

Consumer-centred research of Bottom of the Pyramid emerging markets for entrepreneurs:

Case study from Kenyan health and healthcare industry

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Note:

This report is one of the three versions presented of this research.
The other two versions are presented to Enterprise Estonia and SelfDiagnostics OÜ

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Foreword by Niti Bhan

Given the scale of opportunities among the overlooked and underserved populations of the developing world, the billions at the Bottom of the Pyramid (or the BoP) have rightly captured global attention over the past half a decade or so. However, these frontier markets of our collective emerging future promise to be among the most challenging to succeed in reaching the world's most demanding customer segment yet.

The mythical fortune at the Bottom of the Pyramid is out there, for those who begin with understanding

The key to success will lie in taking this vast majority as serious and discerning customers in their own right rather than to assume their economic challenges and inadequate infrastructure imply any less ambitions and aspirations for their own and their children's futures. Markets need to be created, almost from scratch, in order to reach many of these segments, but as has been noted by the Estonian team in Kenya, mobile phone technology is extremely pervasive and very affordable. The developing world is leapfrogging technology and social and economic opportunities are evolving extremely rapidly.

There will be as much to learn from choosing to target these extreme customers, as they emerge into the global arena wholeheartedly prepared and ready to embrace the latest innovations that technology can offer. The only caveat remains that the task will not be one to show highly visible success overnight but requires time and investment in understanding these customers first, in the context of their daily lives and the challenges of their adverse and often uncertain environments.

The mythical fortune at the Bottom of the Pyramid is out there, for those who begin with understanding, and the Estonian team has already done well to break new ground in this area.

Niti Bhan

Emerging Markets Strategist,
Founder and Owner at Emerging Futures Lab.

Introduction

Where does entrepreneurship come from? Typical answers to that question might point to entrepreneurship programs in universities, design innovations or lucky coincidences. There are many conditions that can help to create entrepreneurship but a plain theoretical study program or a creative idea is not enough. Entrepreneurship appears when the opportunity meets and addresses someone with the right interest. Therefore, in order to bridge the gap between a great design, idea or theory and a marketable product, there is a need for inspiration and knowledge. This, in turn, is best created by **hands-on experience** and direct communication to the consumers in your future markets.

This design ethnography research project studying Bottom of the Pyramid (BoP) consumers in Kenya follows the work of the Estonian Development Fund on introducing BoP markets and Social Entrepreneurship. The current work focuses on practical activities on how to create entrepreneurship in Estonia through BoP markets through an exploration trip (as one of the four activities recommended in a theme paper by Estonian Development Fund¹).

Kenya has been selected as the destination due to pre-existing support contacts in the country. Many insights in Kenya might not exactly resemble the conditions in other BoP countries but there are many similarities and it certainly shows that if something is possible in Kenya (e.g., high mobile penetration), it is also possible in other similar markets on certain conditions. Kenya is also interesting destination for research because there have been many books and papers issued worldwide on BoP consumers based on findings and examples of India, other South and South East Asian countries and South America but research and case studies on Africa have been scarce.²

If something is possible in Kenya (e.g., high mobile penetration), it is also possible in other similar markets on certain conditions

The current project and study trip were initiated for **two main purposes:**

1. To give practical advice for those interested in BoP markets using Kenya as an example, as well to test the method and the study-trip format that could be replicated in companies and university degree programs.
2. To better understand the behavioural purchasing patterns of consumers making healthcare choices and to get an overview of the healthcare system.

This report is of interest as a “how-to” guide to various groups of people that might organise similar visits in the future, including:

- **companies** looking for new products and markets through user-led innovation and getting to know their customers. The researchers (that could also be the sales or R&D personnel) can also combine the visit with establishing business-to-business contacts;
- **students and youth** “who do not yet know they are entrepreneurs” but who have a potential to turn the insights of a user-centred research into a business plan. The practical experience in project management and creating the contacts in difficult surroundings is valuable in starting their own business;

¹ Estonian Development Fund. Turud ja innovatsioon sissetulekute püramiidi põhjas.
<http://www.arengufond.ee/upload/Editor/Publikatsioonid/sissetuleku-pyramiidi-pohi-mottealgatus.pdf>

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- **university curricula (together with companies or start-ups)**, where practical research activities could replace some of the classroom tasks and these could become the basis of future Masters' and Doctoral theses in interdisciplinary programs, such as Design and Engineering;
- **universities and research laboratories**, where technologies that have not found its users can be applied in BoP markets. These technologies could be teamed up with students, who will carry out consumer research, to promote entrepreneurship after the particular project (similar approach has been used in Chalmers University of Technology in Sweden).

Research is an essential part of entering new markets, studying the feasibility of the idea before its execution (see Figure 1). **The exploration trip** method is just one way to promote interest in new markets and BoP consumers. Other methods that should be considered and can be built on top of research are:

- initiate business idea competitions for solving BoP problems;
- embed BoP issues in the curricula of international business, design, and innovation;
- use development aid to invite entrepreneurs and companies to participate in project and idea competitions to address BoP consumer needs².

By carrying out a user-focused research and recording its results and suggestions in a publicly available format, each subsequent exploration trip becomes less expensive and more affordable for small and medium-size enterprises and start-ups.

This report evaluates the **benefits and drawbacks** of the exploration visit method, as well as presenting the main findings of the research project in Kenya. Conducting a research as the method is difficult to be compared with other methods as it depends greatly on the aims on what is the quality of the activities, how practical should be the information obtained, and what the available resources are. However, as design ethnography methods provide the researchers with very hands-on information and in a much larger quantity and variety that could fit in a report, it is a very practical approach to learn about new markets (provided that the researchers stay connected to the company or the project initiator).



Figure 1. The exploration trip is the essential step between the initial idea and trends analysis and execution activities. The insights from the user-centred research help reduce errors in later activities.

² Estonian Development Fund. Turud ja innovatsioon sissetulekute püramiidi põhjas. <http://www.arengufond.ee/upload/Editor/Publikatsioonid/sissetuleku-pyramiidi-pohi-mottealgatus.pdf>

Introduction

The report is prepared in three versions, addressing interest areas for all three of the funding partners. The main focus of the consumer study is on health and the healthcare sector, requested by one of the partners. The current version is prepared for the **Estonian Development Fund**. The current report has also narrower aims defined by the partners:

- learn and analyse about the user behaviour in health and healthcare sector among Kenyan BoP consumers to recommend activities for a particular company strategy (incl. how to think differently for successful operations, what has to be considered during R&D process and when developing product concept);
- learn about the methodology of consumer-centred research on BoP markets and evaluate its usefulness as a tool for providing input on the product and business model development for Estonian companies (incl. what does the method allow to take notice of that would otherwise have been unnoticed);
- create and collect the knowledge about the differences of operating in remote markets in one document and make recommendations for future research projects.

Each subsequent exploration trip becomes less expensive and more affordable for small and medium-size enterprises and start-ups

The report is written as a **sequence of sections** that can be read in succession, or by a chapter of interest.

In the first part, background information is given by a brief overview of global trends and the theoretical basis of BoP markets. The second part follows with the presentation of research methods. The third part presents the main findings and independent insights from various viewpoints.

The fourth part filters the insight according to which insights and activities should already be considered in the research and development stage (R&D) of product development. The fifth part focuses on the logistics of a market entry for a final product and the sixth part on its marketing activities.

The final seventh part focuses on evaluation of the method and provides recommendations for future work on how to bring BoP and design ethnography closer to Estonian companies. In the appendices, general macro data about the economy and health in Kenya are presented to give the reader the opportunity to match the insights with publicly available data. Supplemental information about recent economic developments and opportunities in Kenya are presented in text boxes.

The authors would like to thank SelfDiagnostics OÜ, Estonian Development Fund and Enterprise Estonia for their support that made this project possible.

The Fortune at the Bottom of the Pyramid

The idea that "Bottom of the Pyramid" (BoP) consumers constitute a huge market was introduced at the beginning of the century by C.K. Prahalad in his 2004 book "The Fortune at the Bottom of the Pyramid". This concept was developed to introduce the "top of the (income) pyramid" product users and decision makers that there are **4-5 billion people** that are "unserved or underserved by the large organised private sector, including multinational firms"³), and the way to alleviate poverty is to promote entrepreneurs and businesses to address their needs. In the original definition BoP consumers were the people earning US\$ 8 or less per day.

The globalisation and the development of the emerging markets since the first edition of the book have changed the perspective on BoP. This disadvantaged group are estimated to have a total annual income of **\$2-3 trillion**⁴. In addition to the size of the untapped market today, BoP has received attention because of the fast developments in the market. The urbanisation of BoP consumers and the new technologies allow reaching the huge number of customers cheaper than ever.

The challenges of BoP consumers (e.g. low and fluctuating incomes, illiteracy) have caused them to be excluded from most of the conventional business models, and to rely on informal markets. The products and services that are not available for the BoP consumers (e.g., information, banking) are often the ones with a capability to improve one's incomes and living standard. Therefore the business models that take account the particularities of BoP consumers can earn profit and reduce inequality and poverty, achieving **corporate benefits with social impact**. There are also **other reasons**, why BoP markets should more carefully be looked into:

1. Wealthier consumer markets are saturated and therefore highly competitive. BoP continuously provides a substantial growth opportunity.
2. Development of technology and infrastructure has made it easier than ever to deliver the products and services to new market segments.
3. Development aid towards United Nations Millennium Development Goals is changing its focus from direct financial aid to cooperation with private sector in channelling the funds.
4. In order to stay competitive among increasing number of businesses grown out from emerging markets, Western businesses need to recognize BoP markets as a source of innovation.
5. Consumer culture in Western world is not sustainable and there is a need for innovative business models. BoP markets are perfect for testing new, more sustainable approaches.⁵

³ Prahalad, C.K. (2011) "The Fortune at the Bottom of the Pyramid", 5th edition, pp. 6

⁴ The World Economic Forum publication: „The Next Billions: Unleashing Business Potential in Untapped Markets“
http://www3.weforum.org/docs/WEF_FB_UntappedMarkets_Report_2009.pdf

⁵ Estonian Development Fund. Turud ja innovatsioon sissetulekute püramiidi põhjas.

