

ICTs: A technological fix?

Can Information and Communication Technologies (ICTs) reduce poverty? With examples from Kenya

Information and Communication Technologies (ICTs) can help poor people improve their lives. They have the potential to reduce poverty, deliver basic education, improve agricultural outputs, increase access to healthcare information and improve incomes

Types of ICT

Information and Communications Technologies are not limited to computers

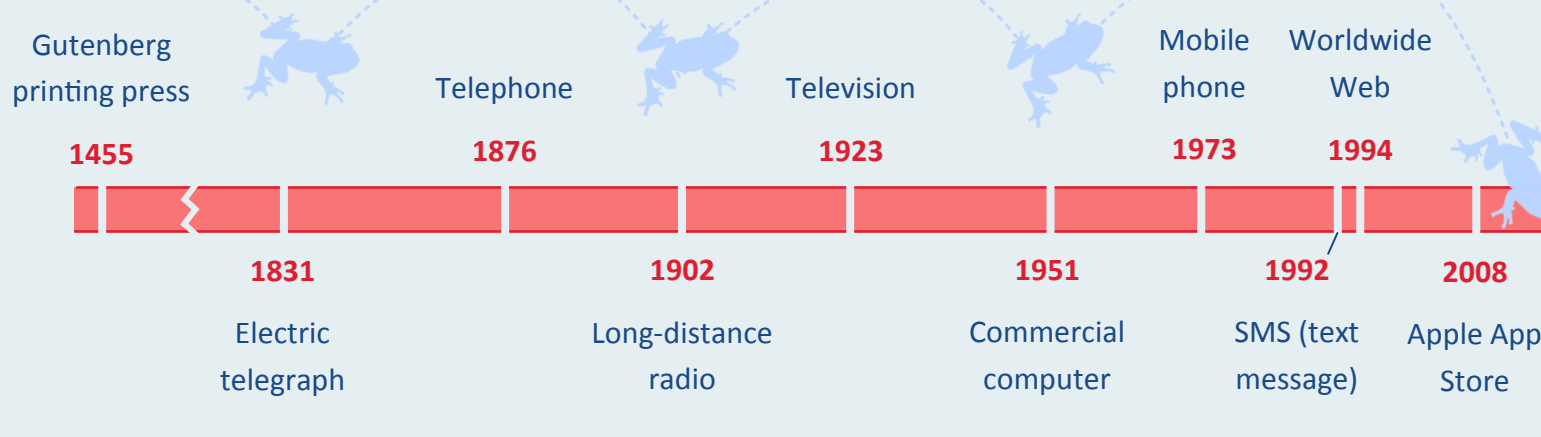
ICT: Technology for communication or access to information. Recent advancements in ICTs have been transformed people's ability to access information and communicate over long distances.

- Posters
- Radio
- Television
- Fax machines
- Computers
- Newspapers
- Books
- Mobile phones
- Phones
- Tablets

Leapfrogging

Unlike developed countries, developing countries may not suffer from technological 'lock-in' and can leapfrog to modern technologies

TECHNOLOGICAL LOCK-IN: A reliance on inferior technology because of historical commitments



