financial settlement. The whole resources mobilization is done through ICT gadget. All transactions are being done through online. She has started online shopping for making customers friendly. Phone communication in between customer and shop keeper provide good connection to give the feed backs. She could build a successful customer base through phoning rather than normal shopping. She has to develop the knowledge to change her life style. These communication skills she gains from her business enhanced her personal as well as employment skill.

Case 2: Sulochana (58) residing at Neduvathoor village. Her husband is sixty years old and he is a Painter. Her husband is not keeping good health due to paralysis. They have no children. Sulochana's profession is Tailoring and she is working from home. Previously, they had a Tailoring shop near her home. Last thirty years, they were earning income from sewing activities. They have network of customers. Those who have been still continue as their customers.

Mobile is most used tool in her life. Mostly customers are in contact with them. She has Mobile and shared the contact with all the customers. As next step, she has formed WhatsApp group among the customers. The Mobile and WhatsApp are the major intervention in their enterprise development. These ICT gadgets and application is helping in her business. some examples are:

- Mobile and WhatsApp enable to retain and contact with the customers
- Mobile and WhatsApp provides to get designs from the customers
- Mobile and WhatsApp also enable to exchange colour-matching while dress making
- Mobile and WhatsApp is helping to get suggestions from the customers on decoration and embroidery
- As latest, she is also using the facility of local Television Channel as tool in her business. She has given advertisement in local TV Channel on her business.

The Mobile and WhatsApp are two important ICT Tools which serve as Enabling Technology for Women in the enterprise development.

Case 3: Karthika (19) residing at Neduvathoor village. Her family consists of father, mother, and a younger sister. Her father is a tailor and stitching at home. Her mother works in Abroad. Her sister completed upto Plus Two level of education and currently she is being trained in Tally Application. She has also studied fashion designing course and worked for two years as a designer in a textiles shop. She understood that the Deen Dayal Upadhyaya Grameen Kaushalya

Yojana (DDU-GKY) offers a Job through Kudumbashree. In the process, she has gone through various stage, such as:

- She got a job as a placement section supported her as she received skill training.
- Information on placement was provided by Kudumbashree operators.
- She searched out information on various job opportunities
- She has searched through the Smartphone and immediately submitted application.

She searched out information required and understood without help from anyone. She has also shared this kind of information through her WhatsApp group among the friends and fellow trainees. The mobile number was also given at the time of application. The selection information was sent to the mobile number as a message. The details of their interviews and where the class begins are sent to the phone number as a text message. At present, there is a lot of sewing work done at home. Her friends inform her over the phone their need for the design on dress which she makes for them.

Moreover, she has also completed the Computer Data Entry Course. She has the skill to use facility in the Internet café. So, she is able to have access to the resources available in the form design through web material. In such a way she is able to fully utilize the information resources through ICT.

Case 4: Sreejitha (33) residing at Neduvathoor village running a beauty parlor and a textile shops. She is educated up to plus two level. Her husband name is sajikumar (43) and he is an Auto Driver. Her mother and brother is influenced her to start this venture. The decision to start such a business was made by looking at the house as boring. She learned stitching from an experienced tailor and she learned beautician from the GIT Institute Kollam. She is working and assisted three years in a beauty parlor. After that, she became Confidant and she started own venture. She is regularly using Television and mobile.

Mobile is most used tool in her life. Mostly customers are in contact with them. Stitching and beautician purpose mobile is helping. She has Mobile and shared the contact with all the customers. She is watching new hair styles and bridal trending make up styles on YouTube. She is watching Tiktok for entertainment purposes. She is watching these kinds of videos are at work intervals. Customers are sending some model photos through phone. In a month she is earning around 15000 Rs money from the bridal works. Mobile phone helped her lot. It's helping her to find out new trends and styles.

In Lieu of Conclusion: In the 21st century era is for women empowerment and the women are chasing for own business entrepreneurial dream. Today the women's attitude is changed and they are expressing their ideas, skills and abilities around the world. Many women are taken bold, risk steps and they are succeed to live and their livelihood. So in these contexts ICT is more helpful and enabling for opening for their new knowledgeable world, strengthening their confidence and areas for starting new business.

REFERENCES:

- I. Agarwal, S.K., Kumar, A., Nanavati, A.A. & Rajput, N. (2010) User-generated content creation and dissemination in rural areas, *Information Technologies and International Development*, 6(2), 21-37
- II. AK Yetisen; LR Volpatti; AF Coskun; S Cho; E Kamrani; H Butt; A Khademhosseini; SH Yun (2015). "Entrepreneurship". *Lab Chip*. 15 (18): 3638–3660. doi:10.1039/c5lc00577a. PMID 26245815
- III. Angello, C. and Wema, 2010. Availability and usage of ICTs and e-resources by livestock researchers in Tanzania: Challenges and ways forward. *International Journal of Education and Development using Information and Communication Technology (IJEDICT)*, 6(1): 53-65.
- IV. Bhatnagar, S.C. & Singh, N. (2010) Assessing the impact of e-government: a study of projects in India, *Information Technologies and International Development*, 6(2), 109-127
- V. Chipchase, J. (2009) Mobile Phone Practices & The Design of Mobile Money Services for Emerging Markets. <http://www.janchipchase.com/publications>
- VI. Donner, J. & Escobari, M. (2010) A review of the research on mobile use by micro and small enterprises in developing countries, *Journal of International Development*, 22(5), 641-658
- VII. E-commerce-business-models/. Ecommerce CEO. Retrieved 2018-11-18. Wikipedia (2019) Information and communication technologies for development https://en.wikipedia.org/wiki/Information_and_communication_technologies_for_development
- VIII. Foster, C. & Heeks, R.B. (2013) Innovation and scaling of ICT for the bottom-of-the-pyramid, *Journal of Information Technology*, 28(4), 296-315
- IX. Heeks, R.B. & Kanashiro, L.L. (2009a) Remoteness, Exclusion and Telecentres in Mountain Regions: Analysing ICT-Based "Information Chains" in Pazos, Peru, *Development Informatics working paper no.38*, University of Manchester, UK <http://www.seed.manchester.ac.uk/subjects/idpm/research/publications/wp/di/>

di-wp38/

- X. ICT Defined: How does it benefit business and the global economy?" (<https://www.otelco.com/ict/>). OTELCO. 2016-09-07. Retrieved 2018-11-17.
- XI. Impio, J., Masita-Mwangi, M., Macharia, L., Githinji, P. & Sitati, M. (2008) Exploiting mobile technology in the African urban low-income informal music industry, in: *Proceedings of 1st International Conference on M4D*, J.S. Pettersson (ed), Karlstad University, Sweden, 15-23 <http://kau.diva-portal.org/smash/record.jsf?pid=diva2:200938>
- XII. Katengeza, S.P., Okello, J.J., Mensah, E.R. & Jambo, N. (2014) Effect of participation in ICT-based market information services on transactions costs and household income among smallholder farmers in Malawi, in: *Technologies for Sustainable Development*, J.-C. Bolay. S. Hostettler & E. Hazboun (eds), Springer, Heidelberg, Germany, 197-207
- XIII. Kliner, M., Knight, A., Mamvura, C., Wright, J. & Walley, J. (2013) Using no-cost mobile phone reminders to improve attendance for HIV test results, *Infectious Diseases of Poverty*, 2(12), 1-7
- XIV. Lakshmi Ratan, A., Satpathy, S., Zia, L., Toyama, K., Blagsvedt, S., Singh Pawar, U. & Subramaniam, T. (2009) Kelsa+: digital literacy for low-income office workers, in: *ICTD2009 Proceedings*, R. Heeks & R. Tongia (eds), Carnegie Mellon University, Qatar, 150-162 <http://www.ictd2009.org/documents/ICTD2009Proceedings.pdf>
- XV. Madon, S. & Sharanappa, S. (2013) Social IT outsourcing and development: theorising the linkage, *Information Systems Journal*, 23, 381-399
- XVI. Medha Dubhashi Vinze, *Women Entrepreneurs in India*, Mittal Publications, New Delhi, 1987, p.112.
- XVII. Neuwirth, R. (2011) Global bazaar, *Scientific American*, Sept, 56-63
- XVIII. Rangaswamy, N. & Nair, S. (2012) The PC in an Indian urban slum: enterprise and entrepreneurship in ICT4D 2.0, *Information Technology for Development*, 18(2), 163-180
- XIX. Richard Heeks (2014) ICTs and Poverty Eradication: Comparing Economic, Livelihoods and Capabilities Models Paper No. 58 Published by: Centre for Development Informatics Institute for Development Policy and Management, SEED University of Manchester, Arthur Lewis Building, Manchester, M13 9PL, UK
- XX. Schumpeter Joseph, *The Theory of Economic Development*, Oxford University Press, New York, 1961.
- XXI. Stauffacher, D. and Kleinwachter, W. 2005, 'The World Summit on the Information Society: Moving from the Past to the Future', United Nations ICT Task Force: New York.
- XXII. Types of Ecommerce Business Models That Work Right Now" (<https://www.ecommerceceo.com/types-of>)
- XXIII. Vikram Gopinath, "Role of Information and Communication Technology in the Rural Development: Study of Thangachimadam Village Resource Center and its Village Knowledge Centers," Dissertation 2007.