<http://www.arengufond.ee/upload/Editor/Publikatsioonid/sissetuleku-pyramiidi-pohi-mottealgatus.pdf>

The Fortune at the Bottom of the Pyramid

The challenges of BoP consumers have caused them to be excluded from most of the conventional business models

Understanding the BoP

According to World Economic Forum, “within the BoP group, **income levels vary** greatly. The 1.1 billion top earners in BoP population earn \$2-8 a day (2009 data) and have some opportunities to save and grow their savings. In the mid-range, 1.6 billion people earn \$1-2 a day, spending largely on essentials. This consumer group is followed by one billion people that earn under \$1 a day placing them in extreme poverty (all figures in PPP USD). Their spending patterns also differ (see Figure 2). BoP consumers live in every part of the world but most notably in Asia, Latin America and Africa. 60% of the BoP population is in India and China”⁶.

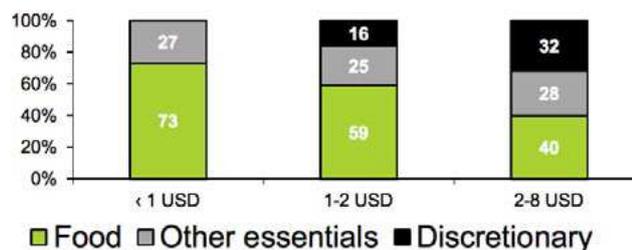


Figure 2. Total household expenditure of BoP consumers by PPP adjusted income.

Although currently most of BoP population is living in rural areas (68% globally), urbanization process is rapidly changing the situation. Compared to the aging population in developed world, high-income countries,

the population in BoP is rather young (i.e. In India the median age was 26.2 years in 2011⁷). **The young and growing population** allows predicting that these people will soon affect employment, demand, savings and investment behaviour throughout the world.

Although BoP is not a homogeneous set of customers (e.g., differences based on urban vs. rural, age, religion, language)), there are several **common characteristics** that businesses need to understand in order to successfully enter the market:

1. Low and fluctuating incomes, and limited access to credit or insurance, drive the BoP to be smart shoppers and risk-averse investors.
2. Domestic constraints, difficult living conditions, and high prices for products or services are among the daily challenges at the BoP.
3. BoP consumers lack information on many commercial products, and therefore rely on trusted sources or demonstrations to make purchase decisions.
4. BoP consumers and workers conduct their lives with dignity and demand both respect and quality from service providers and employers.

PwC research⁸ finds that successful pioneers to BoP markets understand the trade-offs that a low-income consumer is forced to make and build their value propositions around actual needs of the customer. The **low price is not the only factor** and in order to overcome the market's challenges, businesses need to build alliances with government, other businesses and the local community. The products can lack some of the nice-to-have features common in Western world, but they need to fulfil the same high standards used globally.

⁶The World Economic Forum publication: „The Next Billions: Unleashing Business Potential in Untapped Markets“ http://www3.weforum.org/docs/WEF_FB_UntappedMarkets_Report_2009.pdf

⁷ CIA World Factbook. <https://www.cia.gov/library/publications/the-world-factbook/geos/in.html>

⁸ PwC. „Profitable growth strategies for the Global Emerging Middle Learning from the ‘Next 4 Billion’ markets.“ http://www.pwc.com/en_GX/gx/corporate-strategy-services/assets/4-billion-report.pdf

Research Aim and Methods

Research Aim

The research work has multiple layers of goals. The practical activities and data collection was conducted mainly in the interest of a start-up health diagnostic test developer SelfDiagnostics OÜ. The questions were directed in getting to know the end consumer and the logistics of the particular market. The results of the fieldwork were to bring in valuable advice for product research and development activities.

The **main goals** of Estonian Development Fund were the following:

- to test the method and to study the possibilities of consumer-centred field research and its usefulness to provide inputs to a client company;
- to collect information on whether and how this method provides a way to arrange BoP exploration trips for Estonian companies and entrepreneurs more broadly.

In addition the report format of presenting the results serves the following purposes:

- to summarise the BoP consumer research insights for Estonian readers in a storable format and to introduce an emerging economy with a growing market of increasing importance in the world (using Kenya as an example);
- to raise interest in BoP among entrepreneurs and create an example report for a company interested in BoP consumers;
- to raise interest in (social) entrepreneurship among students and youth by underlining the need to think about less talked about opportunities.

The terms and their usage in developed world are often vague and misleading, and therefore mere reading of statistics, books or internet resources do not give much relevant information about the potential of any particular market (the middle class means very different groups of people in OECD and emerging markets⁹). Therefore, for a company or a person seeking to sell their products in that prospective market, should experience it first-hand to learn about its specifics. There are multiple ways of visiting other countries, most common being tourism or business contact and learning tours; however both of these methods do not provide much representative contact with end-consumers.

The **exploration trip** conducted with the methods of design ethnography provide a much closer and inexpensive look at what are the real needs of the end-consumer and what should therefore be considered in research and development, logistics and marketing activities of bringing the product to the end-user.

There are multiple ways of visiting other countries from tourism to learning tours but these do not provide much representative contact with end-consumers

⁹Bhan, N. (2012). „Thirty years of emerging market strategy: a review.“
<http://www.nitibhan.com/2012/06/thirty-years-of-emerging-market.html>

Research Aim and Methods

Methods

The study was conducted as a series of interviews combined with methods of **design ethnography** emphasizing beliefs about healthcare. The research process of design ethnography is a growing research method to obtain consumer-centred data. The photo documentation of streets, stores and homes allows questioning in some information given by the interviewees and adding more relevant questions in the interview. After data collection, the observations are merged into “consumer profiles” to describe and understand better the everyday life of the consumer.

The consumer-centred approach is the reverse of large sample quantitative studies, but according to Jakob Nielsen (2000)¹⁰, in usability and design studies, five respondents can provide up to 85% of the relevant information. Therefore, this study conducted in a limited time period focused on obtaining **3-4 interviews** in various subgroup settings to generalise under which conditions the answers were similar or differed.

The interviews and observations were supplemented by in-depth **desk research** before, during and after the fieldwork, and interviews with different stakeholder representatives (e.g. hospitals, NGO's, foreigners in Kenya). The results were presented in a format of **insights and recommendations** for research and development (R&D) activities and logistics for reaching the customer. The recommendations for the private sector partner SelfDiagnostics OÜ are arranged on Osterwalder's Business Model Canvas framework¹¹, which on request by the company will not be disseminated publicly.

Preparation and secondary research were held in February-March 2012. The project data collection in Kenya took place from March 15 – April 24 2012. The first 2.5

weeks (March 15 – April 1) contained intensive interviewing (the main part of the project), the rest of the days were used for writing and additional information checks. Interviews and fieldwork were organised during 4 days in semi-rural areas of Kenya with 12 days in Nairobi. The analysis and synthesis of the data were concluded in May 2012.

35 people and organisations were interviewed, which can be divided by target groups in the following way:

- End consumers: 11 people
- People and organisations related to the health industry: 16 people and organisations.
- Start-up companies and entrepreneurial environment: 8 people and organisations.

The interviewed end consumers were found and approached through local contacts. The interviews were conducted in English, Swahili or Kamba (in the case of the latter two, they were translated by a local person). The interviewees then signed the informed consent forms personally or with the help of a witness if the interviewee's English literacy was not sufficient.

No **incentive to participate** was mentioned before the interviews (not to have any influence on the answers) but after the interview the participants were usually thanked with a kilo of sugar or rice. The interview answers were written down on paper by the interviewers and typed in the computer the same day. The first analysis was usually done in the evening after the interview, but the report was compiled after all the data had been collected.

The **evaluation of the methodology** in light of the current project is presented in the end of the paper in chapter “The validation showed further uses for the method”.

¹⁰ Nielsen, J. (2000). „Why You Only Need to Test with 5 Users.” <http://www.useit.com/alertbox/20000319.html>

¹¹ <http://www.businessmodelgeneration.com/>

Observations and Insights

Observations from the fieldwork and information from the interviews form insight that can be seen as a generalisation of how people act in various situations; which people could be expected to behave that way, and under which conditions. Behavioural insight is closely related to traditions in the social systems and limits of the environment.

The relevant insights of the current report are summarised in **three categories**: insights on people and mindsets, the perception of health, and the surrounding street environment. Those categories were selected before the departure to knowingly search for differences with Estonia in each of the three spheres.

Insights on People and Mindsets

Kenyan families are large and the society is **clan- or tribe-based**. This has an effect on how social capital is built and how the family and extended community networks and determine, who gets powerful positions, which area receives finances as well as who is helping the ones in need.



Loans are offered for public servants on a billboard in Ministry of Health but they are not available for the people on the streets

The social system and the banking services in the Western sense do not reach the majority of population and people often rely on **informal borrowing** from the networks and sharing their wealth within these informal networks. Many people are earning **irregular incomes** from agriculture or seasonal employment and have to combine jobs to maintain a steady income. Community support helps to alleviate income shock and because of strong community ties corruption is ever present in the community and difficult to eliminate. The loan availability is also low for new or foreign businesses, but the situation is improving as international-minded banks are growing in size and importance. In 2012, one Kenyan bank was awarded the Ernst & Young World Entrepreneur of the Year prize for fast growth in Kenya and other African countries¹².

In a business environment, where the population supports their kin and short term customer relationships dominate over long term partnerships, the people have incentive to cheat. It is rather widespread to offer newcomers different conditions than the frequent visitors because of the information asymmetry.

This leads to a high **systemic mistrust** within the population, hindering economic development (e.g., quality goods are more difficult to be sold, where nobody believes promises about quality). From job interviews to customer relations, people tend to confirm that they are proficient in a longer list of qualities than they actually are, and when problems arise, the responsibility is seldom taken.