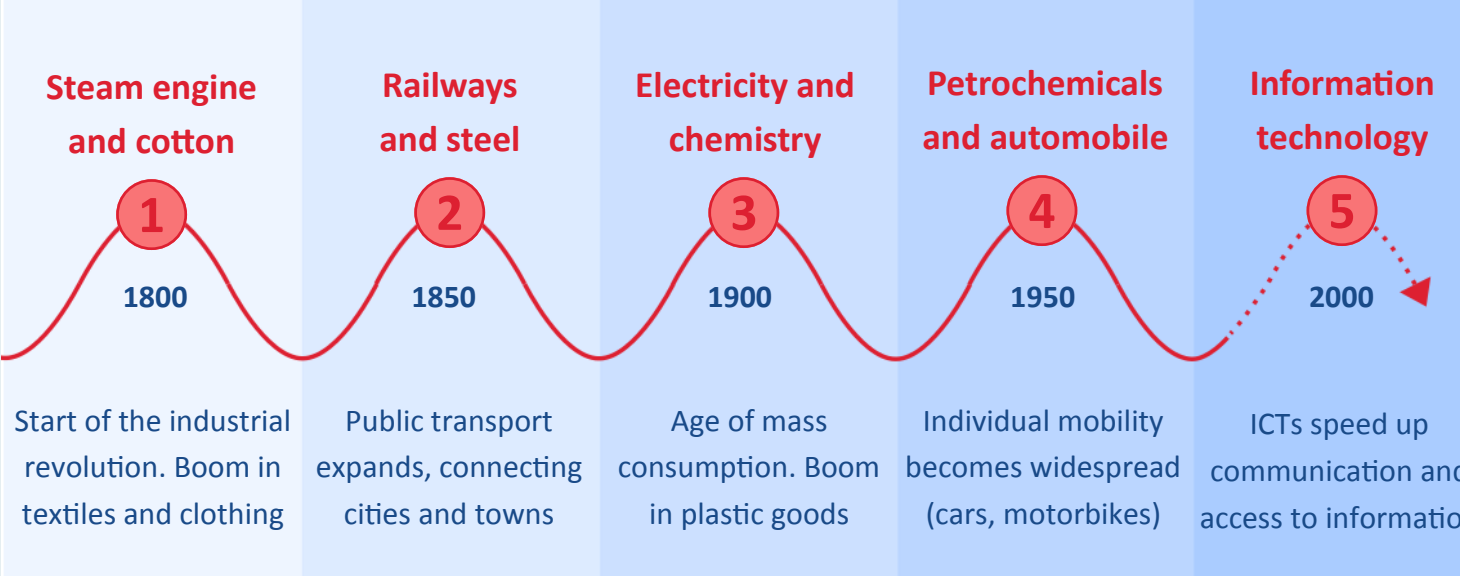
By investing in ICTs, developing countries can be technologically up-to-date without investing in and being 'locked into' outdated technologies. For example, many developing places are gaining access to mobile phone networks without investing in landlines, which are expensive to construct and maintain.

NIKOLAI KONDRATIEV
A Russian economist of the 1920/30s. Believed economic expansion was followed by decline

Digital revolution?

Historically, technological innovations have caused a country's society to modernise and its economy to expand. However, this may be followed by economic decline. Approximately every 50 years, a new technological innovation encourages economic expansion. ICTs can therefore stimulate economic growth, but are unlikely to be a permanent fix