NOTES:

- I. AK Yetisen; LR Volpatti; AF Coskun; S Cho; E Kamrani; H Butt; A Khademhosseini; SH Yun (2015). "Entrepreneurship". *Lab Chip*. 15 (18): 3638–3660. doi:10.1039/c5lc00577a. PMID 26245815
- II. "Business Dictionary definition". *Business Dictionary*.
- III. Vikram Gopinath, "Role of Information and Communication Technology in the Rural Development: Study of Thangachimadam Village Resource Center and its Village Knowledge Centers," Dissertation 2007.
- IV. Schumpeter Joseph, *The Theory of Economic Development*, Oxford University Press, New York, 1961.
- V. Medha Dubhashi Vinze, *Women Entrepreneurs in India*, Mittal Publications, New Delhi, 1987, p.112.
- VI. Medha Dubhashi Vinze, op. cit., p. 115.
- VII. Angello, C. and Wema, 2010. Availability and usage of ICTs and e-resources by livestock researchers in Tanzania: Challenges and ways forward. *International Journal of Education and Development using Information and Communication Technology (IJEDICT)*, 6(1): 53-65.
- VIII. Stauffacher, D. and Kleinwachter, W. 2005, 'The World Summit on the Information Society: Moving from the Past to the Future', United Nations ICT Task Force: New York.
- IX. Richard Heeks (2014) ICTs and Poverty Eradication: Comparing Economic, Livelihoods and Capabilities Models Paper No. 58 Published by: Centre for Development Informatics Institute for Development Policy and Management, SEED University of Manchester, Arthur Lewis Building, Manchester, M13 9PL, UK
- X. Bhatnagar, S.C. & Singh, N. (2010) Assessing the impact of e-government: a study of projects in India, *Information Technologies and International Development*, 6(2), 109-127
- XI. Kliner, M., Knight, A., Mamvura, C., Wright, J. & Walley, J. (2013) Using no-cost mobile phone reminders to improve attendance for HIV test results, *Infectious Diseases of Poverty*, 2(12), 1-7
- XII. Katengeza, S.P., Okello, J.J., Mensah, E.R. & Jambo, N. (2014) Effect of participation in ICT-based market information services on transactions costs and household income among smallholder farmers in Malawi, in: *Technologies for Sustainable Development*, J.-C. Bolay. S. Hostettler & E. Hazboun (eds), Springer, Heidelberg, Germany, 197-207
- XIII. Heeks, R.B. & Kanashiro, L.L. (2009a) Remoteness, Exclusion and Telecentres in Mountain Regions: Analysing ICT-Based "Information Chains" in Pazos,

- Peru, Development Informatics working paper no.38, University of Manchester, U K
<http://www.seed.manchester.ac.uk/subjects/idpm/research/publications/wp/di-di-wp38/>
- XIV. Donner, J. & Escobari, M. (2010) A review of the research on mobile use by micro and small enterprises in developing countries, *Journal of International Development*, 22(5), 641-658
- XV. Agarwal, S.K., Kumar, A., Nanavati, A.A. & Rajput, N. (2010) User-generated content creation and dissemination in rural areas, *Information Technologies and International Development*, 6(2), 21-37
- XVI. Impio, J., Masita-Mwangi, M., Macharia, L., Githinji, P. & Sitati, M. (2008) Exploiting mobile technology in the African urban low-income informal music industry, in: *Proceedings of 1st International Conference on M4D*, J.S. Pettersson (ed), Karlstad University, Sweden, 15-23 <http://kau.diva-portal.org/smash/record.jsf?pid=diva2:200938>
- XVII. Madon, S. & Sharanappa, S. (2013) Social IT outsourcing and development: theorising the linkage, *Information Systems Journal*, 23, 381-399
- XVIII. Lakshmi Ratan, A., Satpathy, S., Zia, L., Toyama, K., Blagsvedt, S., Singh Pawar, U. & Subramaniam, T. (2009) Kelsa+: digital literacy for low-income office workers, in: *ICTD2009 Proceedings*, R. Heeks & R. Tongia (eds), Carnegie Mellon University, Qatar, 150-162 <http://www.ictd2009.org/documents/ICTD2009Proceedings.pdf>
- XIX. Neuwirth, R. (2011) Global bazaar, *Scientific American*, Sept, 56-63
- XX. Rangaswamy, N. & Nair, S. (2012) The PC in an Indian urban slum: enterprise and entrepreneurship in ICT4D 2.0, *Information Technology for Development*, 18(2), 163-180
- XXI. Chipchase, J. (2009) Mobile Phone Practices & The Design of Mobile Money Services for Emerging Markets. <http://www.janchipchase.com/publications>
- XXII. Foster, C. & Heeks, R.B. (2013) Innovation and scaling of ICT for the bottom-of-the-pyramid, *Journal of Information Technology*, 28(4), 296-315
- XXIII. 5 Types of Ecommerce Business Models That Work Right Now" (<https://www.ecommerceceo.com/types-of-e-commerce-business-models/>). Ecommerce CEO. Retrieved 2018-11-18.
- XXIV. Wikipedia (2019) Information and communication technologies for development https://en.wikipedia.org/wiki/Information_and_communication_technologies_for_development
- XXV. "ICT Defined: How does it benefit business and the global economy?" (<https://www.otelco.com/ict/>). OTELCO. 2016-09-07. Retrieved 2018-11-17.