Politicians are cursed by the people for being corrupt, however people still take great interest in the affairs of the state (although the news headlines often resemble more of telenovela's than the democracy). The parliament members are elected to represent the region

¹² http://www.ey.com/GL/en/Newsroom/News-releases/Press-release_WEOY_2012_Winner

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that they were elected from and this is taken literally as people often turn to the Member of Parliament from their region with pledges for assistance. The **community ties** are strong and when a person reaches high position with others' help, they are expected to repay generously.

Corrupt countries are often suspected of lack of property rights enforcement. In Kenya, there have not been any scandalous cases. Surely, foreign entrepreneurs should consider this as a possibility but this affects mostly large-scale infrastructure investments. As a Danish venture capitalist investing in technology start-ups put it "if they'd take away the office buildings, the teams can just move to a next location to continue their work". Despite the corruption holding Kenya back from its economic potential, the people are generally optimistic and hardworking (especially in agriculture and manual working). Kenya has not undergone times of socialist-type society (unlike Tanzania) and entrepreneurship is common and having to work for one's own benefit is widely understood.

The **fight against corruption** is not hopeless as Rwanda having been through civil war has reduced corruption to the levels of Lithuania and Macau¹³.

Insights about the Street Environment

Income inequality

The income inequality in Kenya is big (2008 Gini coefficient 42.5, which is similar to Russia), both within bigger cities and between urban and rural areas. Income inequality is visible in the street environment in many ways: what one does in the streets, the clothing one wears, as well as the differences in housing.



Komarock - suburb in Nairobi. Houses are being built brick by brick depending on the available finances

The urban houses are usually built from stone or clay bricks or concrete, the rural areas have 1-2 floor brick or concrete houses, 1-floor mud houses or thatched huts. The "brick-by-brick" or "floor-by-floor" construction is common in the urban areas, indicating the **lack of housing credit** offered by banks or lack of access to it by many people¹⁴. The construction sector is flourishing, there are many new apartment and office blocks built in the city and new roads and highway junctions being built within and outside the cities.

Housing is not the only way of "saving money" by unorthodox ways. The people with no access to the banking services sometimes also store money in non-perishable food grains or livestock and then sold if case of an urgent need for cash. In the past years, the extensive networks of **mobile payment services** have made it easier to send cash from relatives in other regions of the country or abroad.

The sidewalks are dominated by **small businesses** offering anything from metalwork to furniture (the street often works as a display salon), many of those businesses accept payments in the form of mobile money (m-Pesa, Airtel Money, Orange Money, etc.). It is common to see people making extra or living by selling small products

¹³Transparency International corruption perception index (2011). <http://cpi.transparency.org/cpi2011/results/>

¹⁴Banerjee, A.B., Duflo, E. (2011). „Poor Economics: A Radical Rethinking of the Way to Fight Global Poverty.“ PublicAffairs: New York, p. 183

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(soft drinks, sunglasses, plastic toys, detergents) to the passing people and cars or even in public transport. Those products are bought from street businesses and many sellers have invested considerable working capital in it. Therefore the end consumer might not buy many products from the closest street store but from **middlemen** who have purchased it for resale.

It is common to see people making extra or living by selling small products

Outdoor marketing

The marketing channels for a Bottom of the Pyramid consumer in remote areas that cannot access TV or internet cannot rely on channels that are used by foreign companies in their home markets. One of the most visible advertising is **painted houses**, restaurants and small stores in the colours and the logo of the product in exchange for free paints and extra fee.



Roadside houses are often painted in the colours and brands of consumer goods

The strategy will make the logo visible for extended periods but it could be rather costly to have wide reach. Therefore it is used by companies with substantial marketing budgets – mobile networks and producers, beverages (Coca-Cola, breweries), Procter & Gamble, construction materials. Even election advertisements

use wall spaces, though not by artistic hand but rough graffiti texts. For start-up companies this method is not feasible and needs more targeted activities. The wall marketing is also used for **informational purposes**, many stores and institutions – including in healthcare and herbal medicines – have displayed a painted list of products and services they offer.

The advertising takes place also in the public transport – buses and minivans (*matatus*). The interiors of the *matatus* are often covered with stickers advertising local services while the otherwise standard exteriors are sometimes decorated by foreign companies taken from the shirt sponsors of the biggest **football clubs** (that are praised by the owner or the driver). Football is a great tool of marketing for companies as well as countries (we were asked once what football club is the nearest to Estonia) – the Emirates (sponsor of Arsenal) or AON (sponsor of Manchester United) get a lot of secondary advertising in Kenya and other African countries. The sponsoring through international football is well understood by South African mobile operator MTN (present in 16 African countries) that has signed exclusive sponsoring deals for African broadcasts of top European leagues¹⁵. The European top league teams are far-fetched for Estonian companies and start-ups, but sponsoring local teams is a less expensive activity. For example, a Danish venture capitalist supports a team in Nairobi and issues local football news in the internet.

Insights about Medicines Supply

The pharmaceutical products reach end consumer usually by a sale to the end consumer at the **local chemist or by a hospital recommendation** after a diagnosis. In the first case, the customer has to pay the full price of the product (with prices varying greatly between the chemists), in the latter case the drugs are often given for free, especially in the case of national priority diseases (HIV/AIDS, tuberculosis, malaria).

¹⁵ <http://www.football-marketing.com/2010/08/20/mtn-scores-again-for-football-fans-in-africa/>

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Human pharmacy and Agrovet combined in one store in Kapsabet, Rift Valley Province

In rural areas, the pharmaceuticals are sometimes sold together with animal products under Agrovet signs, although our interview with one such entrepreneur revealed that there are laws regulating it on floor space and the cleanliness, so it is not as common as the signs suggest. The chemists in towns and cities are often equipped with laboratory equipment to perform diagnostic tests for various diseases.

The private chemists get their supplies through **distributor networks** (there are many and they drive down the prices as well as the quality), the government system health institutions get their supplies through government tenders. The government tenders guarantee the suppliers big orders but corruption can be a problem as well as the delayed payments for the stock. Many interviews with people confirmed the availability to be a problem in government clinics, in which case they need to turn to chemists to get the prescribed drugs. Despite the widespread talk about tight checks on drugs' expiry dates, we noted expired drugs in one institution we visited. There are also problems with more specialized equipment but there the supply problem is combined with limited available funds.

The **information booklets** within the medicine packages are often given in English language only, so the patients lacking the command of English have to rely

only on the information given by the clinic staff or the chemist. The dispensaries in small towns and rural areas have general information posters (how to eat healthy, keep cleanliness) in Swahili and regional languages that do not appear even in the street environment. The literacy level in Kenya is high, so if a patient has a question, it is likely that s/he could get scientifically proven health advice by a fellow community member.



Illustrated health information in local Kamba language in Kitui dispensary

Insights on Perceptions of Health

The interviews confirmed that despite the health services are expensive, health is perceived as a very **important priority** in a Kenyan family. If there is something wrong with the health of any of the family members – an action is taken, but there are different opportunities (in the order of the seriousness of specific situations):

First steps in treating illnesses

The people of Kenya are very well aware of the main types of illnesses (flu, cold, malaria etc.), their symptoms and the reasons for illnesses. These illnesses are handled at home and being cured using what people have (incl. herbal medicines). In a typical Kenyan family, the mother makes decisions on health and father makes decisions on money and family budget. In case

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of an expensive treatment when money and health issues coincide, the health decisions are up to the father. In case of a lack of money, the herbal medicines could also be turned to but this knowledge is disappearing – the younger generation can ask their grandparents but do not know what to use when they are alone.

If people need some external help or medicines, the common first step is to visit the pharmacist. Pharmacists are important because people trust them but they do not ask money for counselling services– people can go to see the pharmacist just to ask for advice. For BoP consumers it is helpful that the drug can be bought in very **small amounts** – if people have money for only one pill; they only buy one pill even if it is not enough to cure the illness.

Alternative medicine doctors

Although people do not admit to visiting alternative medicine doctors publicly, it is clear that it is widely used in Kenya. There are many street advertisements for alternative doctors, they appear in television series and the alternative or “witch” doctors is a big business and these “doctors” are known for being able to afford relatively expensive lifestyles.

There are very different types of alternative medicine doctors: herbal doctors (people curing with herbals and nature products), spiritual doctors (often like psychologists where you can discuss all kinds of problems from career, health to love) and quacks, who have often failed to become doctors (not graduated their studies, etc.) but still might use very modern methods to cure people.

In many of cases those three types of alternative doctors are mixed in one and cannot be categorized as clearly – they also have different names in different regions. People prefer the alternative doctors as it is often cheaper than the official healthcare. The local alternative doctors

are also very personal – they know their clients and their families personally, they understand their language and culture. It is clear that alternative doctors have an important role in Kenyan health system but it is almost impossible to measure their true scale and effects.

Doctors and national health institutions

The new Kenyan constitution approved in 2010 states that every Kenyan citizen has the right to access the health care¹⁶. Of course, in reality it takes time to be realized fully and it is still expensive for the average Kenyan to get the help they need. The doctors and national health institutions are chosen in case of bigger and more serious health issues. Those who do not have the money for private hospitals often have to wait for months to get to a doctor in national hospitals and even there the services are not necessarily free.

Budget constraints

It is unusual for lower income Kenyans to save money for future (health) expenditures. In case of unexpected health costs it is common turn to the family and friends to organise a **fundraiser** and to get help. The family and community centred approach also works in saving for bigger purchases – there are savings clubs, where the members make payments and get paid in bulk on rotational bases. This helps people save, where banks are not available and the income is unstable.

The high health expenses and lack of official health check-ups does not encourage forward-looking activities in healthcare – the interviewed people commonly admitted they almost never go to official health checks in the hospital or to a doctor. Some exceptions are when there are free eye-checks and HIV tests in the community or when children have health checks in schools. However, there is no regularity in these participations as they are organised by NGOs or within big campaigns.

¹⁶The Constitution of Kenya, 2010.

<http://www.constitutionkenya.com/chapter-four-part-2-rights-and-fundamental-freedoms/>

Guidelines for Research and Development

The observations and the synthesis of insights were necessary to make the experience relevant to every phase in the product development – from research and development to marketing. The analysis work of the insights is helpful to be built on existing product development frameworks. The observations and insights should also have helped the company engaged in research to have more clear overview of which population segment they want to pursue (e.g., urban vs rural, age group, income group, other special features like literate vs illiterate).

