E-APPLICATIONS DEVELOPMENT

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OVERVIEW

- Introduction
- Steps involved in E-Applications development from ideation to market entry
- E-Applications in Africa
- Characteristics of Innovative E-Applications in Africa
- Conclusion

INTRODUCTION

- ***"South Africa** (SA) ranks first in Africa in terms of app usage, with a third of its population using mobile applications, followed by 31% in **Ghana**, 28% in **Nigeria**, 19% in **Kenya** and 18% in **Uganda"*** RKK ICDS. (2018)

Did you know?

Img source: wikihow.com

INTRODUCTION

- "A mobile phone is the main device for accessing the internet and using e-services in Africa"

RKK ICDS. (2018)

Did you know?

Img source: wikihow.com

INTRODUCTION

- "One of the greatest African e-success stories is the Kenyan mobile phone-based money transfer, financing and microfinancing service **M-Pesa"**

Did you know?

Img source: wikihow.com

RKK ICDS. (2018)

INTRODUCTION

- "M-Pesa has spread under various brand names to at least 15 African countries, where phone-based money transfers are used daily instead of debit cards or cash"

RKK ICDS. (2018)

Did you know?

Img source: wikihow.com

INTRODUCTION

- "In **Zimbabwe**, a public-sector financial management system that experts consider to be in certain respects even better than the Estonian State Treasury's IT system has been in operation since 1999"

RKK ICDS. (2018)

Did you know?

Img source: wikihow.com

INTRODUCTION

- "Biometric polling cards have been used in at least 14 African countries; even iris recognition has been applied in **Somaliland"**

Did you know?

Img source: wikihow.com

RKK ICDS. (2018)

STEPS INVOLVED IN E-APPLICATIONS DEVELOPMENT

Step 1

Generating new ideas

Potential customers

Current challenges prevalent in local context

Gürbüz, 2018

Step 2

Evaluating new ideas

What are the problems being addressed?

How many people does this problem affect?

Will customers consider the app relevant in meeting their needs?

Is it worth doing?

Is there enough resources?

Gürbüz, 2018

Step 3

Transitioning from ideas to concepts

Ideas are elaborated in detail

Prototype

Validation by selected customer groups

Gürbüz, 2018

Step 4

Developing a marketing strategy

Identify market

Identify price

Identify long-term sales strategy

Gürbüz, 2018

Step 5

Developing a business strategy

Investment vs Profit

Review similar products

Determine risks

Gürbüz, 2018

Step 6

E-Applications development

Co-design with users

User-centred design

Apply appropriate development tools

Testing and evaluation

Gürbüz, 2018

Step 7

Test marketing

Pathways for commercialisation

Adverts

Costs

Gürbüz, 2018

Step 8

Commercialisation

E-applications ready for use by customers

Small scale?
Expand later?

Large scale?
Capital?
Capacity?

Gürbüz, 2018

CURRENT E-APPLICATIONS IN AFRICA

GHANA

SnooCodeRed

Inventor
Sesinam Dagadu

Sector
Health

Type
Mobile App
(PlayStore, iOS plattorms)

Key Action
Provides an addressing systems for rural communities
(Ambulance, emergency services)

HWESOMAME

Inventor
Daniel Taylor

Sector
Agriculture

Type
Low-cost ground sensors and mobile phones (SMS, calls)

Key Action
Determines soil conditions and notifies farmers (information is sent in local language)

KENYA

ILLUMINUM GREEN HOUSES

Inventor
Taita Ngetich

Sector
Agriculture

Type
Solar power, sensor technology and text messaging

Key Action
Monitors and regulates greenhouses, turning irrigation on and off automatically.

UJIZIKILIMO

Inventor
Brian Bosire

Sector
Agriculture

Type
Electronic sensor and mobile phone

Key Action
Data gathered from electronic sensor and sent to a database that stores information from different sources. Notification is sent to farmers via text message

MOBI-WATER

Inventor
Kelvin Gacheru

Sector
Water

Type
Solar-power and mobile apps

Key Action
Monitors water levels, leaks, valves and pumps via a mobile phone app

RIZIKI SOURCE

Inventor
Fredrick Ouk0

Sector
Work and econmic growth

Type
Web-based app

Key Action
Allows employers to identify skilled people living with disabilities in Africa

eLearning Solutions

Inventor
Esther Gacicio

Sector
Education

Type
Internet enabled device

Key Action
Provides learning opportunities through games and videos

LOANBEE

Inventor
Monicah Mumbi Wambugu

Sector
Finance

Type
Mobile app and machine learning algorithms

Key Action
Provides opportunities for users to take loans based on machine learning algorithm which calculates credit scores

SIGN-IO

Inventor
Roy Allela

Sector
Education

Type
Mobile app, machine learning algorithm and smart glove

Key Action
Improves learning abilities of children with hearing and speech impediments

Chanjoplus

Inventor
Collince Oluoch

Sector
Health

Type
Web-based application

Key Action
Helps parents and healthcare workers track vaccines for children

JuaKaliSmart

Inventor
James Ochuka

Sector
Employment and economic growth

Type
Web-based application

Key Action
Connects informal artisans to customers

NIGERIA

TUTERIA

Inventor
Godwin Benson

Sector
Education

Type
Internet based device

Key Action
Links students to tutors based on affordability

KITOVU

Inventor
Emeka Obewe

Sector
Agriculture

Type
Internet based device

Key Action
Links farmer's location to soil type to determine appropriate fertilizer

