

The Perfect Storm: 1998 to 2003 in the history of the mobile economy of sub Saharan Africa

In the year 2000, a business review of Nokia's annual report shows no evidence of the future impact and transformative scale of Nokia phones in lower income markets such as those in sub Saharan Africa. For them, in 2000, the diversity of multicultural Singapore - the location of their Asia-Pacific regional headquarters - was exotic enough. Within a decade, an entire new industry sector offering employment and income for a wide range of educational backgrounds, skills, and capacities had emerged across the African continent. Today, Africa's mobile economic ecosystem is uniquely suited for its operating conditions (Katz and Koutroumpis, 2014) and consumer preferences and capacity for advance purchase of data and mobile telephony services, and is one of the biggest employers expected to generate 184 billion dollars in 2025, or 9% of the continent's GDP. As the estimates of revenue by telecommunications providers over the past two decades of this country show, this estimate can only be an extremely conservative one.

Over the years, without hesitation, it can be said that the technological innovation from Oulu and other Finnish innovation ecosystems drove the emergence of this organic, grassroots, decentralized digital economic ecosystem, with particular emphasis on the technological standards that enable increasing fractionalization of the cost of service provision and the supporting systems for instant billing and subtraction of value embedded in the SIM card. It is unanimously agreed in the literature reviewed of the period under study that the prepaid business model it spawned and technological ability to bill per second of a voice call in real time drove the adoption of mobile telephony across the mass markets of the global South where it opened the door for entirely novel sectors for income generation and employment for millions without decent work opportunities in low income developing countries such as in Africa.

The birth of this new digital mobile social economy in Africa is documented in this text which focuses on the critical period of 1998 to 2003 when the tide turned for mobile telephone service providers and handset manufacturers who had hitherto underestimated the ROI for entering African markets directly or even product developing targeting these markets. A timeline of events will be shown for two key markets - Cameroon and Kenya - where scholars have documented the emergence of 'modern' sectors in the informal economy and the opportunities it creates for unemployed but tech-savvy youth.

1. Introduction to case countries
2. Approach and Methodology
 - a) (Era analysis)
 - b) Realist
 - c) Third party observer's point of view
3. Background Context to the Period in Question
 - a) The Phone
 - b) The Business Model
 - c) The Continent
4. Timeline of events
 - a) Narrative description
 - b) Diagram?
5. A Retrospective Look Back from 2021

Trace legacy of development in Kenya and Cameroon, and support the continental impact and transformation with case examples from Botswana, Zimbabwe, South Africa, Nigeria, Senegal.

Cameroon: Western Central Africa in the Franc zone

Kenya: East Africa, own currency

Key events from case markets and their source and year.

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| Phase one: The Elite Years of Mobile Telephony |
| The Continent |

- **Cameroon's** telecommunication sector partially opened for private sector competition in 1998
 - The fixed-line monopoly was to remain with the incumbent CAMTEL until 2004, during which time a privatisation stake was to be sold. The Telecommunications Regulatory Agency (ART) was also established in 1998.
 - The incumbent CAMTEL was the first African operator to adopt the GSM mobile cellular system in the 1990s, but it had not been able to raise its mobile customer base beyond 5,000 users (out of a 70,000-subscriber mobile capacity). The incumbent sold off its mobile operations to South Africa's MTN in 1999. In the same year, a second mobile operating license was issued to France's Mobilis (now called Orange).
- **Kenya's** Liberalization of the telecommunications sector was occasioned by the Telecommunications and Postal Sector Policy Statement of February 1997 which was subsequently followed by the Kenya Information and Communications Act, 1998 –more commonly referred to as KICA.
 - The sector was considered open for business from 1999.
 - The entry of Safaricom which then was a subsidiary of Telkom, brought increased competition and a realization of an enhanced demand for cellular phone connections. In 2001, Kencell Communications limited joined the market after being issued with a license to provide cellular phone services.

The Phone

- The reasonably successful 3210 model released in 1999, designed by Alastair Curtis in Los Angeles, based on product development engineering design from Oulu, which was the first Nokia device developed specifically for lower income and middle class users in Europe.
- The Nokia 3310 model was launched in Europe and Asia in 2000, and built on the well designed user interface for display and control of the 3210 but refined the design of the casing for ease of use.

The Prepaid Business Model

- Since TMN (Portugal) launched the first prepaid mobile phone service in October 1995 (Prichard and Powell, 1998), the success of prepaid mobile services in many markets is well documented and is expected to continue.
- Services have been launched in countries as diverse as the USA (Topp Telecom, 1998), Singapore (SingTel, 1998), South Africa (Smith, 1998), the Czech Republic (Ethos, 1997), France (Gemplus, 1997), Australia (Vodafone, 1998), Uruguay (Global Mobile Daily, 28th September 1998) and India (Quality Cellular, 1998).
- By all standards of marketing discipline, this business model should have failed.

Phase Two: Fractionalization and Innovation for Hockey Stick Sales Curve

- **Cameroon:** In less than five years, the number of mobile subscribers has increased more than 2,000 percent, to reach close to 1 million users between the two operators by the end of 2003.
- **Kenya:** It is from this period that we witness an exponential growth in the cellular phone connection -statistics show that the subscription of mobile telephone services was twice that of landline as at the end of 2001. Liberalisation of the telecommunications sector also effectively triggered the growth of other service providers such as Internet service providers (ISPs), resale services and cyber cafes.



Mobile Devices (brief para on product development trends and emergence of ultra low cost handsets)

Mobile Services (technology for pricing on prepaid improved, also Nigeria finally allowed into market in 2003 and it grew overnight)

Phase Three: Smartphones and Data

Immediately after period under study, the next notable event on the timeline is 2008 - critical year in the history of Nokia (Lindén, 2021) and in mobile phone hardware and software design and engineering heralding the rise of smartphones so a brief snapshot of this turning point in will capture the years 2004 to 2010. These were also the boom years for a wide range of qualitative and mixed methods studies on the African mobile phone consumers and markets. The author was contracted for an international project team to conduct exploratory user and market research for Samsung's Mobile Division in late 2007 in the lower and middle income market of sub Saharan Africa and wrote for popular press on these topics. Many of these are available in internet archives and were also referenced.

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| Phase Four: Digitalization of Value Exchanges and Transactions |
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Prepaid Business Model

'The strange success of prepaid mobile phone services', 1999, MA Marketing thesis by then marketing employee at Eircell, Simon Rees. Eircell was later purchased by Vodafone and Rees followed his colleagues out to startup.

in Africa

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