Two **common broad viewpoints** of Companies approaching BoP customers of emerging economies are:

- the people (consumers) all over the world have similar needs for products and services and universal designs are cost-effective and the way to go
- or
- the BoP customers need special designs for products and services to address the challenges of their everyday life, the specifics of the environment or lack of access to utilities.

While the first is certainly true in many cases, and the latter is increasingly popular among social entrepreneurs and innovators, there are almost no design innovations that have only focused on BoP and become a widespread success all over the world. The main reason in the failures to succeed is that the design is not the only important component the companies need to think about in the BoP R&D activities for the product. To systemize the components that create the difference for the BoP customers, Niti Bhan has proposed the **5 D's model**¹⁷, where the success depends on the integrated product development strategy addressing the following five components: **development, design, distribution, demand, and dignity**. The brief descriptions with some

examples and the concurring thoughts that should be followed already in the early research and development phase are:

- **Development** of the industry is key driver for value proposition. The social and economic development of the community allows raising the incomes of the families and increasing the market size. Some of the community development activities show results in short-term (e.g., increased employment in the community) while others need attention for longer term (e.g., thematic education, health improvements). In many countries the more remote areas are often neglected by the government institutions and are addressed by NGO's. The community development activities are often accompanied with the logos and slogans of the supporters but the visibility of the brand is not the main goal in the long run as the demand will grow with the development of the society.

In the R&D activities it is therefore worthwhile to think about the associated **trainings** that could be carried out with distributing the product (e.g., self-diagnostics devices could make use of general health classes and consultations or free health checks) and the local partners organisations that are already involved in the community development and whose activities to join.

The social and economic development of the community allows raising the incomes of the families and increasing the market size

¹⁷ Bhan, N. (2009). „The 5D's of BoP Marketing: Touchpoints for a holistic, human-centered strategy.“
http://www.core77.com/blog/featured_items/the_5ds_of_bop_marketing_touchpoints_for_a_holistic_humancentered_strategy_12233.asp

Guidelines for Research and Development

- **Design** does not only mean the physical design but it includes the product's or service's capability to match consumers' needs (including the price). The design of a product that is meant for BoP consumers in the emerging economies should take account of the income instability ("pay when you can" taking account the seasonality and temporary jobs by reminders, community support and allowing for delayed lump payments), the education level (possibly requiring simpler products), and the environment (dust or waterproof depending on the areas).

The R&D activities should regularly be compared with the available **research on the needs** of the target market. If the product is being developed or just entering the market, it is useful to demonstrate the intended designs to find shortcomings and suggestions (as it is very difficult to adequately describe a product the consumer has no prior experience with). Design ethnography methods are not sufficient to give reliable estimates of the preferred retail price of the product and that has to be determined by a quantitative market research (using trial and error could lead to confusion around the perfection of the fair price or post-promotion dips in sales).

- **Distribution** is crucial for your product to get to where people really shop. Street kiosks are thriving in Kenyan emerging economy selling all the necessary every-day goods. Supermarkets and chain stores exist in bigger cities but are not common in smaller towns and rural areas. Informal sales agents have important role in bringing consumer products to many people by buying an item and distributing it where it is not present but demanded by a person. For a company it would therefore be beneficial to keep the price lower than the maximum amount the end consumer is willing to pay in various sales points –

a passenger in a long-distance bus about to depart would pay more for a soft drink when the agent sells it to her through the bus window.

The R&D activities of a BoP-oriented product could therefore already take into account the most likely distribution channels. If the sales strategy foresees using agent networks, it is useful to plan the product with features of convenience for the sales agent (e.g., ability to earn profit, convenient carry-boxes for multiple products).

- **Demand** for many products is often generated by the advertising messages linked to people's everyday life. For BoP markets, the **messages should be simple** (especially in the areas of low literacy), and underline the benefit of using the products (e.g., "saves money", "lasts long"). If the product itself has become interesting for the consumer, it not might still be enough when the consumer experiences budget constraints. In these cases, the demand can be increased by offering flexible payment terms or smaller packages. The budgeting cycles are considered in retail business even in the Western world – Walmart stocks up larger packages in the beginning of the month that will be replaced with smaller packages towards the end of the month¹⁸.

The commercial messages are important to get the consumers' attention but it is even more important to **deliver the advertised promises**. Therefore it is important to realise in the beginning of the R&D activities, which is the value proposal that is the most important to the end-consumer and what promise to build up in the later campaigns. In the later stages of R&D process, the bundle packaging and the payment scheme questions will become more important to decide how much flexibility is needed for the current product.

¹⁸The New York Times (2010). „Stores Scramble to Accommodate Budget Shoppers.“ <http://www.nytimes.com/2010/09/22/business/22dollar.html?src=me&ref=business>

Guidelines for Research and Development

- **Dignity** means that the product for the BoP segment should not just be scaled down in features to obtain an affordable price but to develop the product or service with the clear understanding of having the user in the centre of respect. Special features might be needed for the illiterate or other discriminated groups.

The products and services are not bought and used to create profit for the producer but to improve the quality of life in one's family and create benefits for the future. The poorest consumers also desire self-esteem and social recognition and buy items that not only fulfil their needs but look nice and make them feel better. An example of that could be found in stores or pharmacies where the products are stacked in piles in nice colourful packages to catch an eye of the consumer better.

The concerns for dignity are addressed in the R&D process by having a holistic human-centred planning of the product. The ease of use, good feeling and come about when other aspects are thought out from the user perspective but consumers from minority groups might need to receive extra attention.

The poorest consumers also desire self-esteem and social recognition and buy items that not only fulfil their needs but look nice and make them feel better

As such, the observations from fieldwork directly contribute to the development of the product in its **nascent stages**. The usability and the applications of the products should be prepared for the end user already in the early research and development activities because later mismatches cannot be changed easily. A systematic 5D approach on customer needs helps to see various perspectives in what would make a product successful and find combinations of it. Some examples integrating **multiple D's** in real life examples in Kenya include Nokia advertisement message "Loud music" (appealing to Dignity with its promised feature and using simple slogans) and small value prepaid mobile call time (Design of paying when it is convenient to you in small "packages").



Nokia street ad with simple promises

“The cooking pot from which many people await for their food, does not lack someone to take it from the fire” Kikuyu proverb

The Logistics of Market Entry Activities

When the product is developed in line with the needs of its prospective user, the next big question is how to **deliver** it to the user and facilitate the logistic and legal procedures that will be required. The following recommendations base on the observations and secondary research as well as from interviews with industry players.

The logistics of how to reach a BoP consumer depend greatly on the product or service to be sold and their point-of-sales. Small enterprises and kiosks dominate the streets in the smaller towns and larger cities, this is where the consumers find the products closest to their living and everyday routes. Retail chains or franchising under a common umbrella brand is very uncommon and exists only in cities. Therefore one can assume, the market for consumer goods distribution is very scattered and many companies operate in wholesale trade and transportation. These **logistic networks** provide living for very large number of middle-men and the last step to the end consumer is often provided by extra sales agents who buy their goods from the last publicly visible sales stand (a kiosk or a supermarket).

The **lack of employment opportunities**, which give a widespread aspiration to get involved agent and middleman activities have been understood by many multinational companies and social entrepreneurs. Coca-Cola has been admired for its ability to reach and be visible in the most remote corners of Africa through giving an opportunity of earning extra income to local women. A social enterprise ColaLife realised that and came out with an idea to piggyback the Coca-Cola distribution by adding medicines and oral rehydration salts to the beverage crates.

The competition for distribution of pharmaceutical products and medical supplies are also very fierce and the cost pressure is compromising the quality of the

service. The private pharmacies and clinics have usually signed their delivery contracts with one or many suppliers active in the area, the governmental institutions receive their goods and equipment through state tenders. The larger distributors find an edge over the smaller ones by signing exclusivity contracts and then employ personalised sub-distributor advertising in clinics / hospitals for the producer brand (the distributor name is just mentioned in small print on the packaging). In healthcare supplies those contacts are usually made in large international trade fairs (e.g., MEDICA in Düsseldorf, ARAB-LAB in Dubai). Tender procedures have been simplified over the last years, but there are still complaints about the conditions and unequal payment terms with the companies that have close contacts within the ministries (e.g., the favoured company can receive money fast but other companies have to wait up to 3 years).

An effective and inexpensive way to reach out for new companies on the market could be using **NGO's networks**. The NGO's and aid organisations do not promote profit causes but to meet their own goals, they have often spread well to many regions as well as the rural areas. If the need the product addresses is similar to the NGO's focus activities, the NGO's could agree to many forms of cooperation, including shared promotion, free sample distribution, and trainings. Cooperation with NGO's was also recommended by Kenyan technology start-up companies, which have developed an innovative service or solution but have to grow under severe budget constraints.

In healthcare industry it might be beneficial to partner with chemists as the first reliable advisors to the many people on health issues, and even those quacks or witchdoctors, who use scientifically proven methods. However, since there are only a few chain pharmacies and those do not operate many outlets, reaching out to

The Logistics of Market Entry Activities

the chemists independently is a very difficult task. The street sales agents could also be used for the sales of pharmaceutical products or self-diagnostic devices but only if the sales of product will not be regulated by the government agencies (KEMRI or KEMSA) and the retail price allows the agents to make a small profit.

Hub of the East African Community

Kenya was not chosen as the destination for this research for any particular reason and whereas there are differences between countries, there are also many similarities. The foreign companies interested in BoP would understandably not be interested in entering only one country markets (unless there is a very good reason for it) but are interesting in testing the strategy and implementing it in other emerging economies. This is a valid idea, but some caveats must be discussed.

Many companies like to look at the aggregate **international indices and rankings** to determine their next market entry¹⁹. This makes logical sense but there are many considerations why it can sometimes fail. For example, Niti Bhan has suggested that a popular choice of South Africa as a market entry to Africa is not the best²⁰. It is difficult to know the best choice at the distance and whereas education, wage levels, and bureaucratic procedures certainly make a difference, it is important to also look for existing hub of common historic areas.