KAOSHI

Inventor
Chukwunonso Arinze

Sector
Finance

Type
Mobile app

Key Action
Connects money senders across the globe

WellNewMe

Inventor
Chukwunonso Arinze

Sector
Health

Type
Digital platform

Key Action
Using data provided by patients, analyses the risks of NCD

Farmz2U

Inventor
Aisha Raheem

Sector
Agriculture

Type
Digital platform

Key Action
Helps farmers plan their crops to prevent food loss

UGANDA

Mama Ope

Inventor
Brian Turyabagye

Sector
Health

Type
Biomedical smart jacket and mobile phone

Key Action
Quick detection of pneumonia

The Yaaka Network

Inventor
Hindu Nabulumba

Sector
Education

Type
Digital platform

Key Action
Allows remote tutoring

Matibabu

Inventor
Brian Gitta and team

Sector
Health

Type
Low-cost reusable device and mobile phone

Key Action
Allows non-invasive means of diagnosing malaria

RWANDA

SafeMotos

Inventor
Peter Kariuki and team

Sector
Transport

Type
Sensors and smartphone

Key Action
Allows commuters connect to drivers in areas where there are no street names

TANZANIA

Okoa

Inventor
Bukhary Kibonajoro

Sector
Health

Type
Web based application

Key Action
Monitors medicine inventories in Tanzanian hospitals to prevent theft of medical supplies

CAMEROON

Muzikol

Inventor
Nges Njungle

Sector
Revenue generation

Type
Web based application and social media platforms

Key Action
Allows musicians sell their records and generate revenue

Cardiopad

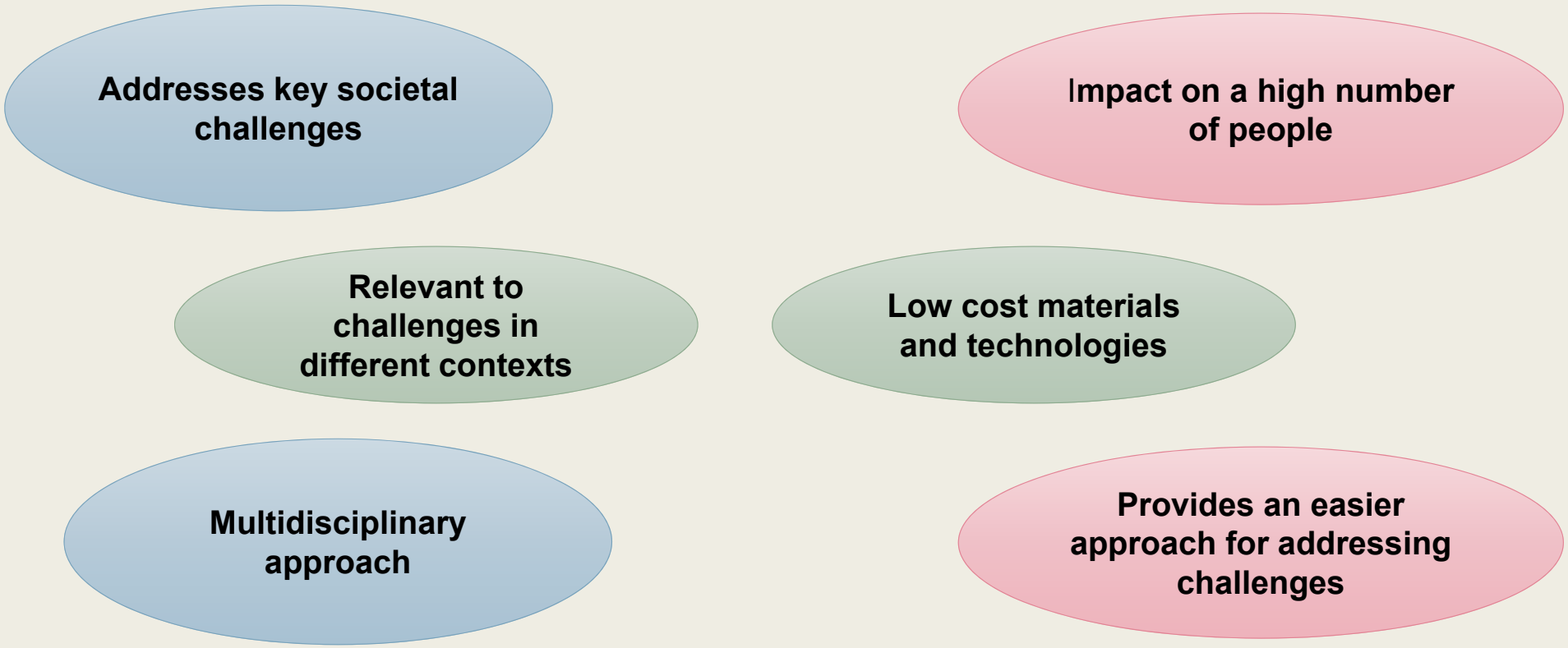
Inventor
Arthur Zhang

Sector
Health

Type
Tablet computer and mobile network

Key Action
Allows capturing of heart readings on the table computer and sends the result to a cardiologist at a distant location through a mobile network

Characteristics of Innovative E-Applications in Africa



Conclusion

- E-Applications have been developed in different parts of Africa such as **Kenya, Ghana, Uganda, Tanzania, Rwanda and Nigeria.**
- E-Applications developed in Africa have been used to improve **disease diagnosis and access to healthcare services.**
- There is great potential in addressing key challenges in Africa using E-Applications especially with the use of **mobile technologies** and **applications.**

References

Gürbüz, E. (2018). Theory of New Product Development and Its Applications. *Marketing*, 57.

RKK ICDS. (2018). E-governance Challenges in Africa. Available at: https://icds.ee/e-governance-challenges-in-africa/

BBC. (2016). Cameroon's Cardiopad inventor wins Africa Engineering Award. Available at: https://www.bbc.com/news/world-africa-36397164

THANK YOU