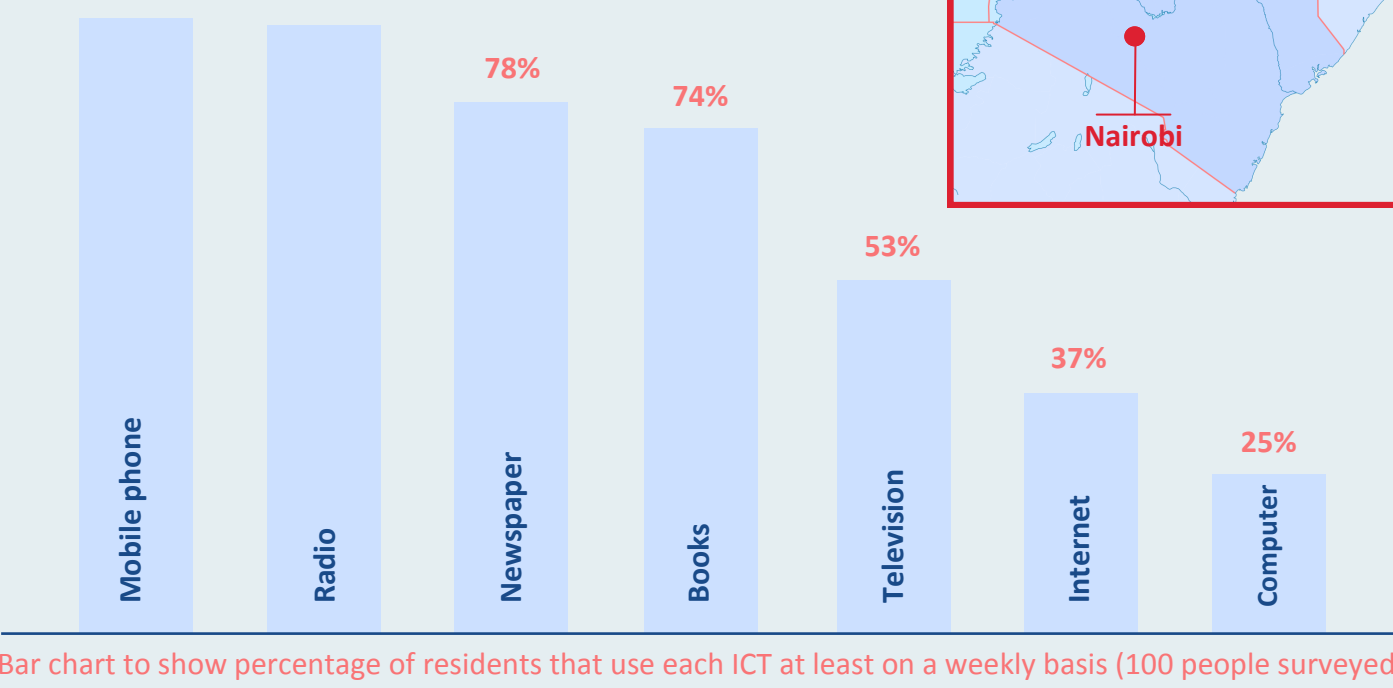
Kondratiev's cycles



Appropriate ICT

Not everyone in the world uses the same ICTs. It is important to know how people communicate and access information

ICT use in Ugunja, a rural market town in Western Kenya



Bar chart to show percentage of residents that use each ICT at least on a weekly basis (100 people surveyed)

A great number of residents use mobile phones and radios on a weekly basis. Regular computer usage is notably low, due to financial cost and lack of training. Internet users outnumber computer users, as people use mobiles to browse the Internet. Newspapers and radios are popular due to their low cost.

Digital divide

There are a number of reasons for people not being able to access ICTs

DIGITAL DIVIDE: A term used to describe the disparity in access to ICTs, both between and within countries. Those in poverty are often excluded from accessing ICTs, which could improve their quality of life.

COST	KNOWLEDGE	ELECTRICITY	SERVICES
Some ICTs, such as computers, are too expensive for many. Communal ownership (e.g. via Internet Cafes) and cheaper ICTs (e.g. mobiles) can reduce this barrier to access.	Not everybody knows what ICTs are available and how use of them will benefit their lives. ICT skills can also be limited. Training can help integrate ICTs into society.	Electricity supply in rural parts of the developing world can be unreliable, affecting the ability to store data. Poor electricity distribution limits widespread ICT use.	Slow, unreliable and expensive provision of services (e.g. Internet access, mobile phone coverage) can limit their use. Photo and video up/downloading can be especially problematic.

Mobile banking

A recent innovation that has transformed the way people in developing countries store and transfer money

M-PESA: The first large-scale mobile phone banking system in the developing world. It was launched in Kenya in 2007 and has over 15 million users. 'M' stands for mobile. 'Pesa' is a Swahili word for 'money'.

Benefits of mobile banking

BANKING	REMITTANCES	PAYMENTS
Banks require a deposit too large for many people in the developing world. Mobile banking has no minimum deposit. It provides a safe way to store and monitor savings for people that would otherwise deal solely in cash.	City workers send remittances to rural relatives. This once involved travelling for hours or days with large sums of cash. Mobile transfers save time and money, and increase security. International money transfers are also possible.	Mobile banking can be used to pay individuals, companies and organisations. This secure form of transfer records transactions and creates trust. This is particularly important in informal cash economies.

How it works...

1. Cash deposited	2. Credit sent	3. Credit received	4. Cash collected
Money paid in at a local vendor and added to users' mobile banking account	User sends money (e.g. to a relative in a rural area) as easily they would send an SMS	User receives the money in their mobile banking account immediately	User can store money in their account or collect it in cash from their local vendor

Apps of the future

A new generation of Kenyan entrepreneurs are busy creating apps to help the developing world. Here are three apps available now...

iHUB NAIROBI
A co-working space in the Kenyan capital. A centre of innovation for new technology

FOR BUSINESS: Kopokopo	FOR SOCIETY: Uchaguzi	FOR EDUCATION: Kytabu
Allows businesses to accept phone payments. For small businesses, this is more secure than cash payments and more convenient than bank transfers. Entrepreneurs can also monitor their transactions using online data analysis tools.	Developed to crowd-source and monitor incidents following elections. Some past Kenyan elections (1992, 2007) have resulted in violence and deaths. Citizens can report incidents to Uchaguzi, which are then mapped and shared online.	A textbook-subscription app that can be up to 60% cheaper than purchasing hard copies of the books. Students are able to rent books on a hourly, weekly, monthly, termly or annual basis. This aims to reduce financial barriers to education.