Kenya is the most developed nation and the biggest economy in East African Community (Kenya, Uganda, Tanzania, Rwanda, Burundi) common trade area. The 132 million people living in the area also share a common trade language – Swahili.

The region's two most **important ports** are Mombasa in Kenya and Dar-es-Salaam in Tanzania. However, since the road and rail network in Tanzania are inadequate, Mombasa-Nairobi-Kampala route also serves majority of Uganda, Rwanda, Burundi, South Sudan and North-Eastern Democratic Republic of Congo freight.

In 2005, Mombasa port served 68% of the 19.6 million metric tons of cargo that passed through the region's ports²¹. In recent years the port has had some setbacks as the port has been associated with inefficiencies and the increase in shipping times has had its impact especially for the importers of raw materials or final goods.

For a step-by-step guide on how to establish a company in Kenya and how much does it cost, see the following link: <http://goo.gl/ysFcr>



Swahili speaking areas (green) and main transportation routes (blue), including Mombasa-Nairobi-Kampala

¹⁹ Khanna, T., Palepu, K.G., Sinha, J. (2005) „Strategies that fit emerging markets., Harvard Business Review. <http://turbo.kean.edu/~jmcgill/global.pdf>

²⁰ Bhan, N. (2012). „Why South Africa should not be the entry point to reach Africa's emerging consumer markets.“ <http://www.nitibhan.com/2012/05/why-south-africa-should-not-be-entry.html>

²¹ Improving transit transport in East Africa: Challenges and opportunities, United Nations Conference on Trade and Development, 2007. www.unctad.org/en/docs/ldc20072_en.pdf

The Logistics of Market Entry Activities

Swahili Singapore

The position of the regional hub of a high-growth region is supported by the young entrepreneurial population (73% of the population are younger than 30 years), and the focus on English language over Swahili and regional languages.

With its proximity to a major oil transit route through Gulf of Aden, there are similarities with Singapore (being the international transit and translation hub for Chinese and Malay population), especially if the situation in Somalia would improve. The increasing costs of production in China and South-Eastern Asia have already driven some textile companies to move their factories to Africa, where the labour is still cheaper and in abundance.

The current government is continuing with big infrastructure projects, including Lamu-South Sudan-Ethiopia (LAPSSET) pipeline, highway and railroad project to Ethiopia and South Sudan that should increase the regional importance of Kenya further. The very recent oil discovery in the northern region of Turkana (announced in March 26th 2012) could make Kenya less dependant on foreign energy as well as improving the country's revenues.

Marketing Communication

After addressing the market entry and the delivery network problems, **marketing and brand recognition** creation become the key activities. Today's Kenyans see and hear many advertisement messages (esp. in urban areas), so placing it in a visible and audible value-effective channels will be crucial to be noticed.

Traditional marketing channels

There were 8 TV stations and 112 radio stations (24 AM, 82 FM and 6 shortwave) in Kenya in 2008²². In 2007, the **media reach** of radio channels was 91%, TV stations 56%, newspapers 43%, magazines 24% and cinema screens 2%²³. The radio is also preferred by local advertisers due to its low production and flighting costs, immediacy and regional flexibility. Television viewers' number is growing owing to increased number of local production and wider penetration. The digital media is still little used but the rapid increase in mobile phone usage suggests the situation could change soon.

Billboards are also widely used as a cheap marketing method visible to consumers from all income levels. Billboards are still considered to create wow-effect among consumers and for a rough price of a newspaper advertisement for one day (€4000 in 2010), the billboard could be displayed for one month²⁴. Street advertising also appears in another notable way – in wholly painted buildings (see also: Insights about the Street Environment). The initial bigger investment in paint and brand supervision (that the logos and images would not look distorted) is there paid off by a much longer visibility of the advertising.

The popularity of radio has caused local performers to be employed by advertisers. One interviewee called it

a pity as the produced music has been influenced by sponsor messages as well as live concerts serve interests of companies. As an example, Samsung has been touring around regional cities with a party van stopping at streets to give whole day concerts of local stars.

Local commercial messages and context are used with success mostly by mobile operators and banks. Mobile operator Safaricom has been especially successful by bringing general Swahili language words (e.g., m-Pesa means "m-Money") in their product names. However, according to one social entrepreneur, the local context is appealing mostly for the young and successful urban population. For the poorer and older consumers, acknowledging the product being made in Kenya can be a drawback. For this part of the population even Indian and Chinese production were said to carry the quality mark compared to the Kenyan origin products.

In the selection of marketing strategy, it is important to turn back to the observations and the **selected target groups** to approach. Various population groups are within the country access different channels and user awareness becomes important. A healthcare products provider who targets the urban slum dwellers as the purchase decision makers might consider street ads and painting of buildings with simple slogans and foreign look. Another healthcare products provider who approaches their customers through medical staff might only go for radio and TV airtime to explain about the importance of their medical procedures (as the message would spread around wider range of people, who can afford a TV and the treatment, and at the same time develops the community).

²²Economy Watch. http://www.economywatch.com/economic-statistics/Kenya/Television_Radio_Statistics/

²³Pan African Media Research Organisation Country Reports (2009). http://www.pamro.org/2009_Presentations/Liz%20Pillay%20-%20Final%20Presentation.ppt#1

²⁴Kenyanentrepreneur.com. <http://www.kenyanentrepreneur.com/ogilvy-east-afric>

Marketing Communication

A healthcare products provider who targets the urban slum dwellers as the purchase decision makers might consider street ads and painting of buildings with simple slogans and foreign look

Fast growth in the spread of technology

The technology innovation in Kenya has clustered mainly around mobile services. Most people can access websites through **mobile phone** and mobile money transfer services also started in Kenya.



Paying for various services by simple mobile applications is common

Mobile usage in Kenya started increasing rapidly during 2005-2007, when it increased from 7.8% penetration to 33.7% in just three years²⁵. By September 2011, it had increased to 67.2%²⁶. There is no official data about the share of smartphones but it is estimated to be about 10%. The increase in the spread of mobile phones has been supported by cheaper tariffs and mobile phones but also by popular services, such as money transfer service m-Pesa²⁷ (which started in 2008). In September 2011, there were 18.4 million mobile money transfer subscriptions (45% of Kenyan population) and total deposits of 56.7 billion KES (€567 million). The total number of internet users in September 2011 was estimated at 14.3 million and 99.1% of the total internet subscriptions were mobile data / internet subscriptions.

The **benefits of mobile services** also spill over to other unlikely fields. For instance, the spread of m-Pesa and other money transfer services boost the national ID card applications, as it is required at the registration. The government has talked about a one-card-for-all ID card with a chip, which in a developing nation with many remote areas would help the government keep in track of the population, collect data more easily and to offer better and more electronic services, but that has so far been delayed²⁸.

The extent of use of the mobile services gives much hope for the ID-card project if it was to be implemented. The pro-technology vision of the government and mindset of the people has also been the main reason for the mobile sector multinationals to establish research centres in Nairobi. They see Kenya as the **test platform for new services and technologies** that would later be replicated elsewhere in Africa. There are local and foreign entrepreneurs in Kenya, some of whom we met, that already take advantage of that position.

²⁵ Communication Statistics Report 2008. Communications Commission of Kenya. <http://www.cck.go.ke/resc/statcs.html>

²⁶ Quarterly Sector Statistics Report July-Sept 2011. Communications Commission of Kenya. <http://www.cck.go.ke/resc/statcs.html>

²⁷ <http://www.safaricom.co.ke/index.php?id=250>

²⁸ <http://www.iq4news.com/osombah-sw/kenya-delay-issuance-national-identity-cards>

Marketing Communication

Kenya as Mobile Success Story

With high mobile penetration and literacy rate, popular mobile applications are very efficient way to reach the Bottom of the Pyramid consumers with services from various fields. For example, MedAfrica allows the users to find info about the nearest relevant clinics based on signs and symptoms, M-Farm on the other hand helps farmers collect information about market prices of products and buy and sell them. Their data is also quoted daily in the TV.

The mobile developers got a huge boost in 2007. One year before the Let's Do It campaign helped Estonians map the garbage nationwide; Ushahidi application let Kenyans map post-election violence incidents. The group of enthusiasts continued meeting and another workgroups were established:

- Hub (www.ihub.co.ke), which allows 7000 Kenyan youth interested in technology exchange their ideas and work and which gives workspace for 50 start-ups and 250 people;
- m-Lab (www.mlab.co.ke), an incubator for mobile businesses, which is one of five worldwide set up in partnership with mobile giants Nokia and Samsung, both of who also have their research labs in Nairobi.

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The conclusion of the research is presented in three parts. First, the implications of the exploration visits and design ethnography for enterprises are presented. It follows with the discussion of possible solutions for cash-strapped companies and start-ups. Finally, specific recommendations are presented that could be valuable tips to anyone thinking of planning a similar exploration visit or conducting their own research.

The Benefits of the Research for Companies

The BoP consumers worldwide are an **enormous and growing market** that should at least be considered by every internationally ambitious company. It is always difficult to enter new markets or market segments, but BoP consumers' particularities add an extra layer of complication, figuring out the right products and strategies to introduce these products. The good news is that the BoP population would like to consume just as any other market segments when they can, and the BoP markets are not saturated, so the agile and clever can earn substantial market share by addressing BoP needs. The aspects that can **only be learned through a hands-on field research** (and not through the usual business contact visits) include:

- channels that reach the end-consumers (e.g., where do people really shop);
- what are the social bonds in the society and "who holds the wallet?";
- what are the marketing messages that are being used for various population groups;
- who are the most visible and audible competitors, what do they exactly sell and how do they operate;
- how to turn a "penniless consumer" eventually into

a valuable customer (e.g., payment conditions, sales of healthcare devices to pharmacy use instead of to the end-customer).

Design ethnography is a way to learn about the new market before the decisions on market entry and the value proposition strategies. First-hand observations and interviews can deliver insights that could not have been thought about by literature, common sense or business school lectures. The understanding of your industry of interest (e.g., healthcare) and enquiring simple questions (e.g., where do they buy their products today, how do they save) can determine the set of necessary local partners and the payment schemes that increase the number of customers. This knowledge saves money compared to the trial-and-error method.

A great deal of **business innovation** today takes place in previously atypical locations, where the inhabitants are in acute need for new solutions (Kenya is just an example of an emerging markets BoP country and there are similar processes happening around the world). The improvements fitted to the most cost-conscious consumer already take off from the emerging economies, and the producers from the developed west have to deal with such competition even in their home markets. The easiest way to learn is to follow **what successful companies are doing right** (e.g., distribution channels, usage of social bonds and marketing messages,) and discuss how it is relevant to your own enterprise. In order to remain successful in this race, one has to continue being updated, discover the habits of current and prospective customers, constantly study the new opportunities and be present in innovation hotspots.

The search for innovation at BoP markets is something the **companies with global ambitions cannot ignore** in any industry. The primary interest of a company may

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be to expand to new growth markets, to keep track of the competitors and new solutions or finding new product ideas. The dynamic environment, where many new businesses are born attracts open-minded students and youth that could find their opportunities, is an important source for entrepreneurship.

Due to the research costs, accessibility to the hands-on program could become an issue but mapping and teaming of the interested parties (the clients as well as the researchers) could help to solve this. The BoP markets' research is an ideal occasion for entrepreneurs and universities to **cooperate** – students can be the researchers, universities can provide with technologies and entrepreneurs with business understanding, funding and credibility.

A great deal of business innovation today takes place in previously atypical locations, where the inhabitants are in acute need for new solutions

However, the innovation does not happen with just the research, but it needs integrated activities from collecting insights through R&D and logistics to marketing activities. For financially challenged enterprises, there is a need to set up a structure for **rapid and cheap testing of new markets**, consumer segments and product prototypes. The costs can be shared with partners that be domestic or foreign, from private sector, government sector or education institutions. The more information there is collected the easier it is for all parties get a share of benefits in new innovation and growth markets. **Clustering up by sector or interests** gives the most infor-

mation with the lowest cost for any participant. Start-ups and small-and medium-size enterprises (SME) often lack resources to collect the necessary information through networks or full-size market research.

A hands-on design ethnography research (up to 3 months) is an inexpensive way to study a new market and it will give the most reliable and tailored information about any markets that lack publicly available insights. The underlying question for the researchers is: Can we create a handbook and support networks for SME's who don't have the financial resources of Skype but whose core markets are in emerging markets?

One Estonian start-up company has now received valuable input for its strategic processes, without the cost of a full-scale market research. The experience of SelfDiagnostics OÜ indeed shows that the research is relevant to facilitate the opportunity discovery and strategic processes of start-ups, who have limited means. The business opportunities are not constrained to low-cost health diagnostics, they are also relevant in mobile, IT, clean-tech, and other industries.

The particularities of BoP consumers or many other new markets cannot be wholly understood by browsing the internet, learning in the curricula or reading books. These activities are useful but they do not give the entire picture. The current research tested a method of visiting the end consumers in their habitat and received satisfactory results despite the limited time and resources. The current report serves as a **collection of insights** about differences in end-consumer perceptions in another country and gives **practical advice** for any successors. The authors recommend the method for any researcher or company interested in BoP markets and wanting to unleash the innovation potential.

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The Validation Showed Further Uses and Partners for Exploration Visits

Formulated research proposal and **exploration visit report** can be a vital signal for deciding on the strategy and investment decisions on new market entry. In addition to the in-house use, a report can be presented to external investors who do not invest in companies that lack proper market understanding. The strict analysis and clear wording of the findings helps bring about the next concrete steps within the enterprise. The validation of the results would certainly benefit from an input from external parties.

One of the possible partners for entrepreneurs to discover opportunities in the BoP markets can be universities. Estonian universities start to gain interest for multi-disciplinary insights from the bottom of the pyramid markets. For example, one university has shown interest in including some insights of the current research in their Marketing module courses – to exemplify how efforts are needed to understand the consumers. This underlying search for understanding of the end users forms the basis for many different business-related subjects (and not constrained to business – e.g., design, engineering). The exploration visit method has also attracted interest as a possible award travel for outstanding students. Similar awards have been offered to students to visit Silicon Valley²⁹, which is also an innovation hub. In the award setting, the visit would serve for study purposes as well as for inspiration to think more broadly about global markets.

The visit could also be suitable for Masters' and Doctoral thesis studies, although in Estonia, university by itself would be an unlikely funding source. Part of the funding should probably come from interested companies (as was the case with the current project). To bring the parties together, the first step would have to be made by either the students themselves or the companies interested in these markets.

The companies to partner up can also be spin-off enterprises of universities. These start-ups, basing their products on campus-developed technologies and research, have shortcuts in access to student and professor research. Universities often support conducting academic research in practical interest– for example in one study program in Tallinn University of Technology up to 40% of the theses focus on case studies from specific companies. If the consumers of those technologies lie in emerging markets, a design ethnography study would be relevant as one of the first steps to business. As usual for start-ups, they often lack funding for research and exploration trips, and combined efforts of financing, technologies and design, and research activities and knowledge is useful for all of cooperation partners – e.g., well-established companies, spin-offs/start-ups, and university programs.

There are enterprises and start-ups that show interest in BoP research, universities are interested in cooperating with private sector and giving the students experience in practical research activities, and most likely there are also a number of students interested in conducting the research. What seem to be missing are **program funding** and the **body of initiative**. Whereas the first is complicated to be raised without successful examples, the latter can easily be created in a formal or informal forum for interested parties (enterprises, universities and researchers).

²⁹ <http://www.e24.ee/871258/kuidas-silicon-valley-ttu-tudengeid-sokeeris/>

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The preparation and research process benefits greatly on international contacts in similar research fields. The current project team also contacted students from Finland having gone through an analogous study. Estonian companies can team up with Finnish partners (companies or universities), who are among the leading countries in consumer-centred design ethnographic research. Research proposals introduced with “**Nordic dimension**” would also attract greater public interest, and business partners in Nordic countries would allow benefitting from range of governmental international business agencies with extensive office networks (e.g., FinPro³⁰, FinNode³¹, and Danish Trade Council³²). The experience in Kenya suggests that Estonians are welcome to ask for help, especially if the bureaucratic requirements (e.g., the country of origin) are resolved. The Nordic initiatives are government-funded and the proper consultation and assistance needs a clear understanding how the financing country would benefit from the initiative.

Cooperation with Finland and emphasizing our expertise areas (e.g., e-services) will also support bilateral business and research contacts, where both parties have benefits to gain. Some examples of **international co-operation** in learning about BoP consumers include: Aalto University International Design Business Management programme³³ (IDBM) that sent teams of students to India, Brazil and Vietnam on low-cost industry assignments; Global Institute for Tomorrow (GIFT) pan-Asian community development and leadership programme that builds leaders by emphasizing co-creation of solutions and user-driven learning³⁴; and Stanford University BioDesign programme partnering with Indian and Singapore hospitals to learn about innovation in medicine³⁵.

Specific Suggestions for Implementing the Design Ethnography Method

The **design ethnography method** (making observations and conducting interviews, storing them in various formats, and analysis of data of all configurations) was well suited for the current research. It was easy to set up interviews with the help of the locals and foreigners in Kenya, and collection and recollection of visual data was not interrupted. Audio recordings were used only once because it turned out that the equipment brought from Estonia (analogue tape recorder) was not good enough to distinguish the speech from background noise. The notes were recorded on paper without difficulties – one researcher asking question and other researcher writing. In order to have wide viewpoint on the market opportunity, it is useful to combine as heterogeneous team as possible. The current team consisted of **backgrounds** in social sciences, business and healthcare but lacked design and engineering skills for proposing product designs.

Design ethnography aims to answer **qualitative questions** (e.g., about the needs of the consumer, their habits, points of sale). Quantitative research questions (e.g., pricing, market size) require qualitative questionnaires and data analysis. The method or (mix of methods) selected for the market entry study depends on budget and ultimately on the goal of research for the company. The best mix of data is collected by using **multiple methods of research** – background interviews, field research, questionnaires and focus groups.

³⁰ <http://www.finpro.fi/web/english-pages>

³¹ http://www.finnnode.fi/in_english/

³² <http://um.dk/en/tradecouncil/>

³³ <http://idbm.aalto.fi/>

³⁴ <http://www.global-inst.com/executive-education/young-leaders-programme/overview.html>

³⁵ <http://blogs.hbr.org/govindarajan/2011/09/how-to-build-a-reverse-innovat.html>

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The time frame of the current research (2.5 weeks) turned out to be enough to collect some evidence about the market but not enough to compose reliable consumer profile and set them in the right context to propose the market entry strategy. The usual length of a design ethnographic study is **up to 3 months**, assuring that there are enough subjects from various backgrounds (urban/rural, age, gender) to set up consumer profiles for creating valid comparative conclusions.

Scheduling is an issue – unpredictable traffic, tardiness and lack of punctuality are not conducive to efficient arrangements (on the other hand some aspects like traffic provide business opportunities like for instance real-time traffic information). It is unrealistic to assume that more than one or two meeting a day would be possible, consequently data collection is time consuming. In addition, some more sensitive areas of study (e.g., health issues, children, body measurements) require prior permits to conduct a study. Kenyan Medical Research Institute (KEMRI), issues permits for any healthcare related research. Hearings are six times a year and proposals must be submitted two weeks in advance (the processing fee is \$800 per procedure). Therefore, the required bureaucratic process for any health sector research would take about 2-3 months to get approved.

Conducting the research in a foreign country adds difficulties to work organisation and data collection but good planning and preparation should reduce many of the concerns. **Foreign researchers** should be aware of different expectations towards foreign researchers could result in different prices being told for locals and foreigners or other exaggerations of data. The appearance of a white researcher as a typical aid worker in the region can cause people to answer differently than they

might for a black or a local researcher asking the same question. Some respondents maybe be seeking recognition, sympathy or are looking for material support, not understanding the purpose of the study and importance of accuracy of answers. These intentional manipulations of answers can be reduced to minimum by organising focus groups of end consumers or other stakeholders, where the group processes would hold back the situations of social desirability or assuming the information when one is not sure.

Fieldwork is the most expensive part of the study for a foreign researcher, as it usually requires transportation, accommodation, and a hired guide and/or translator. The cost of a visiting researcher in a Kenya is €40-80 per day, excluding the flights and local transport, depending on the preparatory work on location and local networks (cf. €5000-10,000 for two weeks of field research in urban slums of Metro Manila, Philippines³⁶). The prices of quantitative surveys vary depending on their extent but according to a market research company, a nationwide survey on simple questions could be done for €7000. More elaborate surveys would cost €10,000-30,000, which is not expensive for knowledge of where to make an initial investment in any market entry.

If the study trip is short and the main goal of the visit is to collect a considerable amount of quantitative data (as opposed to gain qualitative first-hand experience interviewing the BoP consumers), it might be worthwhile to split up the responsibilities and **cooperate with local researchers**. After a 2-3 day training session on the questionnaire and the methods, the groups of local researchers can be sent to their home town covering the transportation and a small allowance.

³⁶Bhan, N. (2009). „Understanding BoP household financial management through exploratory design research in rural Philippines and India.“

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Such a group of 5 people could run a day of study for €20-50 (with no lodging and translators needed) and by already knowing the community, the amount of information collected would be much greater. In this setting it would be worthwhile to use back-checking on the interviewed people and to train 10-20% more researchers for possible drop-outs. If there is sufficient knowledge about the destination (reading the available material as well as talking to people with travel or research experience in that country) and time for the preparatory work of creating local contacts, one month could be the minimum amount of time to conduct a consumer research in a foreign country.

To ensure the best result, different research methods should be combined and the **rough schedule** could be the following (see the comparison between the schedule proposal and the preparation schedule for the current project in the appendices):

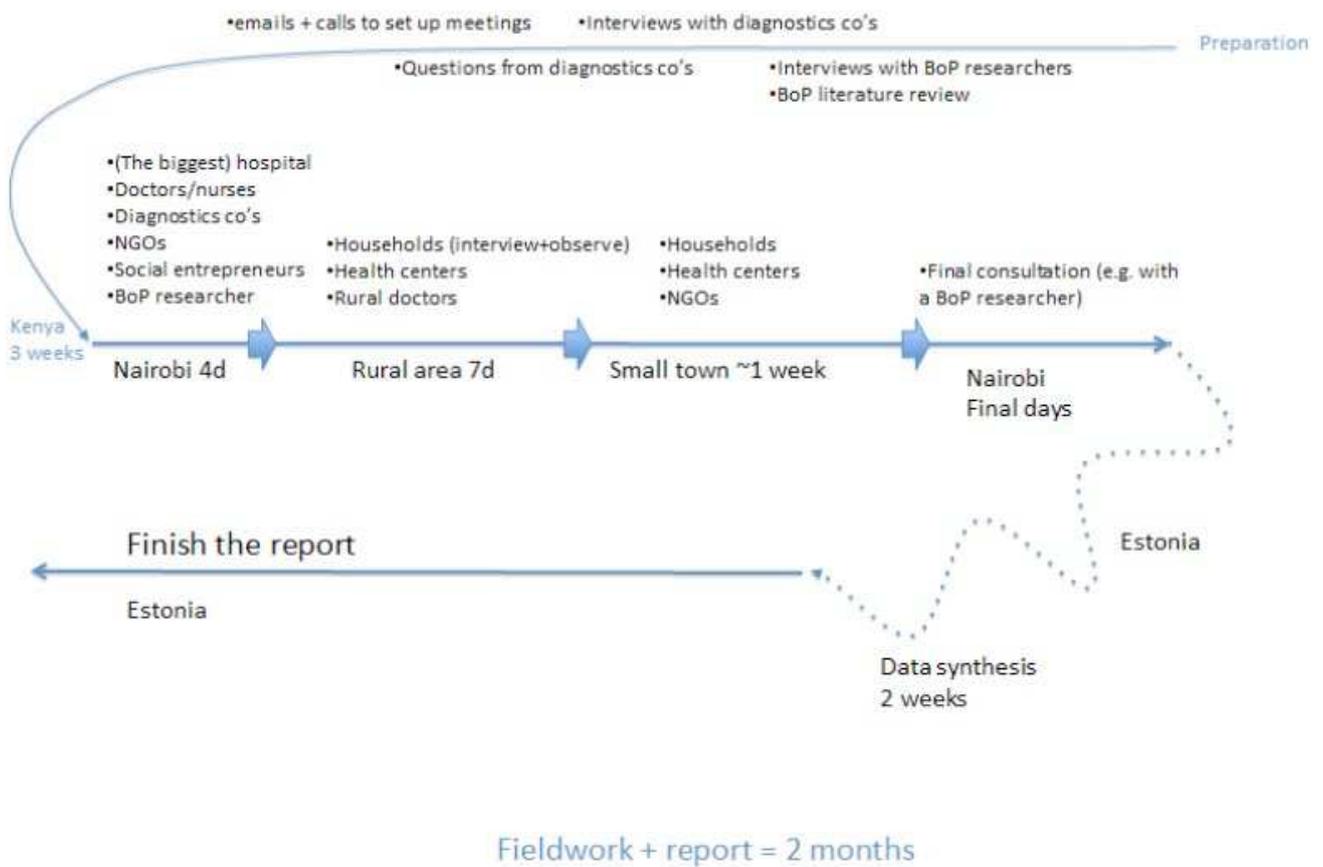
1. 1st week – in the capital or the main city collecting background interviews with stakeholders, foreigners and set up support contacts (e.g., consulates); meeting and selecting the local researchers; finalising the questionnaire on the basis of background information, and test-runs;
2. 2nd week – training the local researchers (how to collect and store data in multiple formats in design ethnography); start of the fieldwork with local groups collecting the quantitative data and the foreign researchers collecting the qualitative observations around the country;
3. 3rd week – fieldwork continues; the preliminary analysis of the results and back-checks;
4. 4th week – more analysis and writing and extra interviews with the contacts established in the 2nd and 3rd week or in case of conflicting data.

The analysis process should include all the researchers and field workers as all observations from different viewpoints are valuable and give additional insight into the consumer behaviour. The companies that have been clients for consumer-centred studies in other countries have underlined **practical advice** and **new knowledge** as the main benefit. SelfDiagnostics OÜ valued the most the information on what is the order in which the consumers seek help in healthcare system, what specifications does the product need and emphasized the knowledge on entry barriers as one very important advantage.

Online sources do not provide **actionable insights**. The close and personal approach at the end customers and other agents allows compiling expanded understanding on multiple layers from product development to marketing needs. Then a business can feel much more secure about establishing a business that addresses the high-growth emerging markets.

Appendix: Timelines of Project Preparation and Suggested Schedule for New Research

The preliminary schedule prior to the current exploration visit. The main change to the proposal at the location was the shorter fieldwork time mostly due to the budget limitations.



Appendix: Timelines of Project Preparation and Suggested Schedule for New Research

The suggested schedule of a cost-effective design ethnography research, corresponding to the mixed quantitative / qualitative research organised with the help of local researchers.



Appendix: Overview of the Health Sector in Kenya

Kenya Macroeconomic Overview

General information

Kenya is the 11th biggest economy in Africa and the biggest in East Africa region. The country lies on Indian Ocean and is bordered by Tanzania, Uganda, South Sudan, Ethiopia and Somalia. The country's population of 43 million consists of many ethnic groups: Kikuyu 22%, Luhya 14%, Luo 13%, Kalenjin 12%, Kamba 11%, other African 27%, non-African (Asian, European, and Arab) 1%. 22% of the citizens live in urban areas.

English and Swahili are the official languages of the country, but a number of indigenous languages are used by different ethnic groups. 45% of the Kenyans are Protestants, 33% Roman Catholic, 10% Muslim and 10% of indigenous beliefs 10%. Literacy rate among men is 91% and somewhat lower among women – 80%. Kenya is one of the most literate African countries; the average literacy rate among total African population is only 63%.³⁷

Kenya's estimated nominal GDP (PPP) in 2011 was \$35.8 billion (\$875 per capita), placing it close to the middle-income countries by World Bank (the threshold for lower middle income is \$1006³⁸). The GDP growth rate is 5.5% (2010) and the inflation 2.1% (2010). Agriculture is a major employer employing 75% of the labour force despite contributing only 23% to GDP. Service industry, which contributes 62 percent of GDP, is growing mostly due to the telecommunications sector. 16% of the GDP is produced by manufacturing and industry.³⁹

Investment climate

After the post-election violence in 2008 in Kenya, the elections for the new constitution for more decentraliza-

tion in 2010 went peacefully and transparently, but the upcoming elections in March 2013 will be important litmus for political stability in the country.

Global Competitiveness Report 2011-2012 by World Economic Forum placed Kenya 102th position⁴⁰ (on par with Serbia, Bosnia-Herzegovina and Ecuador and ahead of Ghana and Pakistan). Kenya's strengths lie in innovative capacity (52nd), international standards in financial markets (26th) and efficient labour markets (37th). The main concerns were health, corruption, government inefficiency and security.

World Bank Doing Business report 2010 ranked Kenya 98th out of 183 economies in the "Ease of doing business". Poor infrastructure, political risk, staffing, and access to credit and financing were among the major constraints faced by small and medium-size enterprises (SME's). Many of these problems are hoped to be mitigated in Kenya's ongoing administrative devolution process, where significant resources and responsibilities will be shifted to regional governments that are closer to the SME's.⁴¹



Newly constructed office buildings in Nairobi Central Business District

³⁷ UNESCO Institute for Statistics Data Centre: <http://stats.uis.unesco.org>

³⁸ World Bank. <http://data.worldbank.org/about/country-classifications>

³⁹ Wikipedia. <http://en.wikipedia.org/wiki/Kenya>

⁴⁰ World Economic Forum. Global Competitiveness Report 2010-2011. http://www3.weforum.org/docs/WEF_GCR_CompetitivenessIndexRanking_2011-12.pdf

⁴¹ World Bank. Kenya Economic Update. December 2011, Edition no.5 "Navigating the storm, Delivering the promise". http://siteresources.worldbank.org/KENYAEXTN/Resources/KEU-Dec_2011_Full_Report.pdf

Appendix:

Overview of the Health Sector in Kenya

International trade relations

The main export products of Kenya are tea (23.6% of the total exports in the first 6 months of 2010), horticulture (14.5%), and manufactured goods (12%). 46% of the products were destined to other African countries. The main export destinations are Uganda (12.4%), United Kingdom (10.7%), Tanzania (8.4%), the Netherlands (6.9%), Egypt (4.5%), United States (4.5%), Pakistan (4.5%), and United Arab Emirates (4.4%), and Sudan (4.3%).

The current account deficit stands above 10% of the GDP caused by weak exports and high dependence on oil imports. Although Kenya's labour costs are lower than in Asia, high price of energy keeps Kenya relatively expensive for international investors in manufacturing⁴².

Foreign investors

Historically, the main sources of foreign direct investment (FDI) have been European countries: the United Kingdom, Germany, Italy, Netherlands and France; and India. However, in 2010 new countries have topped the list: Australia (€160 million) and Israel (€40 million).

India and China are getting more active, as do the United Arab Emirates. Indian companies have been investing in petrochemicals and chemicals, telecommunications and floriculture sectors. China considers Kenya as a gateway to Africa and is the first origin of imports before UAE and India. Chinese companies mainly prefer to invest in construction, tourism and manufacturing sectors. A typical investment is a massive road construction project, which also provides thousands of jobs for local Kenyans. China also provides monetary and non-monetary aid (equipment and plants, academic and technical training) to Kenya, on a project basis. United Arab Emirates is the most important trade partner for importing oil but it is increasingly more popular for Kenyans as a shopping destination for household and office electronic appliances, automobile spare parts and motor vehicles. Is-

rael's investments are mainly focused on the agricultural sector (mainly in machinery and irrigation)⁴³.

Kenya Health

There are wide disparities in health indicators across the country, linked to underlying socio-economic, gender and geographical differences. The main health challenges include HIV/AIDS, malaria and tuberculosis, the degree of risk for infectious diseases is continuously high. Most common diseases are: food or waterborne diseases - bacterial and protozoal diarrhea, hepatitis and typhoid fever; vector borne diseases - malaria and Rift Valley fever; water contact diseases - schistosomiasis; animal contact diseases - rabies. An estimated 1.5 million adults are living with HIV/AIDS, which kills around 80,000 people yearly.⁴⁴

Healthy life expectancy at birth for men is 54 years, for women 59 years. Yearly expenditures on health in Kenya are \$27 per capita. World Health Organization has valued the health spending to 35.9% of the budget of the household. In 2009, the health expenditures in Kenya reached 12.2% of GDP in 2009⁴⁵.

Combating HIV/AIDS and malaria have shown some progress, but these diseases remain major issues for Kenya. In 2008, the overall prevalence of HIV was estimated to stand at 7.4% (8.7% for women, 5.6% for men) among the 15-64 age group. Yet, according to a radio interview with a government official, only 10% of the country's population have been tested for HIV/AIDS. Malaria is the cause of 20% of all admissions to health facilities in Kenya and 20% of all deaths in children under the age of 5 in 2010. Infant mortality has been significantly reduced from 2003 to 2009 - from 77 per 1,000 live births to 52. Immunization coverage has increased to 77% in 2008/09 from 57% in 2003⁴⁶.

⁴² African Economic Outlook. http://www.africaneconomicoutlook.org/fileadmin/uploads/aeo/Country_Notes/2011/Full/Kenya.pdf

⁴³ African Economic Outlook. http://www.africaneconomicoutlook.org/fileadmin/uploads/aeo/Country_Notes/2011/Full/Kenya.pdf

⁴⁴ African Economic Outlook http://www.africaneconomicoutlook.org/fileadmin/uploads/aeo/Country_Notes/2011/Full/Kenya.pdf

⁴⁵ CIA. The World Factbook. <https://www.cia.gov/library/publications/the-world-factbook/geos/ke.html>

⁴⁶ http://www3.weforum.org/docs/WEF_GCR_CompetitivenessIndexRanking_2011-12.pdf

⁴⁶ World Bank. Kenya Economic Update. December 2011, Edition no.5 "Navigating the storm, Delivering the promise". http://siteresources.worldbank.org/KENYAEXTN/Resources/KEU-Dec_2011_Full_Report.pdf

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The investments in health facilities do not match the government's ambitious programs. According to the African Economic Outlook, 50% of health facilities lack electrical power, water and sanitation services. In 2010/11 budget, the government had planned to allocate €10 million for the recruitment of 15 additional nurses and 5 public health technicians in each district to increase the current doctor-patient ratio of 17 per 1000 and the nurse-patient ratio of 120 per 1000.

Kenya Healthcare System

Kenya's healthcare system faces similar problems as other African countries with bottlenecks lying in not enough medical staff, lack of investments in facilities and the difficulties setting up private facilities, where the government does not reach. An IFC / McKinsey report has estimated that in the next decade the Sub-Saharan Africa needs \$25-30 billion in health care assets, out of which \$11-20 billion would be done by private investors⁴⁷. Roughly half of the investments are estimated to be going to support activities, such as distribution and retail, medical and pharmaceutical product manufacturing, risk pooling and medical education.

Levels of Kenyan healthcare system

There are 6 levels of healthcare facilities in Kenya: dispensaries (there are 3996 of them in the whole country), health centres (912), sub-district hospitals (127), district hospitals (129), provincial hospitals (9) and national referral hospitals (3)⁴⁸. The cases are referred to a next level facility if they cannot be treated in the point of first referral. These are complemented with private hospitals and nursing homes that are often run by churches. In 2006, there were 2217 health institutions run by the private sector, 792 by the non-profits, 2120 by the public according to the Ministry of Health.



Dispensary in Kitui town, Eastern Province

Dispensaries treat outpatients' basic pain and wounds, cold and uncomplicated malaria cases. They are run by registered nurses who are supervised by nursing officer of the respective health centres. Health centres serve population of 80,000 people, employ tens of staff and are run by clinical officers. These take deliveries, admit inpatients, are equipped with laboratories and minor operation theatres. Sub-district hospitals have more surgery procedures available than the health centres. The three top levels provide a wider range of medical, consultation and surgery services and are classified by the available equipment.

Vision 2030 by Kenyan government and its goal to have an "equitable and affordable healthcare at the highest achievable standards" have also called upon the national e-Health Strategy. The strategy focuses on developing health information systems, especially: patient centric information; supply chain information management; financial information (incl. insurance and payments); health workforce management and training; and regulation. The pilot program is to be started in three level 4 and two level 5 hospitals.

⁴⁷The Business of Health in Africa. International Finance Corporation, 2006

⁴⁸<http://www.ehealth.or.ke/facilities/default.aspx>

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Overview of the Health Sector in Kenya

Private contribution

According to a World Bank 2010 report, Kenya's private health sector is one of the most developed and dynamic in Sub-Saharan Africa⁴⁹. The large number of private health facilities makes them important not only for the rich – in 2005, 47% of the poorest quintile of Kenyans used private facility when a child is sick⁵⁰. The main challenges in the private sector by the report were: too many suppliers (that drives down the price and the quality), the limited capacity of the government to monitor substandard and counterfeit drugs, and the separate public, private and non-profit supply chains that duplicate the health relief efforts.

National Hospital Insurance Fund (NIHF) offers all salaried employees an opportunity to cover medical expenses for a 160 to 320 KES/month (€1.60 to €3.20). The costs are subsequently covered in the amount of 400 to 2000 KES/day (€4 to €20), depending on the hospital status and position of the employee. In addition to NIHF, there are also private insurers but they cover just 2% of Kenyan population⁵¹, usually the top-earners or through insurance paid by the employer.

Legal and illegal market size

All the medical facilities as well as supplies must be approved by Kenya Medical Supplies Agency (KEMSA) Pharmacy and Poisons Board (PPB) before introducing in the market. The PPB lacks resources to act fully in line with their mandate – for example, a 2005 survey of a random sample of 116 anti-malarial drugs found that 30 percent of them were counterfeit⁵². Kenyan Association of Pharmaceutical Industries estimated the market size for counterfeit medicines then to be \$130 million⁵³.

The size of legal pharmaceutical products in Kenya in 2006 was estimated to be \$160 million (\$13 million of local production), the East African Community and Economic Community of Central African States regional market size combined was \$597 million (\$76 million of local production)⁵⁴.

Kenyan market forms a big opportunity for self-diagnostics devices in the next 10 years with the advances in technology. The estimated size for medical supplies in Sub-Saharan Africa in 2006 was \$2.2 billion, out of which instruments and appliances for medical science (incl. diagnostics) made up \$460 million⁵⁵. As Kenya is also a leading economy in East Africa, it offers a great starting point for entering even other African countries.



Medical clinic in Naivasha, Rift Valley Province

⁴⁹ Private Health Sector Assessment in Kenya. World Bank Working Paper no. 193. World Bank, 2010

⁵⁰ Marek, T. et al., 2005. <http://www.hrresourcecenter.org/node/1550>

⁵¹ Private Health Sector Assessment in Kenya. World Bank Working Paper no. 193. World Bank, 2010

⁵² Amin, A.A., R.W. Snow & G.O. Kokwaro., "The quality of sulphadoxine-pyrimethamine and amodiaquine products in Kenyan retail sector." *Journal of Clinical Pharmacy and Therapeutics*, 30, 559–565

⁵³ WHO (2006). Counterfeit Medicines: an update on estimates.

<http://www.who.int/medicines/services/counterfeit/impact/TheNewEstimatesCounterfeit.pdf>

⁵⁴ The Business of Health in Africa. International Finance Corporation, 2006

⁵⁵ The Business of Health in Africa. International Finance Corporation, 2006